County of Los Angeles

Draft
Environmental Impact Report
SCH No. 2005051143
Volume II
Section 4.5 – Section 9.0

MISSION VILLAGE

Prepared for:

Los Angeles County
Department of Regional Planning
320 West Temple Street
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NEWHALL RANCH
Newhall Ranch Company

OCTOBER 2010

County of Los Angeles

Draft Environmental Impact Report
SCH No. 2005051143
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MISSION VILLAGE

Project No.	04-181
Vesting Tentative Tract Map No.	61105
SEA Conditional Use Permit No.	RCUP200500080
Oak Tree Permit No.	ROAK200500032
Oak Tree Permit No.	T200500043
Conditional Use Permit (Off-Site Improvements)	RCUP200500081

Substantial Conformance Determinations for
Grading and Hillside Management Guidelines

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DRAFT
ENVIRONMENTAL IMPACT REPORT
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MISSION VILLAGE

SCH No. 2005051143

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October 2010

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4.5 TRAFFIC/ACCESS

1. *SUMMARY*

This section presents an analysis of the impacts of the proposed project relative to traffic/access. The analysis presented here is based upon the traffic technical report prepared for the proposed Mission Village project by Austin-Foust Associates, Inc., (AFA) dated October 1, 2010, which is included in its entirety in ***Appendix 4.5*** *of this EIR.*

a. Construction Impacts

During construction of the Mission Village project, trucks to deliver construction equipment and building supplies and to haul away demolition debris potentially would disrupt traffic on local roadways resulting in a short-term impact that could adversely affect regional or local roadway operations. With implementation of traffic management controls for construction vehicles where necessary, no significant traffic impacts associated with construction of the project would occur.

b. Operational Impacts

At project buildout, which is anticipated in Year 2021, Mission Village would generate approximately 58,000 average daily vehicle trips. Consistent with County of Los Angeles, City of Santa Clarita, and Caltrans traffic impact analysis guidelines, the impacts of the proposed project relative to the capacity of the surrounding roadways were analyzed under three different scenarios: (1) existing plus ambient plus project conditions, (2) 2021 project buildout cumulative conditions, and (3) long-range (2035) cumulative conditions.

Under existing plus ambient plus project conditions, the project plus ambient traffic would result in significant impacts at the Commerce Center Drive and State Route (SR) 126 intersection. Mitigation is proposed that would reduce the identified impact to a level below significant.

Under 2021 project buildout cumulative conditions, the project, in combination with cumulative traffic, would result in significant impacts at the following intersections (the applicable jurisdiction is listed in parenthetical):

- *Interstate (I) 5 SB Ramps & Henry Mayo Drive (SR-126) (Caltrans/County)*
- *I-5 SB Ramps & Valencia Boulevard (Caltrans/County)*
- *The Old Road & Rye Canyon Road (County)*
- *The Old Road & McBean Parkway (County)*
- *McBean Parkway & Magic Mountain Parkway (City)*
- *McBean Parkway & Newhall Ranch Road (City)*

- *Orchard Village Road & McBean Parkway (City)*
- *Bouquet Canyon Road & Newhall Ranch Road (City)*
- *Commerce Center Drive & SR-126 (County)*

Mitigation in the form of roadway capacity improvements is proposed that would reduce the identified impacts to a level below significant.

Lastly, under long-range (2035) cumulative conditions, the project would contribute to significant long-term cumulative impacts at the following intersections:

- *I-5 SB Ramps & SR-126 (Caltrans/County)*
- *The Old Road & I-5 SB Ramps (Caltrans/County)*
- *I-5 SB Ramps & Magic Mountain Parkway (Caltrans/County)*
- *I-5 NB Ramps & Magic Mountain Parkway (Caltrans/City)*
- *I-5 SB Ramps & Valencia Boulevard (Caltrans/County)*
- *I-5 SB Ramps & McBean Parkway (Caltrans/County)*
- *I-5 SB Ramps/Marriott Way & Pico Canyon Road (Caltrans/County)*
- *I-5 NB On/Off & Lyons Avenue (Caltrans/City)*
- *The Old Road & Rye Canyon Road (County)*
- *The Old Road & Magic Mountain Parkway (County)*
- *The Old Road & McBean Parkway (County)*
- *Tourney Road & Magic Mountain Parkway (City)*
- *McBean Parkway & Magic Mountain Parkway (City)*
- *McBean Parkway & Newhall Ranch Road (City)*
- *Wiley Canyon Road & Lyons Avenue (City)*
- *Orchard Village Road & Wiley Canyon (City)*
- *Orchard Village Road & McBean (City)*
- *Valencia Boulevard & Magic Mountain Parkway (City)*
- *Bouquet Canyon Road & Newhall Ranch Road (City)*
- *Commerce Center Drive & SR-126 (County/Caltrans)*

Mitigation in the form of capacity improvements is proposed that would reduce the project's contribution to the identified impacts to a level below significant.

No significant impacts would occur to Congestion Management Program (CMP) intersections or CMP freeway segments, or to the I-5 mainline. With respect to transit, the project potentially would increase demand for transit ridership beyond the capacity of existing services, thereby resulting in a potentially significant impact. Mitigation is proposed that would reduce the identified impacts to a level below significant.

2. BACKGROUND

a. Relationship of Project to Newhall Ranch Specific Plan Program EIR

Section 4.8 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with Traffic/Access for the entire Newhall Ranch Specific Plan. The County, in its findings and in a revised Mitigation Monitoring Plan, adopted the Newhall Ranch mitigation program for the Specific Plan. The Newhall Ranch Specific Plan Program EIR concluded that Specific Plan implementation would result in significant impacts, but that the identified mitigation measures would reduce the impacts to below a level of significance. All subsequent project-specific development plans and tentative subdivision maps must be consistent with the Newhall Ranch Specific Plan, adopted May 2003, the County of Los Angeles General Plan, and the Santa Clarita Valley Areawide Plan.

This project-level EIR is tiering from the previously certified Newhall Ranch Specific Plan Program EIR. **Section 4.5** assesses, at the project level, the existing conditions for the Mission Village site, the project's potential environmental impacts on transportation and access, and the applicable mitigation measures from the Newhall Ranch Specific Plan Program EIR, as well as additional mitigation measures recommended by this EIR specific to the Mission Village project impacts.

b. References

The traffic impacts analysis presented in this section is based on the *Mission Village Traffic Impact Analysis*, October 1, 2010, (Traffic Impact Analysis) prepared by AFA. A copy of the AFA Traffic Impact Analysis is included in **Appendix 4.5** of this EIR. Source documents relied upon by AFA in preparation of the traffic study include the *Westside Santa Clarita Valley Roadway Phasing Analysis*, AFA, November 2006, and the *Westside Santa Clarita Valley Phasing Analysis for the City of Santa Clarita*, AFA July 2006.

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

The Specific Plan contains a backbone circulation plan that identifies the roadway and circulation improvements required to support buildout of uses allowed by the Specific Plan. As approved, the Newhall Ranch Specific Plan would generate 357,000 average daily trips (ADT), of which 211,300 are accounted for by residential land use while the remainder represents non-residential land uses.

The Newhall Ranch Specific Plan Program EIR, and related findings, determined that buildout of the Specific Plan would cause a significant off-site impact along 19 separate arterial roadways and two state highways: SR-126 and I-5, as well as the SR-126/I-5 interchange. These impacts extended along SR-126 into Ventura County. Specific to freeway/highway interchanges and intersections, prior to mitigation, the Specific Plan caused significant impacts at the following locations:

- Valencia Boulevard at I-5 Interchange
- Magic Mountain Parkway at I-5 Interchange
- SR-126/Chiquito Canyon Intersection
- SR-126/Wolcott/Franklin Avenue Intersection
- SR-126/Commerce Center Drive Intersection

A number of mitigation measures were identified to address the significant impacts. For example, each subdivision filed within the Specific Plan must undergo a transportation performance evaluation that identifies the specific improvements for all on-site roadways, which are necessary to provide adequate roadway and intersection capacity as well as adequate right-of-way for the subdivision and other expected traffic. Based on the Newhall Ranch Specific Plan Program EIR and the entire record, the County's Board of Supervisors found that the identified significant impacts on traffic/access were mitigated to below a level of significance by adoption of specified mitigation.[1]

4. METHODOLOGY

The following provides an overview of the methodology utilized by the traffic engineers to conduct the impacts analysis presented in this section.

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1 See Mitigation Measure 4.8-1 through 4.8-13 in both the certified Newhall Ranch Specific Plan Program EIR and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

a. Definitions

The following definitions are provided for certain terms used throughout this section to clarify their intended meaning:

ADT	Average Daily Traffic. Generally used to measure the total two-directional traffic volumes passing a given point on a roadway.
CMP	Congestion Management Program. A state-mandated program administered by the Los Angeles County Metropolitan Transportation Authority (Metro) that provides a mechanism for coordinating land use and development decisions.
ICU	Intersection Capacity Utilization. A measure of the volume to capacity ratio for an intersection. Typically used to determine the peak hour level of service for a given set of intersection volumes.
LOS	Level of Service. A scale used to evaluate circulation system performance based on intersection ICU values or volume/capacity ratios of arterial and freeway segments.
Peak Hour	This refers to the hour during the AM peak period (typically 7:00 AM–9:00 AM) or the PM peak period (typically 3:00 PM–6:00 PM) in which the greatest number of vehicle trips are generated by a given land use or are traveling on a given roadway.
Tripend	A trip generation measure which represents the total trips entering and leaving a location; each trip has two tripends.
V/C	Volume to Capacity Ratio. This is typically used to describe the percentage of capacity utilized by existing or projected traffic on a segment of an arterial or intersection.
VPH	Vehicles Per Hour. Used for roadway volumes (counts or forecasts) and trip generation estimates. Measures the number of vehicles in a 1-hour period, typically the AM or PM peak hour.
VPHPL	Vehicles Per Hour Per Lane. Similar to VPH but with the roadway volume averaged to the total number of roadway lanes.

b. Project Study Area

The project study area, illustrated in **Figure 4.5-1, Project Study Area**, includes the roadways and intersections within and near the project site where project-generated traffic could cause a significant impact. As shown on **Figure 4.5-1**, the project study area generally extends to Chiquito Canyon Road/Long Canyon Road to the west, SR-126 to the north, Bouquet Canyon Road to the east, and Pico Canyon/Lyons Road to the south. The study area intersections are numbered based on the Santa Clarita Valley Consolidated Traffic Model (SCVCTM), the traffic planning computer model used in the preparation of this analysis. See **subsection 4.d.**, below. The I-5 study area extends from Lake Hughes in

the north to south of SR-14 in the south, and the SR-126 study area from I-5 in the east to west of Commerce Center.

The study area includes a number of future new arterial roadways, and roadways for which improvements are currently programmed or planned. For the purpose of determining project impacts to the arterial roadways under the existing plus ambient plus 2021 project buildout scenario, only those roadways and improvements that will be constructed as part of the project (i.e., the extensions of Magic Mountain Parkway, Westridge Parkway, and Commerce Center Drive) are included in the background conditions. For the evaluation of long-range (2035) cumulative conditions, future roadways to be constructed by cumulative projects are included as part of the cumulative analysis.

c. Impacts Analysis Scenarios

The traffic impacts of the proposed project are evaluated based on multiple project buildout scenarios, consistent with the established guidelines of the respective jurisdictions. For roadways within the County of Los Angeles, impacts are assessed utilizing the guidelines of the Los Angeles County Department of Public Works;[2] for locations within the City of Santa Clarita, the analysis follows the City's established guidelines for analysis.[3] For impacts to state highway facilities, impacts were assessed consistent with the Caltrans guidelines for the preparation of traffic studies.[4]

Based on these guidelines, traffic impacts were assessed under the following three scenarios:

1. Existing Conditions plus Ambient Growth, and Existing Conditions plus Ambient Growth plus Project
2. Year 2021 Cumulative Conditions without and with Project
3. Year 2035 Cumulative Buildout Conditions without and with Project

The County's traffic study guidelines specify the analysis of Scenario 1, Existing Conditions plus Ambient Growth plus Project. The County's requirement for an evaluation of Existing Conditions plus Ambient Growth plus Project plus Related Projects (i.e., cumulative projects) is addressed by Scenarios 2 and 3. The City of Santa Clarita's traffic study guidelines specify the analysis of Scenario 2 for the determination of project impacts. As such, Scenario 1 is not considered for intersections under the jurisdiction of the City of Santa Clarita, as they represent a hypothetical scenario that is considered exclusively by the County.

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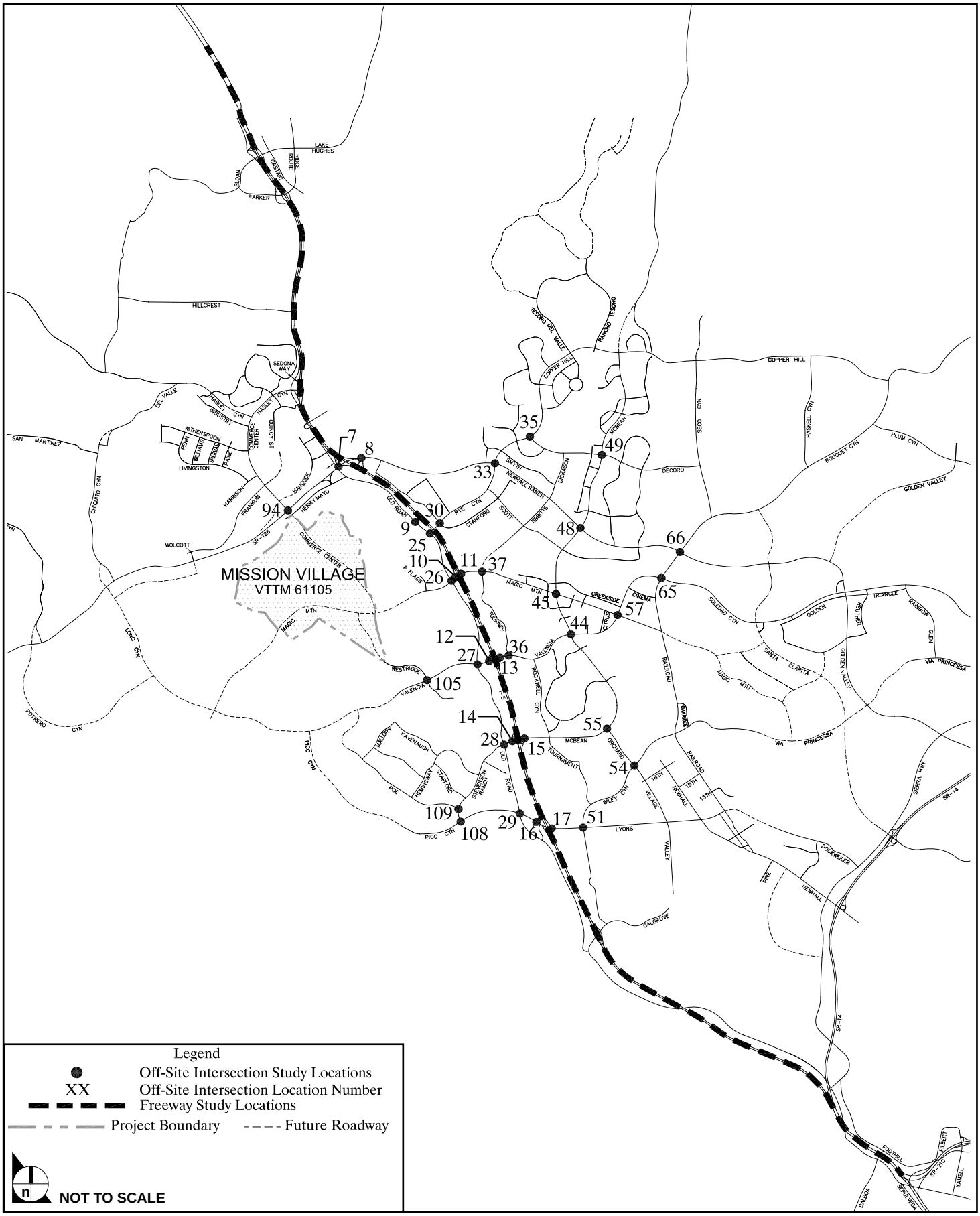
2 County of Los Angeles Department of Public Works, *Traffic Impact Analysis Report Guidelines*, January 1997.

3 City of Santa Clarita, *Preliminary Traffic Impact Report Guidelines*, August 1990.

4 *Guide for the Preparation of Traffic Impact Studies*, Caltrans, December 2002.



SOURCE: Austin-Foust Associates, Inc. – August 2010

FIGURE **4.5-1**

Project Study Area

d. Ambient Growth and Cumulative Conditions

In assessing impacts under the Existing plus Ambient plus Project scenario, horizon year conditions are derived using actual traffic volumes based on existing traffic counts collected in 2009 and 2010, plus a growth factor of 2.0 percent per year to account for background growth in ambient traffic calculated through project buildout year 2021.

In assessing impacts under the 2021 and 2035 cumulative scenarios, since the Santa Clarita Valley is a rapidly growing area with numerous proposed, approved and pending projects, the Cumulative Conditions with Project Scenarios are based on forecasts derived using the SCVCTM. The SCVCTM is a traffic planning computer model and the principal tool for transportation planning in the Santa Clarita Valley. The model was developed jointly by the City of Santa Clarita and the County of Los Angeles Public Works Department to provide traffic forecasts for transportation planning in the valley. The model analyzes expected or possible projects based on actual development applications and general plan provisions, and predicts traffic impacts based on various assumptions for different periods as the valley builds out.

The SCVCTM is updated regularly as specific development projects are proposed. Pending, recorded, and approved projects are incorporated into the Long-range Buildout/Cumulative database. A partial listing of these known cumulative projects that are in the vicinity of the project site is provided in **Table 4.5-1, Defined Projects Included in the Cumulative Database**. Where future development will occur but specific projects have not been designated, the SCVCTM Long-range Buildout/Cumulative database includes land use projects based on the allowable uses shown in the proposed County Area Plan and City General Plan update, One Valley One Vision.

Table 4.5-1
Defined Projects Included in the Cumulative Database

No.	Name and/or Location	Description
1	Landmark Village/Tract 53108 – South of SR-126 at Wolcott & Chiquito Cyn Road (Part of Approved Newhall Ranch Specific Plan)	1,444 du Residential (308 Single Family, 1,136 Multi-Family) 1,033 tsf Commercial
2	Legacy Village/Tract 61996 – West of I-5, North of Pico Canyon, South of Six Flags Magic Mtn.	3,455 du Residential (536 Single Family, 1,574 Condominium/Townhome, 1,345 Senior Active) 186 tsf Commercial Retail 316 tsf Commercial Office 337 tsf Congregate Care Facility
3	Entrada/Tract 53295 – West of The Old Road, North of Valencia Boulevard, East of the proposed Legacy Village/Mission Village development	1,640 du Residential (408 Single Family, 1,232 Condominium) 290 tsf Commercial Retail 436 tsf Commercial Office Elementary School

No.	Name and/or Location	Description
4	Homestead/Tract 60678 – West of the proposed Mission Village development, west and south of the proposed Landmark development, as well as south of the existing Val Verde community (via extensions of Valencia Boulevard and Magic Mountain Parkway, as well as intersections with State Route-126) (Part of Approved Newhall Ranch Specific Plan)	5,777 du Residential (965 Single Family, 4,812 Condominium/Townhome) 1,310,000 tsf Commercial
5	PM 18108 – West of The Old Road, north of SR-126 (Part of Approved Valencia Commerce Center CUP 87-360)	3,500 tsf (including existing) Industrial/Business park at Buildout
6	Tract 60030 – West of Commerce Center Drive (via extension of Witherspoon Pkwy	1,221.36 tsf Industrial Park
7	Tract 60257 – East of Del Valle Road	233 du 30 tsf Commercial Retail
8	Tract 60665 – East of Del Valle Road	7 du
9	Tract 52475 – North of Hasley Canyon Road, west of Del Valle Road	46 du
10	Tract 53725 – North of Hasley Canyon Road, west of Sloan Cyn Road	42 du
11	PM 18654 – West of The Old Road, north of Magic Mtn. Parkway	200 tsf Office Building (under construction)
12	Northlake Phase 1/Tract 51852 – North of Lake Hughes Road, east of Ridge Route Road	1,696 du Middle School
13	Castaic High School – North of Lake Hughes Road, east of Ridge Route Road	3,000 Students
14	Riverpark/Tract 53425 – North and south of Santa Clara River, terminus of Newhall Ranch Road, south of Bouquet Cyn Road and north of Soledad Cyn Road	439 SF du 650 MF du 16 Thousand Square Feet (tsf) of Commercial Uses (under construction)
15	Heritage Hills/Tract 65806 – Northwest and southwest corner of Dockweiler and Sierra Highway	190 SF du
16	UCLA Film Archives – North of McBean Pkwy and west of Rockwell Cyn Road	250 tsf Commercial Office (under construction)
No.	Name and/or Location	Description
17	College of the Canyons Expansion – South of Valencia Blvd and west of Rockwell Cyn Road	28 tsf Commercial Office 6,500 Students (additional)
18	Gate-King Industrial Park – South of San Fernando Road, west of Sierra Hwy	4,200 tsf Industrial Park
19	Milestone/Tract 61811 – North side of Golden Valley Road at Robert C. Lee Pkwy	167 SF du (33 total acres) (under construction)
20	Porta Bella/Whittaker-Bermite (partial) – South side of Soledad Cyn Road and east of Circle J Ranch area	1,244 SF du 1,667 MF du 2,911 tsf of Commercial Uses 448.7 Acres of Open Space (approximately 50% of total project shown above is included in the interim year horizon)
21	Lyons Ranch/Tract 53653 – West of I-5 and south of Calgrove Blvd	95 SF du 95 Senior Housing

No.	Name and/or Location	Description
22	Tract 62595 – South of Friendly Valley, north of Golden Valley Rd and terminus of Avenue of the Oaks	33 MF du
23	Northwest corner of Golden Valley Road and McKeon Drive	105 tsf of Commercial Uses
24	Tract 53419 – North of Golden Valley Road and northwest of Sierra Highway	111 MF du
25	Downtown Newhall Specific Plan area	712 net new du (1,402 total du) 297.1 net new tsf (1,107.4 total tsf)
26	North Newhall Specific Plan area	628 du–673 du 585 tsf–840 tsf Non-Residential 1 Elementary School (673 du, 632.5 tsf, 1 Hotel and 1 Elem. School included in the interim year horizon)
27	Golden Valley Ranch/Tract 52414 – South of SR-14, north of Placerita Cyn Road and west of Sand Cyn Road	498 SF du 618.8 tsf of Commercial Uses 1 Elementary School (under construction)
28	Bridgeport Market Place – Northeast corner of McBean Pkwy and Newhall Ranch Road	130 tsf of Commercial Uses 30 tsf Church 5 Acre Park (under construction)
29	The Keystone – Northeast portion of the future intersection of Newhall Ranch Road and Golden Valley Road	319 SF du 180 MF du
30	Soledad Circle Estates – South of Soledad Cyn Road at Penlon Court	147 SF du
31	Soledad Village – South of Santa Clara River, north of Soledad Cyn Road at Gladding Way	407 Condo du (incl. 22 live/work units) 8 tsf of Commercial Uses
32	Henry Mayo Newhall Memorial Hospital Master Plan	127.4 net new tsf of Hospital 200.0 net new tsf of Medical Office
33	Town Center Mall Expansion	490 tsf of Commercial Uses
34	The Masters College Expansion	600 Students 54 Condominium du

Sources:
Westside Santa Clarita Valley Roadway Phasing Analysis
Sterling Industrial – VTPM 060030 Traffic Impact Analysis
Northlake Phase 1 Traffic Impact Analysis
City of Santa Clarita Planning Division
Downtown Newhall Specific Plan
Draft North Newhall Specific Plan Land Use Matrix
Henry Mayo Newhall Memorial Hospital Master Plan Traffic Impact Analysis
Town Center Mall Expansion Traffic Impact Analysis
Masters College Master Plan Traffic Impact Analysis
Note: The buildout/2035 setting also includes planned future development in accordance with the land uses defined in the proposed One Valley One Vision County Area Plan/City General Plan update.

Because the SCVCTM is developed from regional models prepared by the Southern California Association of Governments (SCAG), it also forecasts traffic in a regional context. This means that not only are trips to and from the Santa Clarita Valley included in the forecasts, but trips that pass through the valley also are included. As part of the development of this traffic impact analysis, an update to the traffic model was prepared which involved a review of current related project information from both the City and County. The SCVCTM land use database was then updated where necessary in order to include the most current information.

e. Westside Roadway Phasing Analysis

In conjunction with the development of this traffic impact analysis, a special comprehensive phasing study, the *Westside Roadway Phasing Analysis*, was prepared to address the cumulative development of all planned projects west of the I-5 freeway.[5] The phasing analysis identifies the specific roadway and intersection improvements needed to mitigate the cumulative impacts of the Westside projects, and was approved by the County in May 2007 for use as a supporting document for traffic studies such as the AFA Traffic Impact Analysis. The subject area of the phasing analysis, referred to here as the Westside of the Santa Clarita Valley, evaluates the phased development of Mission Village, the entirety of the Newhall Ranch Specific Plan area, the Entrada project, the Legacy Village project, as well as buildout of the Valencia Commerce Center business/industrial park area, as these areas build out over the next 25 years. All together, these projects represent the development of over 27,000 residential dwelling units and over 11 million square feet of commercial uses. Along with the phased development of the Westside projects, the phasing analysis incorporates the other anticipated developments outside of the Westside area, as well as the buildout of the remaining portions of the Santa Clarita Valley as allowed by the City and County's General Plans.

The *Westside Roadway Phasing Analysis* is the most comprehensive roadway planning effort prepared to date for the Santa Clarita Valley and, as such, is referenced by this analysis as the source of cumulative traffic data forecasts, and the identification and timing of roadway improvements. Periodic updates of the phasing study will be prepared, the purpose of which is to ensure that the roadway improvements occur when needed and based on the actual development activity as it changes over time. The development timeline of the Westside area will evolve based on several factors such as economic conditions and consumer driven requirements, and periodic updates of the phasing study will allow the timing of the roadway improvements to be prioritized based on the actual land development activity as it occurs.

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5 Austin-Foust Associates, Inc. (AFA), *Westside Santa Clarita Valley Roadway Phasing Analysis*, November 2006; and AFA, *Westside Santa Clarita Valley Phasing Analysis for the City of Santa Clarita*, July 2006, are collectively referred to as the *Westside Roadway Phasing Analysis*.

f. Levels of Service Descriptions

Level of service (LOS) is a concept developed to quantify the degree of comfort afforded to drivers as they travel on a given roadway. The degree of comfort includes such elements as travel time, number of stops, total amount of stopped delay, etc. As defined in the Transportation Research Board, National Research Council's *Highway Capacity Manual* (HCM 2000), six grades are used to denote the various LOS and are denoted as A through F. **Table 4.5-2, Level of Service of Arterial Roads**, and **Table 4.5-3, Level of Service Descriptions – Freeway Segments**, describes the six grades of LOS for these respective facilities. Please refer to **subsection 8a, Significance Threshold Criteria**, for the specific methods of calculating the LOS for arterial roads and freeways in the project study area.

Table 4.5-2
Level of Service of Arterial Roads[1]

LOS	Description
A	LOS A describes primarily free-flow operations at average travel speeds, usually about 90 percent of the free-flow speed for the given street class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.
B	LOS B describes reasonably unimpeded operations at average travel speeds, usually about 70 percent of the free-flow speed for the street class. The ability to maneuver within the traffic stream is only slightly restricted, and control delays at signalized intersections are not significant.
C	LOS C describes stable operations; however, ability to maneuver and change lanes in midblock locations may be more restricted than at LOS B, and longer queues, adverse signal coordination, or both may contribute to lower average travel speeds of about 50 percent of the free-flow speed for the street class.
D	LOS D borders on a range in which small increases in flow may cause substantial increases in delay and decreases in travel speed. LOS D may be due to adverse signal progression, inappropriate signal timing, high volumes, or a combination of these factors. Average travel speeds are about 40 percent of free-flow speed.
E	LOS E is characterized by significant delays and average travel speeds of 33 percent or less of the free-flow speed. Such operations are caused by a combination of adverse signal progression, high signal density, high volumes, extensive delays at critical intersections, and inappropriate signal timing.
F	LOS F is characterized by urban street flow at extremely low speeds, typically one-third to one-fourth of the free-flow speed. Intersection congestion is likely at critical signalized locations, with high delays, high volumes, and extensive queuing.

Source: Highway Capacity Manual 2000, Transportation Research Board, National Research Council.

[1] *The average travel speed along an urban street is the determinant of the operating LOS. The travel speed along a segment, section, or entire length of an urban street is dependent on the running speed between signalized intersections and the amount of control delay incurred at signalized intersections. The following general statements characterize LOS along urban streets and show the relationship to free flow speeds (FFS).*

Table 4.5-3
Level of Service Descriptions – Freeway Segments

LOS	Description
A	LOS A describes free-flow operations. Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The effects of incidents or point breakdowns are easily absorbed at this level.
B	LOS B represents reasonably free flow, and free-flow speeds are maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high. The effects of minor incidents and point breakdowns are still easily absorbed.
C	LOS C provides for flow with speeds at or near the free-flow speed of the freeway. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver. Minor incidents may still be absorbed, but the local deterioration in service will be substantial. Queues may be expected to form behind any significant blockage.
D	LOS D is the level at which speeds begin to decline slightly with increasing flows and density begins to increase somewhat more quickly. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels. Even minor incidents can be expected to create queuing, because the traffic stream has little space to absorb disruptions.
E	At its highest density value, LOS E describes operation at capacity. Operations at this level are volatile, because there are virtually no usable gaps in the traffic stream. Vehicles are closely spaced, leaving little room to maneuver within the traffic stream at speeds that still exceed 49 miles per hour. Any disruption of the traffic stream, such as vehicles entering from a ramp or a vehicle changing lanes, can establish a disruption wave that propagates throughout the upstream traffic flow. At capacity, the traffic stream has no ability to dissipate even the most minor disruption, and any incident can be expected to produce a serious breakdown with extensive queuing. Maneuverability within the traffic stream is extremely limited, and the level of physical and psychological comfort afforded the driver is poor.
F	LOS F describes breakdowns in vehicular flow. Such conditions generally exist within queues forming behind breakdown points. LOS F operations within a queue are the result of a breakdown or bottleneck at a downstream point. LOS F is also used to describe conditions at the point of the breakdown or bottleneck and the queue discharge flow that occurs at speeds lower than the lowest speed for LOS E, as well as the operations within the queue that forms upstream. Whenever LOS F conditions exist, they have the potential to extend upstream for significant distances.

Source: Highway Capacity Manual 2000, Transportation Research Board, National Research Council
LOS = Level of Service

g. Trip Generation

Trip generation for a project is based upon the amount and type of future land use proposed in an area and requires that future land uses be broken down into specific units, such as square feet of floor area, number of dwelling units, etc. Vehicle trip generation estimates for the project in this case were calculated using the SCVCTM and the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 8th Edition,

which is one of the most widely accepted trip generation rate sources. The results of the trip generation are calculated as "tripends," which are defined as the total trips entering and leaving a given location. Due to the complementary mix of land uses planned for the site, many of the trips generated by the project will remain internal to the project site. To derive the amount of trips internal to the project site, a mixed-use development (MXD) trip generation estimate has been prepared for the project by Fehr & Peers based on a quantitative model developed in cooperation with the U.S. Environmental Protection Agency (U.S. EPA) and ITE. The MXD trip generation estimate is addressed in further detail below.

h. Trip Distribution

The geographic distribution of vehicle trips generated by the Mission Village project was determined using the updated SCVCTM. As noted above, the SCVCTM is a computerized travel demand model that utilizes a sophisticated trip distribution function to derive the distribution of vehicle trips and has been calibrated to the existing conditions for the Santa Clarita Valley. Production and attraction trip data is generated by the model based on five separate trip purposes, and trip distribution patterns are then derived by the model. As a final step, the model assigns the trips to the roadway network based on the derived distribution patterns. The process by which the project trips are distributed on the area roadways is discussed in further detail below.

i. Planned Roadway Improvements

The Los Angeles County Highway Plan (formerly known as the Master Plan of Highways), which depicts the general location of planned highway routes throughout the County, and the Newhall Ranch Specific Plan include future roadways near and within the project site. These plans designate the extension of Magic Mountain Parkway within the project site as a six lane Major Highway for the segment east of Westridge Parkway and a four lane Secondary Highway for the segment west of Westridge Parkway. Additionally, an extension of Commerce Center Drive currently is designated within the project as a six lane Major Highway. Finally, the extension of Westridge Parkway within the project site has been planned as a four lane collector roadway.

The I-5 Freeway currently is built to eight lanes, and Caltrans and the Metropolitan Transportation Authority (Metro) have approved a project to expand the freeway to include high-occupancy vehicle (HOV) and truck lanes. In September 2009, Caltrans approved a Final Environmental Impact Report/Environmental Assessment for the I-5 HOV/Truck Lanes Project SR-14 to Parker Road. The project will add (1) one HOV lane in each direction on I-5 from the SR-14 interchange north to Parker Road, (2) truck climbing lanes in each direction from the SR-14 interchange to Calgrove Boulevard (northbound) and Pico Canyon Road/Lyons Avenue (southbound), and (3) full auxiliary lanes within portions of the

Project study area. Caltrans expects construction of the improvement project will be completed in 2016. Relevant excerpts of the Caltrans EIR/EIS are included in this EIR, **Appendix 4.5**.

5. REGULATORY SETTING

a. Congestion Management Program

The CMP was enacted by the California Legislature in 1989 to improve traffic congestion in urban areas. The program became effective with the passage of Proposition 111 in 1990, which also increased the state gas tax. Funds generated by Proposition 111 are available to cities and counties for regional road improvements, provided these agencies are in compliance with CMP requirements. The intent of the legislation was to link transportation, land use, and air quality decisions by addressing the impact of local growth on the regional transportation system. State statute requires that a CMP be developed, adopted, and updated for every county that includes an urbanized area, which shall include every city and county government within that county.

Under this legislation, regional agencies are designated within each county to prepare and administer the CMP for agencies within that county. Each local planning agency included in the CMP has the following responsibilities:

- Assisting in monitoring the roadways designated within the CMP system
- Adopting and implementing a trip reduction and travel demand ordinance
- Analyzing the impacts of local land use decisions on the regional transportation system
- Preparing annual deficiency plans for portions of the CMP system where level-of-service standards are not maintained

Metro is the CMP agency for Los Angeles County. Metro has the responsibility to review compliance with the CMP by agencies under its jurisdiction. For any agency out of compliance, after receiving notice and after a correction period, a portion of State gas tax funds may be withheld if compliance is not achieved. In addition, compliance with the CMP is necessary to preserve eligibility for state and federal funding of transportation projects.

Metro adopted the County's first CMP in 1992, and completed its most recent update in 2004. The CMP statute requires that all state highways and principal arterials be included within the CMP roadway system. Within the Santa Clarita Valley, the following roadways are designated as CMP roadways:

- I-5 Freeway
- SR-14 Freeway

- Sierra Highway from Newhall Avenue (formerly San Fernando Road) to SR-14 at Red Rover Mine Road
- Magic Mountain Parkway from I-5 to Railroad Avenue (formerly San Fernando Road)
- Railroad Avenue/Newhall Avenue (formerly San Fernando Road) from Magic Mountain Parkway to SR-14
- SR-126 west of the I-5 freeway

Various strategies are available to local jurisdictions to mitigate CMP traffic impacts, including constructing new roadway improvements, managing traffic flow through signal improvements and trip reduction measures, and land use strategies such as locating higher density uses in proximity to public transit.

b. Bicycle Plans

The Metro Board adopted the Metro Bicycle Transportation Strategic Plan in 2006 to promote bicycle use throughout Los Angeles County. The Plan's vision is to make cycling a viable travel choice by promoting links between bicycle facilities and the transit network. The plan identifies four "bike-transit" hubs within the Santa Clarita Valley: the three Metrolink commuter rail stations in the Valley (Newhall, Santa Clarita, Via Princessa), and the McBean Transfer Station. The Metro Bicycle Transportation Strategic Plan evaluated gaps in the inter-jurisdictional bikeway network connecting cities and unincorporated areas to destinations and transit stops. Within the Santa Clarita Valley, four gaps in the inter-jurisdictional bikeway network were identified: The Old Road, SR-126, Castaic/San Francisquito Creek, and Sierra Highway corridors.

The County of Los Angeles is in the process of updating the County's adopted Plan of Bikeways (1975), a sub-element to the County General Plan. The bike plan seeks to encourage the use of bicycles as a general means of transportation, ensure the safety of bicycle users, and provide guidelines for the development, expansion, and implementation of the County's bicycle infrastructure. The plan covers bicycling issues in all unincorporated areas within the County of Los Angeles, and it also will study the potential for new and improved bike paths along flood control facilities (e.g., rivers, creeks, etc.).

c. Bridge and Thoroughfare Districts

Within the Santa Clarita Valley, Los Angeles County and the City of Santa Clarita have established Bridge & Thoroughfare (B&T) Districts to manage and fund the roadway improvements planned to occur within the Valley. Under the B&T District mechanism, the adoption of a specific area of benefit permits the county and city to levy a fee against future development located within the area of benefit for the

improvement of arterial highways. This funding method assesses developments, which create the need for additional improvements, for the additional costs associated with constructing the necessary roadway improvements. The charge is levied in proportion to the estimated number of trips generated by the development.

Existing B&T Districts located in the project study area include the Valencia and Via Princessa B&T Districts. Each of these districts is a full mitigation district, which means that the collected B&T fees, combined with other funding sources (e.g., state and federal funds, gas and sales taxes, etc.), have been calculated to cover the full cost of all improvements necessary to construct the arterial roadway network as described in the respective county and city general plan transportation elements. The site of the proposed project is not located within an established B&T District, although a new district, i.e., the Westside B&T District, is in the process of being formed, which would include the proposed project and other Westside development.

d. Traffic Guidelines

As noted above, the traffic impacts of the proposed project are evaluated based on multiple project buildout scenarios, consistent with the established guidelines of the respective jurisdictions. For roadways within the County of Los Angeles, impacts are assessed utilizing the guidelines of the Los Angeles County Department of Public Works;[6] for locations within the City of Santa Clarita, the analysis follows the City's established guidelines for analysis.[7] For impacts to state highway facilities, impacts were assessed consistent with the Caltrans guidelines for the preparation of traffic studies.[8]

6. EXISTING CONDITIONS

a. Existing Roadway System

The existing roadway network in the project study area is illustrated in **Figure 4.5-2, Existing Roadway System**, in the form of mid-block lanes. Existing intersection lane configurations are illustrated in **Figure 4.5-3, Existing Intersection Lane Configurations – County Intersections**, for locations under County jurisdiction and in **Figure 4.5-4, Existing Intersection Lane Configurations – City Intersections**, for locations under the jurisdiction of the City of Santa Clarita.

Regional access to the site in the north/south direction is provided via I-5, located approximately 1 mile to the east. Regional access to the site also is provided via SR-126, which is located to the north of the project

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6 County of Los Angeles Department of Public Works, *Traffic Impact Analysis Report Guidelines*, January 1997.

7 City of Santa Clarita, *Preliminary Traffic Impact Report Guidelines,* August 1990.

8 *Guide for the Preparation of Traffic Impact Studies*, Caltrans, December 2002.

site and runs in an east/west direction. Other primary roads in the area include Magic Mountain Parkway, which terminates just east of the project site in the vicinity of the entrance to Magic Mountain Theme Park, Commerce Center Drive, which terminates north of the project site at SR-126, and Westridge Parkway, which extends north from Valencia Boulevard, and presently terminates just to the southeast of the project boundary.

b. Existing Traffic Volumes and Levels of Service

Illustrations of peak hour turning movement volumes for each study area intersection can be found in **Figure 4.5-5, AM Peak Hour Turning Movement Volumes – Existing Conditions (County Intersections),** and **Figure 4.5-6, PM Peak Hour Turning Movement Volumes – Existing Conditions (County Intersections),** for County intersections. Illustrations of peak hour turning movement volumes for City area intersections can be found in **Figure 4.5-7, AM Peak Hour Turning Movement Volumes – Existing Conditions (City Intersections),** and **Figure 4.5-8, PM Peak Hour Turning Movement Volumes – Existing Conditions (City Intersections)**, for City. Traffic count data was collected during the critical AM and PM peak hours in late 2009 and early 2010 for each of the study area intersections. Printouts of the traffic count data sheets can be found in Appendix D of the Traffic Impact Analysis in **Appendix 4.5** of the EIR.

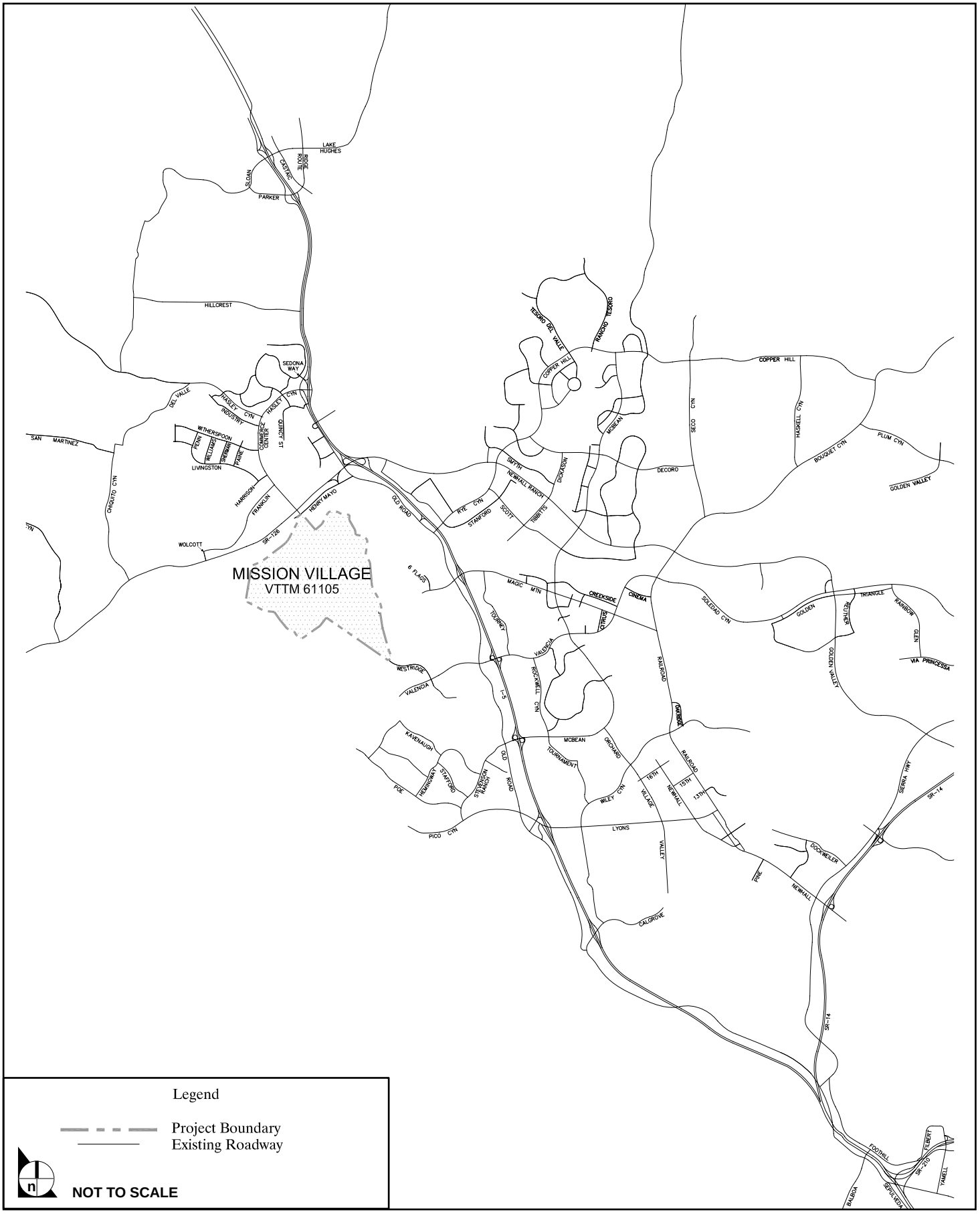
Intersection capacity utilization (ICU) and LOS analyses for the study area intersections are provided **in Table 4.5-4, ICU and LOS Summary – Existing Conditions**, which summarizes the existing ICU and LOS traffic count data for the County and City intersections and Caltrans interchanges. **Table 4.5-4** shows that all intersections in the study area currently operate at LOS D or better, with the exception of The Old Road and I-5 southbound ramps, which is currently deficient in the PM peak hour (LOS E) under County performance standards. No intersections currently operate at LOS F.

Table 4.5-4
ICU and LOS Summary – Existing Conditions

Intersection	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
County Intersections				
25. The Old Rd/Rye Canyon Rd	0.61	B	0.66	B
26. The Old Rd/Magic Mtn Pkwy	0.28	A	0.32	A
27. The Old Rd/Valencia Blvd	0.67	B	0.44	A
28. The Old Road/McBean Parkway	0.58	A	0.76	C
29. The Old Road/Pico Canyon Rd	0.63	B	0.71	C
105. Westridge Parkway/Valencia Blvd	0.55	A	0.20	A
108. Stevenson Ranch Parkway/Pico Canyon Rd	0.49	A	0.51	A
109. Stevenson Ranch Parkway/Poe Parkway/Chase	0.63	B	0.39	A

Intersection	AM Peak Hour		PM Peak Hour	
	ICU	LOS	ICU	LOS
City Intersections				
30. Ave Stanford/Rye Canyon Rd	0.51	A	0.54	A
33. Copper Hill Dr/Newhall Ranch Rd	0.63	B	0.70	B
35. Copper Hill Dr/Decoro Dr	0.57	A	0.51	A
36. Tourney Rd/Valencia Blvd	0.45	A	0.48	A
37. Tourney Rd/Magic Mtn Pkwy	0.49	A	0.45	A
44. McBean Pkwy/Valencia Blvd	0.61	B	0.74	C
45. McBean Pkwy/Magic Mtn Pkwy	0.61	B	0.76	C
48. McBean Pkwy/Newhall Ranch Rd	0.73	C	0.78	C
49. McBean Pkwy/Decoro Dr	0.77	C	0.54	A
51. Wiley Canyon Rd/Lyons Ave	0.60	B	0.69	B
54. Orchard Village Rd/Wiley Canyon Rd	0.60	A	0.62	B
55. Orchard Village Rd/McBean Pkwy	0.57	A	0.68	B
57. Valencia Blvd/Magic Mtn Pkwy	0.58	A	0.66	B
65. Bouquet Cyn Rd/Soledad Cyn Rd	0.68	B	0.77	C
66. Bouquet Cyn Rd/Newhall Ranch Rd	0.66	B	0.82	B
Caltrans/County Interchanges				
7. I-5 SB Ramps/SR-126	0.71	C	0.43	A
8. I-5 NB Ramps/SR-126	0.66	B	.68	B
9. The Old Rd/I-5 SB Ramps	0.72	C	0.91	E
10. I-5 SB Ramps/Magic Mtn Pkwy	0.36	A	0.37	A
11. I-5 NB Ramps/Magic Mtn Pkwy	0.42	A	0.42	A
12. I-5 SB Ramps/Valencia Blvd	0.52	A	0.46	A
13. I-5 NB Ramps/Valencia Blvd	0.59	A	0.49	A
14. I-5 SB Ramps/McBean Parkway	0.38	A	0.50	A
15. I-5 NB Ramps/McBean Parkway	0.43	A	0.48	A
16. I-5 SB/Marriott & Pico Canyon Road/Lyons Ave	0.58	A	0.59	A
17. I-5 NB On/Off & Lyons Ave	0.53	A	0.66	B
94. Commerce Center Dr/SR-126	0.54	A	0.78	C

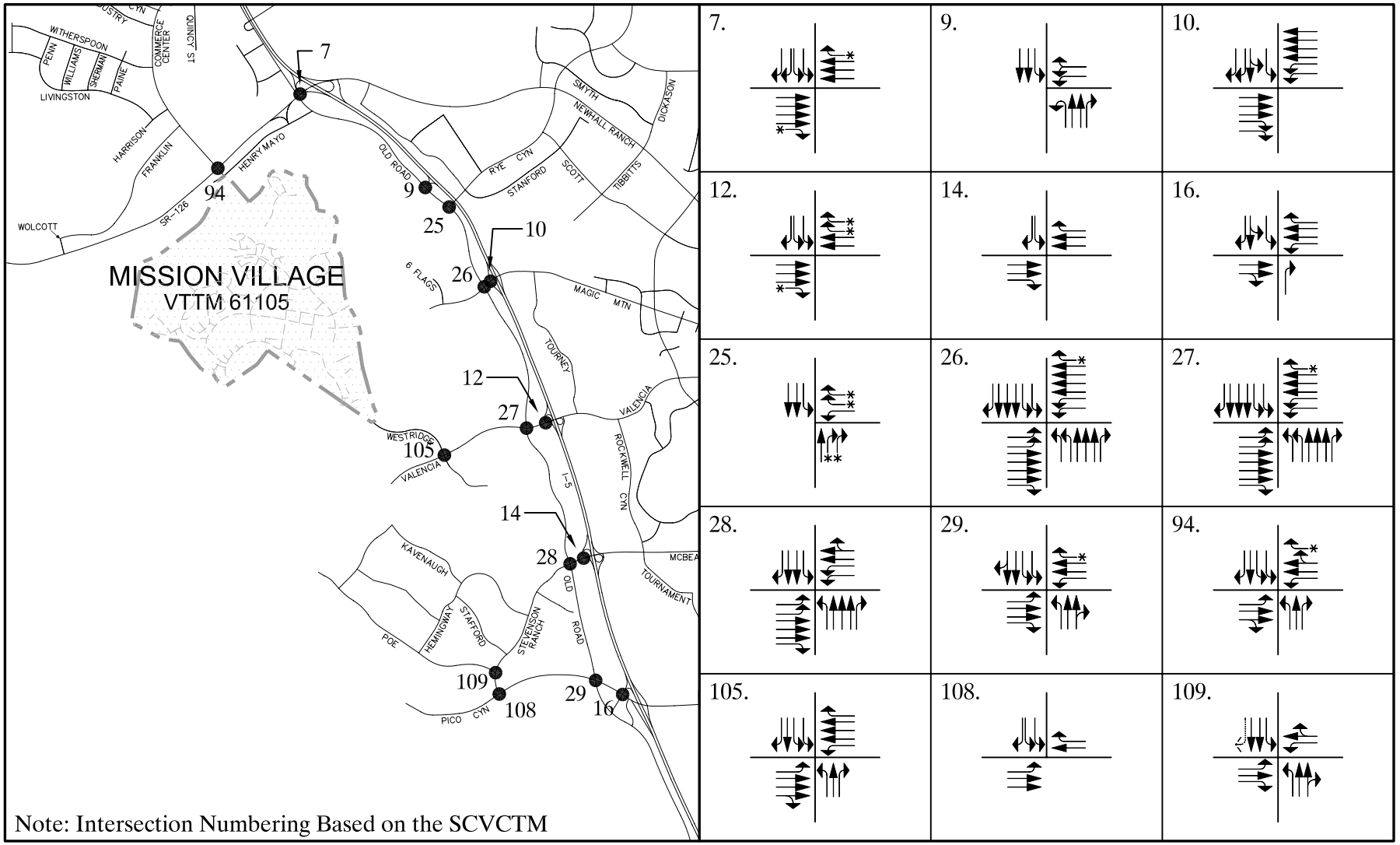
*Source: Austin-Foust Associates, Inc., Mission Village Traffic Impact Analysis, October 2010 (**Appendix 4.5**).*
Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F



SOURCE: Austin Foust Associates, Inc. – August 2010

FIGURE **4.5-2**

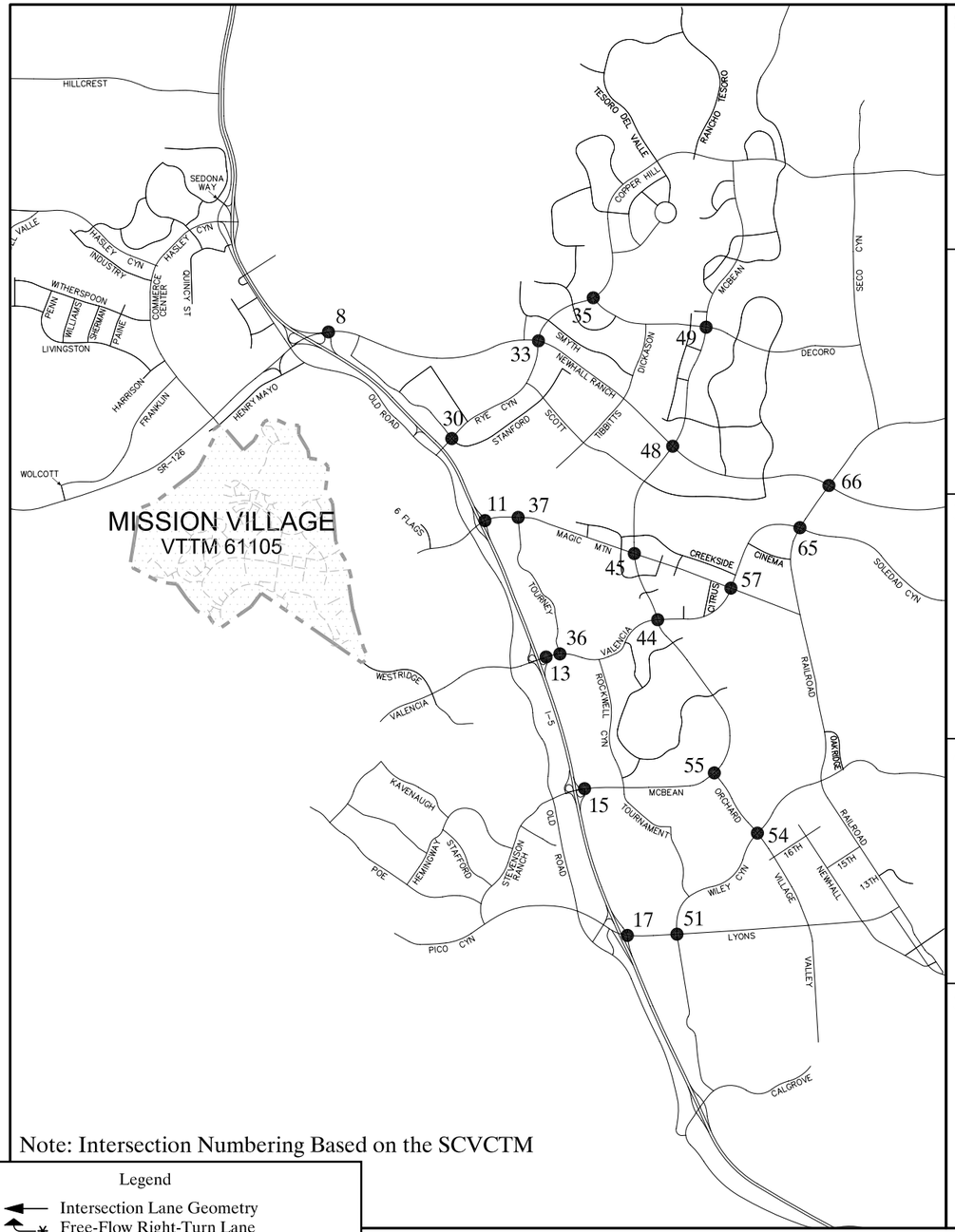
Existing Roadway System



SOURCE: Austin Foust Associates, Inc. – August 2010

FIGURE **4.5-3**

Existing Intersection Lane Configurations – County Intersections



Note: Intersection Numbering Based on the SCVCTM

Legend

- Intersection Lane Geometry
- Free-Flow Right-Turn Lane
- De-Facto Right-Turn Lane

NOT TO SCALE

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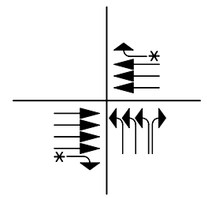

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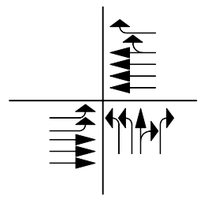

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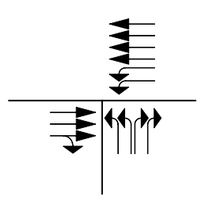

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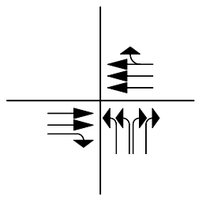

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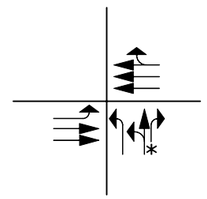

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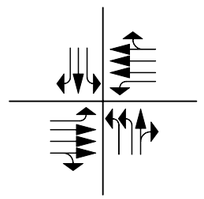

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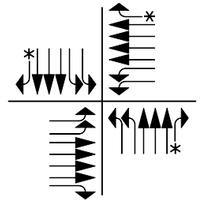

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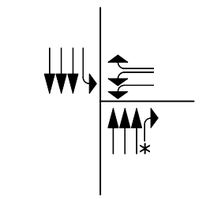

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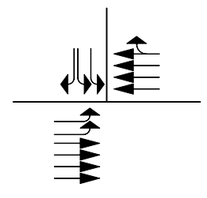

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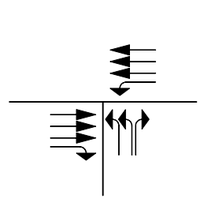

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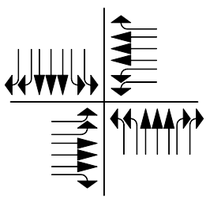

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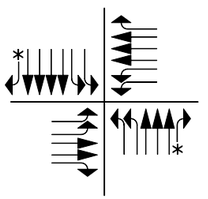

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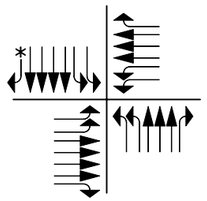

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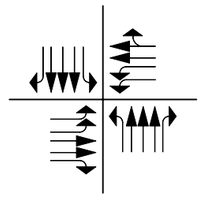

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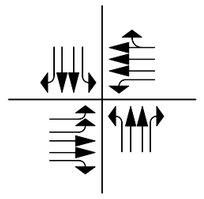

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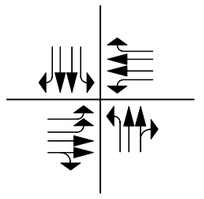

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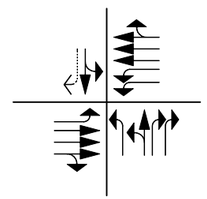

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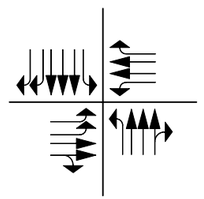

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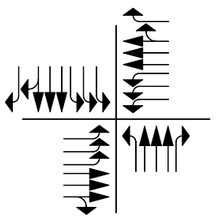

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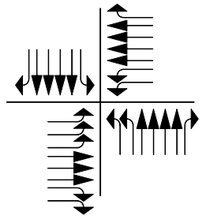
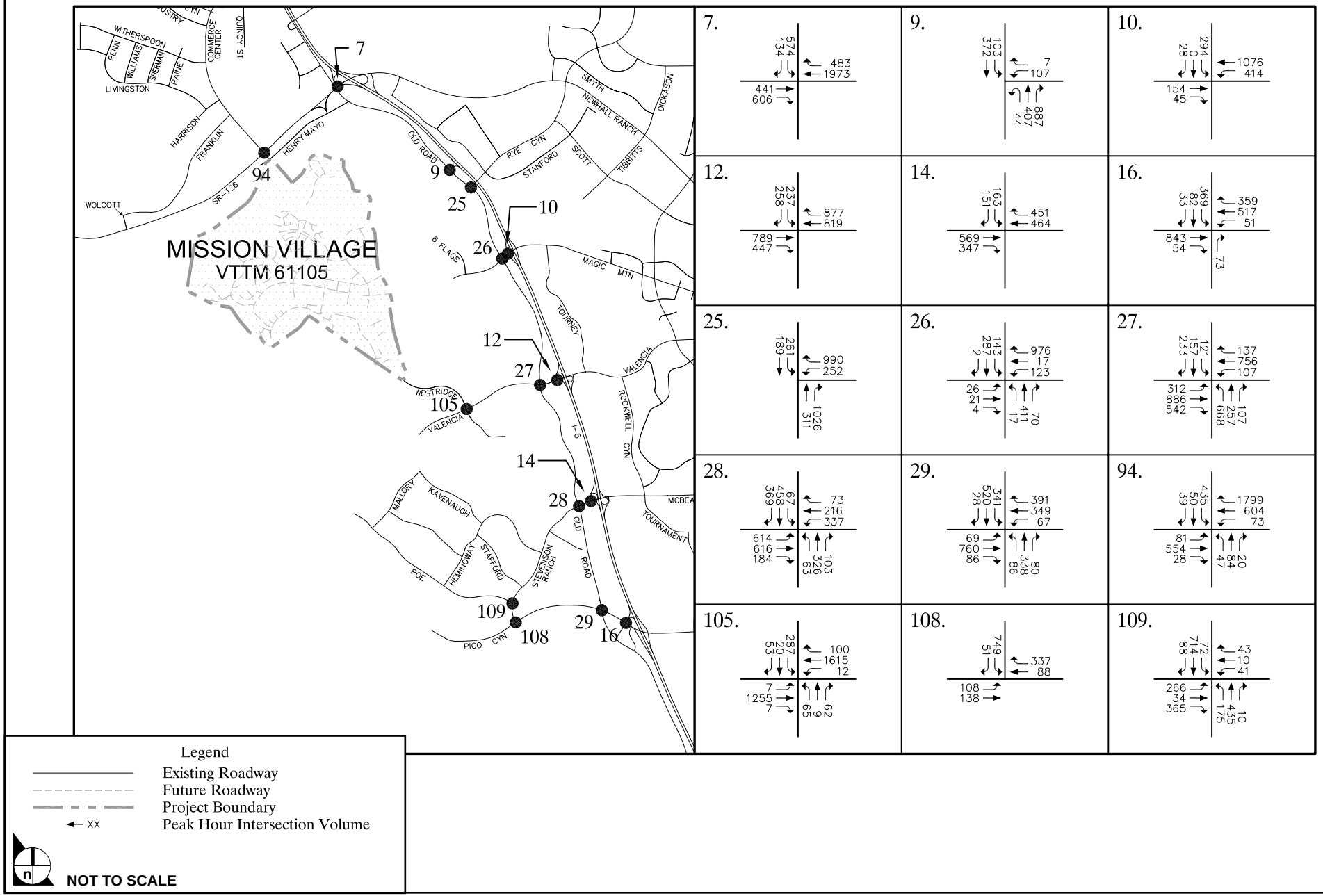


SOURCE: Austin Foust Associates, Inc. – August 2010

FIGURE **4.5-4**

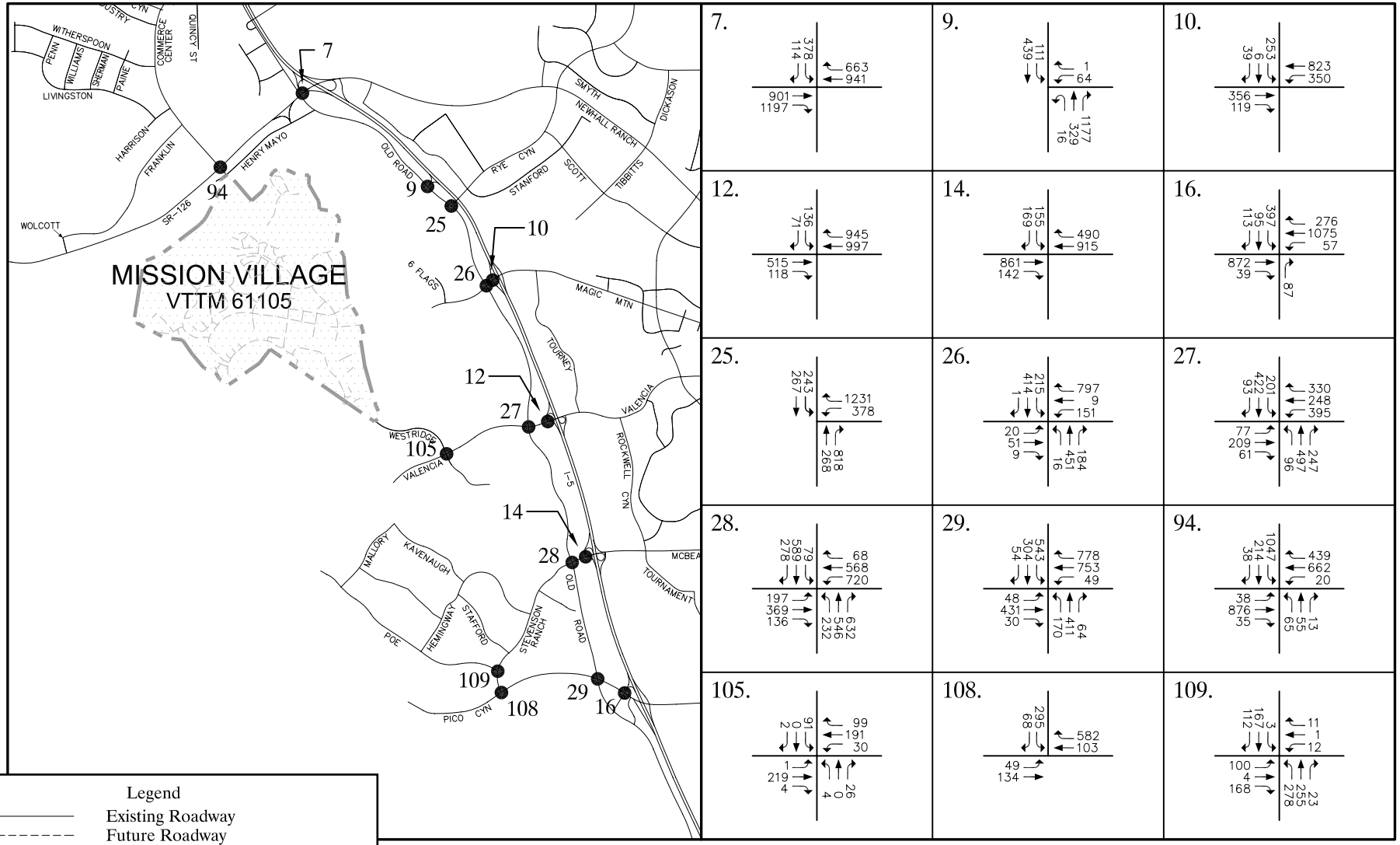
Existing Intersection Lane Configurations – City Intersections



SOURCE: Austin Foust Associates, Inc. – August 2010

FIGURE **4.5-5**

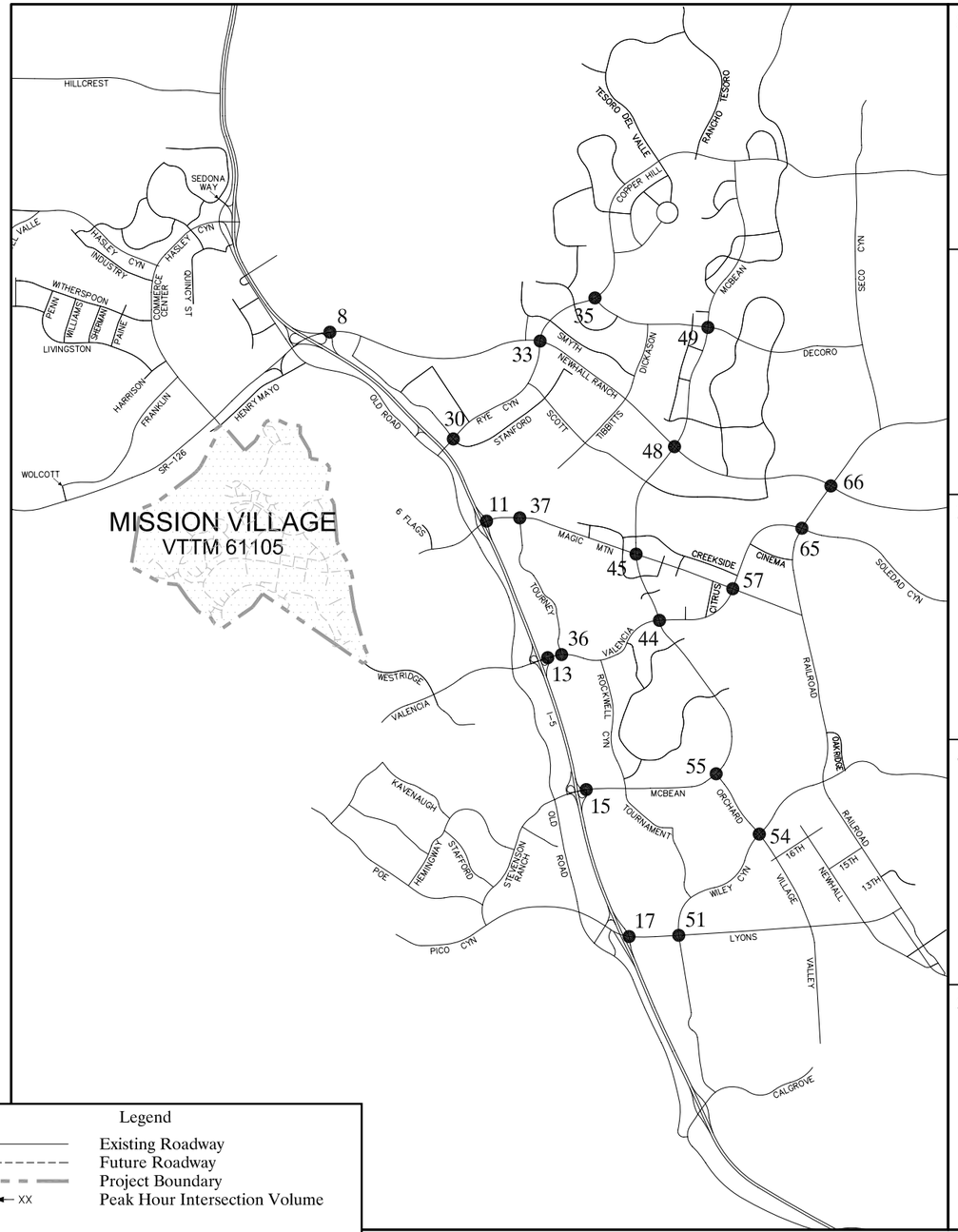
AM Peak Hour Turning Movement Volumes – Existing Conditions (County Intersections)



SOURCE: Austin Foust Associates, Inc. – August 2010

FIGURE **4.5-6**

PM Peak Hour Turning Movement Volumes – Existing Conditions (County Intersections)



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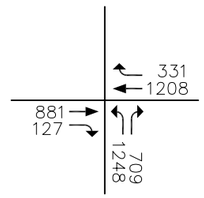

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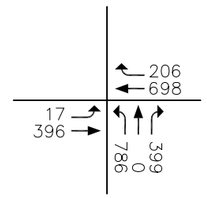

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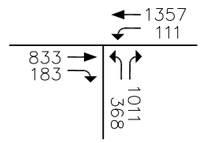

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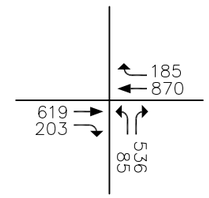

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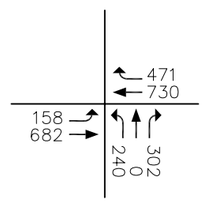

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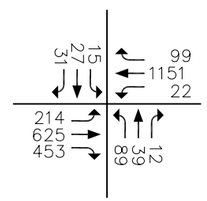

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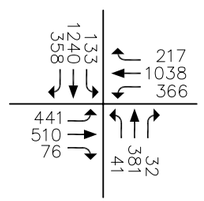

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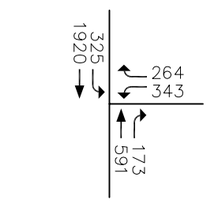

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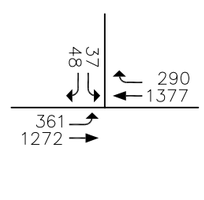

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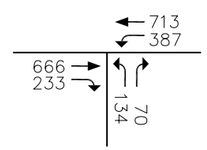

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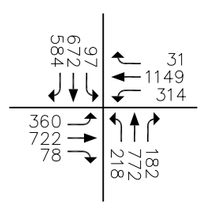

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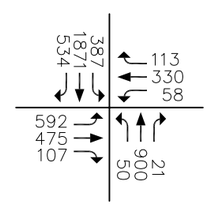

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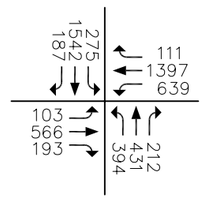

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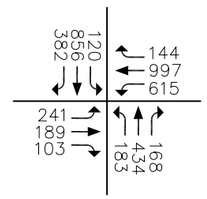

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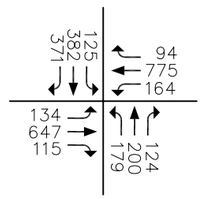

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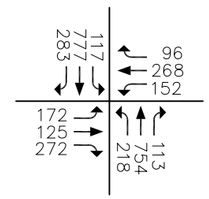

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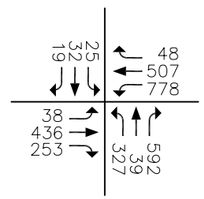

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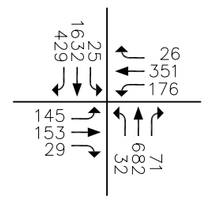

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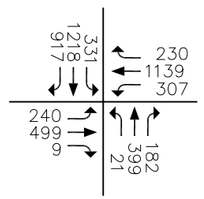

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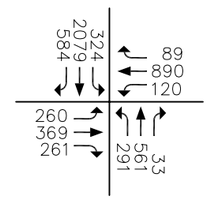


Legend

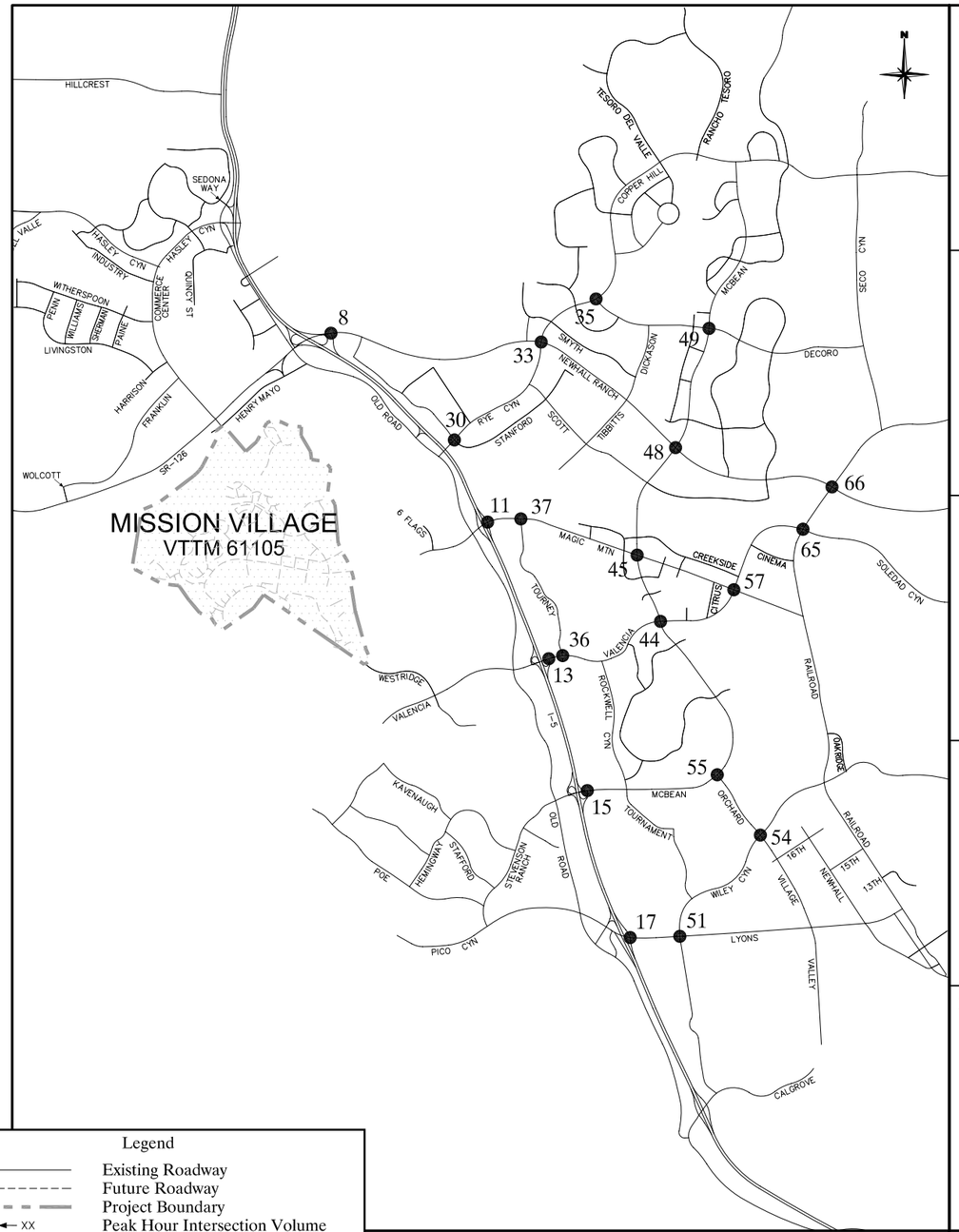
- Existing Roadway
- Future Roadway
- Project Boundary
- ← XX Peak Hour Intersection Volume

NOT TO SCALE

SOURCE: Austin Foust Associates, Inc. –August 2010

FIGURE **4.5-7**

AM Peak Hour Turning Movement Volumes – Existing Conditions (City Intersections)



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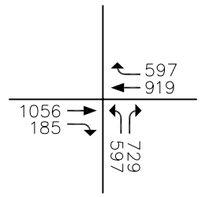

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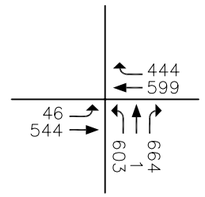

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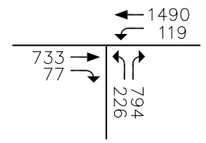

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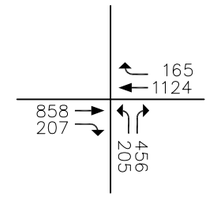

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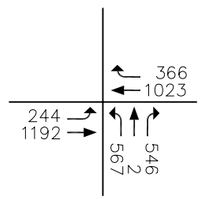

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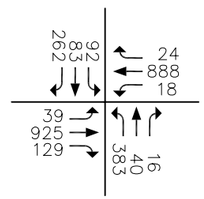

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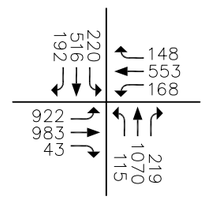

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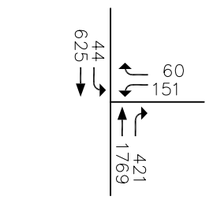

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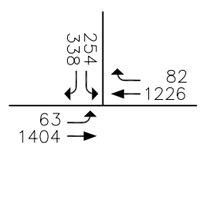

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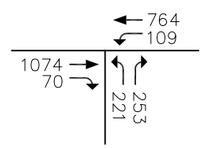

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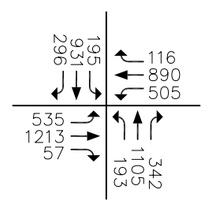

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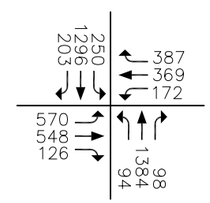

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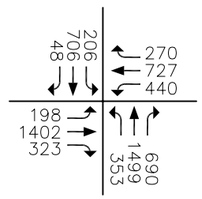

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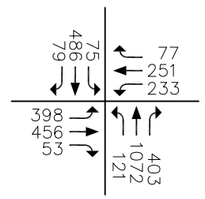

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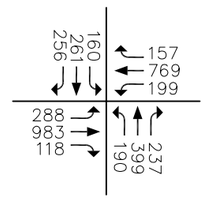

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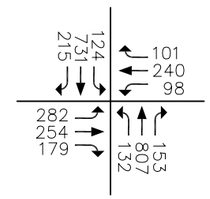

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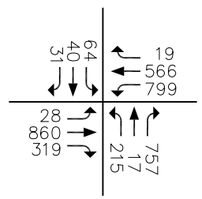

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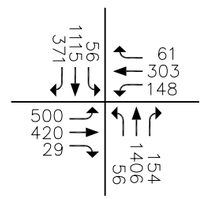

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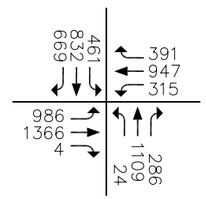

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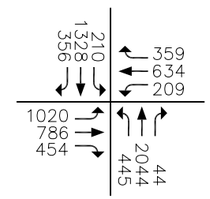

Legend

- Existing Roadway
- Future Roadway
- Project Boundary
- ← XX Peak Hour Intersection Volume

NOT TO SCALE

SOURCE: Austin Foust Associates, Inc. – August 2010

FIGURE **4.5-8**

PM Peak Hour Turning Movement Volumes – Existing Conditions (City Intersections)

With respect to the I-5 freeway, as noted above, the I-5 mainline is currently built to eight lanes, although Caltrans presently is implementing a project to expand the freeway to HOV and truck lanes. A summary of the existing traffic volumes on the I-5 freeway is provided in **Table 4.5-5, Freeway Volumes and V/C Ratios – Existing (2010) Conditions**, along with the resulting V/C calculations. These volumes were derived using data obtained from the Caltrans Performance Measurement System (PeMS) along with traffic counts collected at the ramps. As shown on **Table 4.5-5,** most of the freeway segments currently operate within the capacity of the freeway, with the exception of the following two mainline segments:

411. Southbound I-5 between Calgrove & SR-14 (V/C = 1.08/LOS F, AM; V/C = 1.02/LOS, PM)

412. Southbound I-5 south of SR-14 (V/C = 1.04/LOS F, AM).

c. Existing Transit Service

The project study area is served by two major transit carriers: the Santa Clarita Transit (SCT) system operated by the City of Santa Clarita and Metrolink operated by the Southern California Regional Rail Authority (SCRRA). The SCT largely serves the Santa Clarita Valley, while Metrolink currently serves Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties.

Santa Clarita Transit currently operates two fixed-route transit lines (Routes 3 and 7) in the project vicinity providing bus service to the Six Flags Magic Mountain Theme Park. Route 3 provides service between the Saugus community and Six Flags; and Route 7 provides service between the Tesoro Del Valle area and Six Flags. Major destinations for Route 3 are Seco Canyon, Civic Center, and The Old Road/Westridge Center. Major destinations for Route 7 are the Northpark and the Northbridge areas. Both routes serve the Tamarack loop, the Valencia Town Center area, Kaiser Medical Center/Borax, and Six Flags Magic Mountain Theme Park.[9] Also near to the project site are Routes 1 and 2, which serve the McBean Regional Transit Center, Industrial Center, Commerce Center, Newhall Metrolink, City Hall, Valencia Town Center, River Oaks Shopping Center, Canyon High School, Sierra Vista Jr. High School, and Plum Canyon. Additional routes, accessible from these routes, provide service to the greater Santa Clarita Valley Area.

It is anticipated that, over time, the local bus service will expand as additional development occurs within the valley. Typically, bus route plans are evaluated on an annual basis, and routes are added and/or modified as appropriate and as funding permits; therefore, as Mission Village develops, service to the project area could be added as determined at the discretion of SCT. Meanwhile, the current transit arrangement is anticipated to continue to serve local residents of the area, connecting residential areas with employment and commercial centers. See **subsection 7.f.(2), Project Transit Impacts**, for additional information regarding future transit services.

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9 City of Santa Clarita. "Santa Clarita Transit." [Online] 26 April 2010. http://www.santa-clarita.com/cityhall/field/transit/routes&schedules.asp.

Table 4.5-5
Freeway Volumes and V/C Ratios – Existing (2010) Conditions

Segment		Lanes	Capacity	AM Peak Hour				PM Peak Hour			
				Northbound		Southbound		Northbound		Southbound	
				Vol	V/C	Vol	V/C	Vol	V/C	Vol	V/C
401.	North of Lake Hughes	4M	8,000	1,300	0.16	1,400	0.18	2,200	0.28	1,800	0.23
402.	Between Lake Hughes & Parker	4M	8,000	1,400	0.18	1,700	0.21	2,500	0.31	2,000	0.25
403.	Between Parker & Hasley Canyon	4M	8,000	1,700	0.21	2,200	0.28	3,100	0.39	2,400	0.30
404.	Between Hasley Canyon & SR-126	4M	8,000	2,300	0.29	3,100	0.39	4,100	0.51	3,000	0.38
405.	Between SR-126 & Rye Canyon	4M	8,000	3,200	0.40	3,500	0.44	4,400	0.55	4,200	0.53
406.	Between Rye Canyon & Magic Mtn	4M	8,000	3,200	0.40	4,400	0.55	4,400	0.55	5,400	0.68
407.	Between Magic Mtn & Valencia	4M	8,000	4,100	0.51	4,600	0.58	5,200	0.65	5,600	0.70
408.	Between Valencia & McBean	4M	8,000	5,200	0.65	5,600	0.70	6,000	0.75	6,400	0.80
409.	Between McBean & Pico/Lyons	4M	8,000	5,200	0.65	6,200	0.78	6,300	0.79	6,700	0.84
410.	Between Pico/Lyons & Calgrove	4M	8,000	5,100	0.64	6,700	0.84	6,800	0.85	6,500	0.81
411.	Between Calgrove & SR-14	4M (NB) 4M* (SB)	8,000 6,400	5,100	0.64	6,900	1.08	6,800	0.85	6,500	1.02
412.	South of SR-14	6M + 2T (NB) 5M + 2T (SB)	14,400 12,400	6,700	0.47	13,900	1.12	13,500	0.94	9,300	0.75

M = Mixed-Flow/General Purpose Lane (Capacity = 2,000 vehicles per hour)
M = Mixed-Flow Lane on an Extended Uphill Grade, Without a Truck Lane (Capacity = 1,600 vehicles per hour)*
T = Truck Lane (Capacity = 1,200 vehicles per hour)
Capacities derived from PeMS data and through discussions with Caltrans staff.

SCT also operates commuter buses, which provide regional service to downtown Los Angeles, the San Fernando Valley and the Antelope Valley. Specifically, commuter bus service is provided to the following locations: McBean Regional Transfer Center – North Hollywood Station (Route 757), Chatsworth Metrolink/Amtrak Station – Warner Center (Route 791 and 796), UCLA/Westwood – Century City (Routes 792 and 797), Van Nuys – Sherman Oaks (Routes 793 and 798), Los Angeles Union Station/Gateway Transit Center (Route 794), Vincent Grade/Acton Metrolink Station and Lancaster Metrolink Station (Route 795), and downtown Los Angeles – Santa Clarita Metrolink (Route 799).

As to Metrolink, the Mission Village site is located west of the Santa Clarita Metrolink Rail Station on Soledad Canyon Road and the Jan Heidt Metrolink Station in Newhall. Metrolink provides commuter rail service between the Antelope Valley and Downtown Los Angeles, thereby supplying additional regional transit to the site. Metrolink also links Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties with convenient transfer service between the bus and rail systems. The Metro oversees transit planning in the Los Angeles County area. An eventual Metrolink extension along the SR-126 corridor to Ventura County is part of the long-range transit plans prepared by Ventura County, the City of Santa Clarita, and the Southern California Association of Governments, although no specific plans have been developed as of this time.

7. PROPOSED PROJECT IMPROVEMENTS

a. Site Access and Proposed Improvements

Under the proposed project, Magic Mountain Parkway would be extended westward from its current terminus just west of the entrance of Magic Mountain Theme Park. Concurrently, Westridge Parkway would be extended northerly where it would terminate at the Magic Mountain Parkway extension on the project site. Subsequent to these improvements, Commerce Center Drive would be extended southward through the site from SR-126 until it intersects with Magic Mountain Parkway. See **Figure 4.5-9, Roadway Classifications – On-Site**.

The proposed on-site circulation system comprises an inter-related set of local roadways that would serve the adjacent land uses and provide accessibility between those uses and the arterial system. These local roadways would be designed as two-lane streets with flaring at intersections where necessary. The on-site circulation system is shown on **Figure 4.5-9**.

The Mission Village project-level circulation system is consistent with, and implements, the mobility objectives of the Specific Plan's approved Master Circulation Plan. The Newhall Ranch Specific Plan designates the extension of Magic Mountain Parkway as a six-lane Major Highway for the segment east of Westridge Parkway and a four-lane Secondary Highway for the segment west of Westridge Parkway. The extension of Commerce Center Drive is currently designated as a six-lane Major Highway. The extension of Westridge Parkway within the project site has been planned as a four-lane collector roadway.

Figure 4.5-10, Intersection Lane Configurations – On-Site, illustrates the number of midblock lanes and the intersection geometry for all the major on-site intersections. In addition to the on-site roadway improvements that would be constructed as part of the project, the proposed project also includes a bus transfer station that would facilitate the use of transit for those who live or work at the project site.

8. PROJECT IMPACTS

The analysis of potential traffic/access impacts associated with operation of the proposed project, including the significance criteria applicable to assessing such impacts, is presented below.

a. Significance Threshold Criteria

Significance threshold criteria for traffic/access are specified in Appendix G of the *California Environmental Quality Act* (*CEQA) Guidelines*. Under these guidelines, a project would have a potentially significant impact on traffic/access if it would:

- conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;

- conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;

- result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;[10]

- substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);[11]

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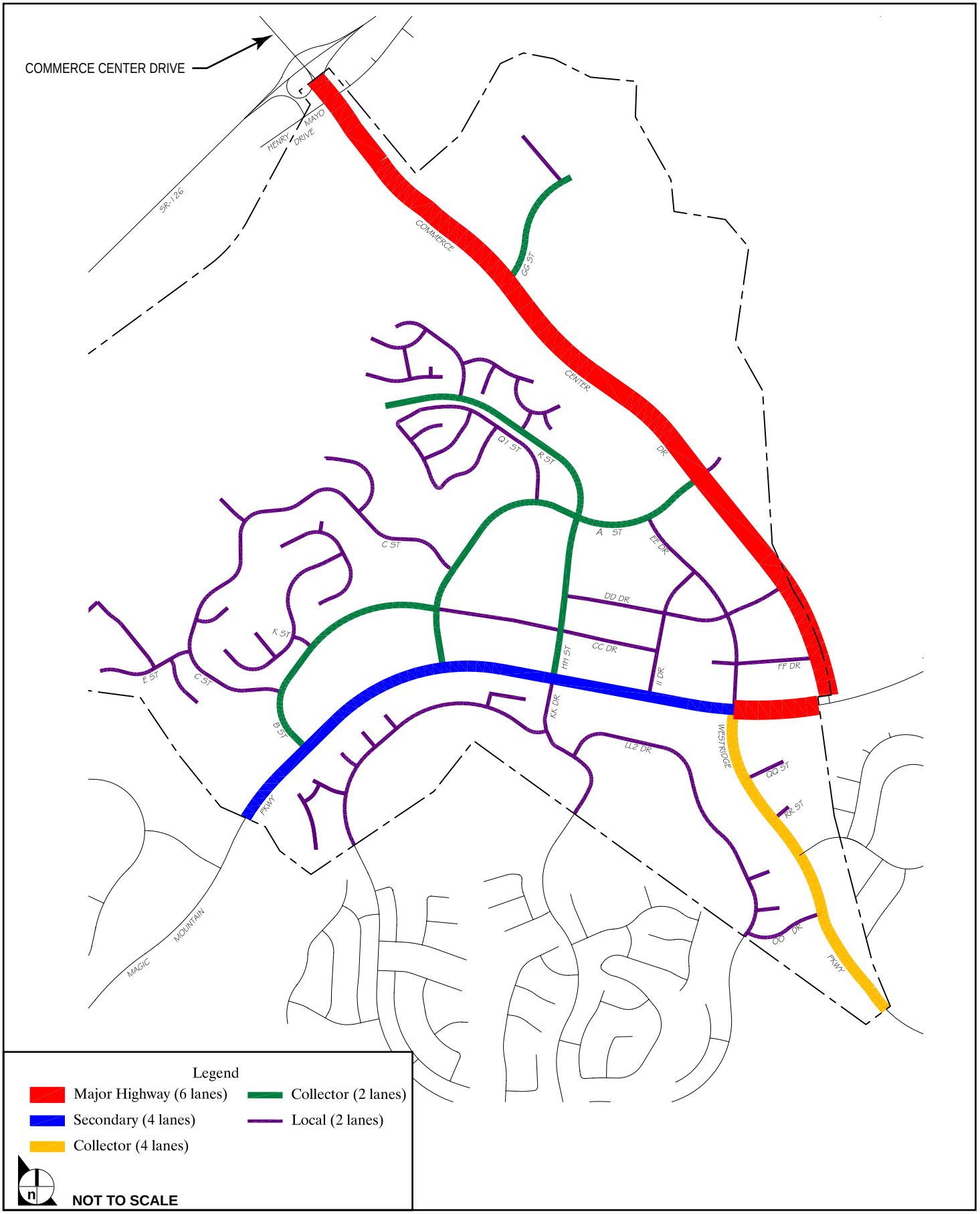
10 The proposed project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. Additionally, the *Mission Village Initial Study* determined that the proposed project would not result in potential impacts relating to safety hazards associated with airport uses. (See *Mission Village Initial Study*, Appendix ES, p. 22.) Therefore, no impact to air traffic patterns would occur as a result of the proposed project and no further analysis is necessary.

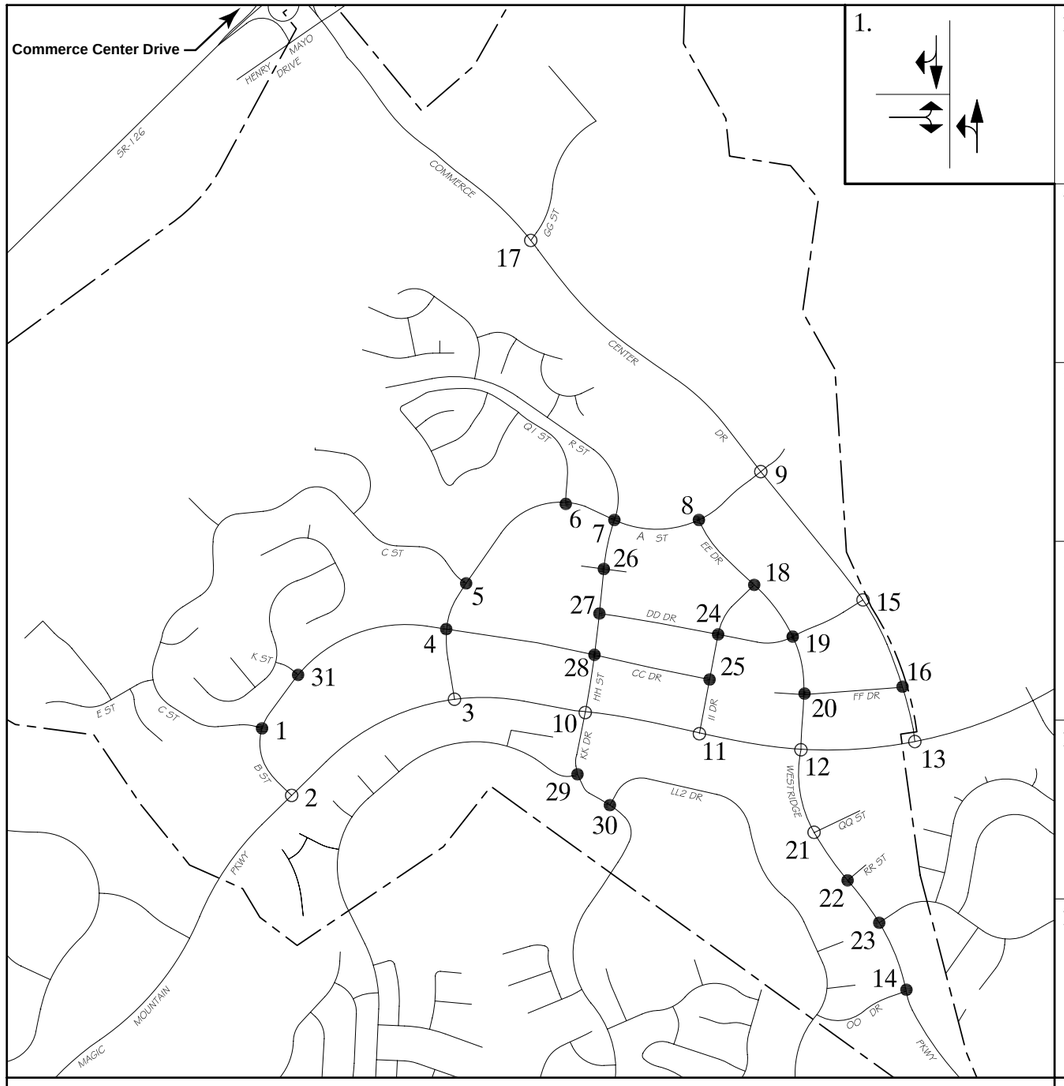
11 The on-site circulation system to be built as part of the proposed project will provide vehicular access onto and within the project site that complies with all applicable County codes and regulations, as well as the *Newhall Ranch Specific Plan*. Therefore, the proposed project will not substantially increase hazards due to a design feature or incompatible uses, and no further analysis is necessary. (See also *Mission Village Initial Study*, Appendix ES, p. 16.) With respect to parking, the proposed project would provide parking consistent with the parking regulations set forth in *Newhall Ranch Specific Plan*, Section 3.7. Therefore, the project would provide adequate parking for the uses proposed under the Mission Village tract map and no further analysis of parking capacity is necessary.



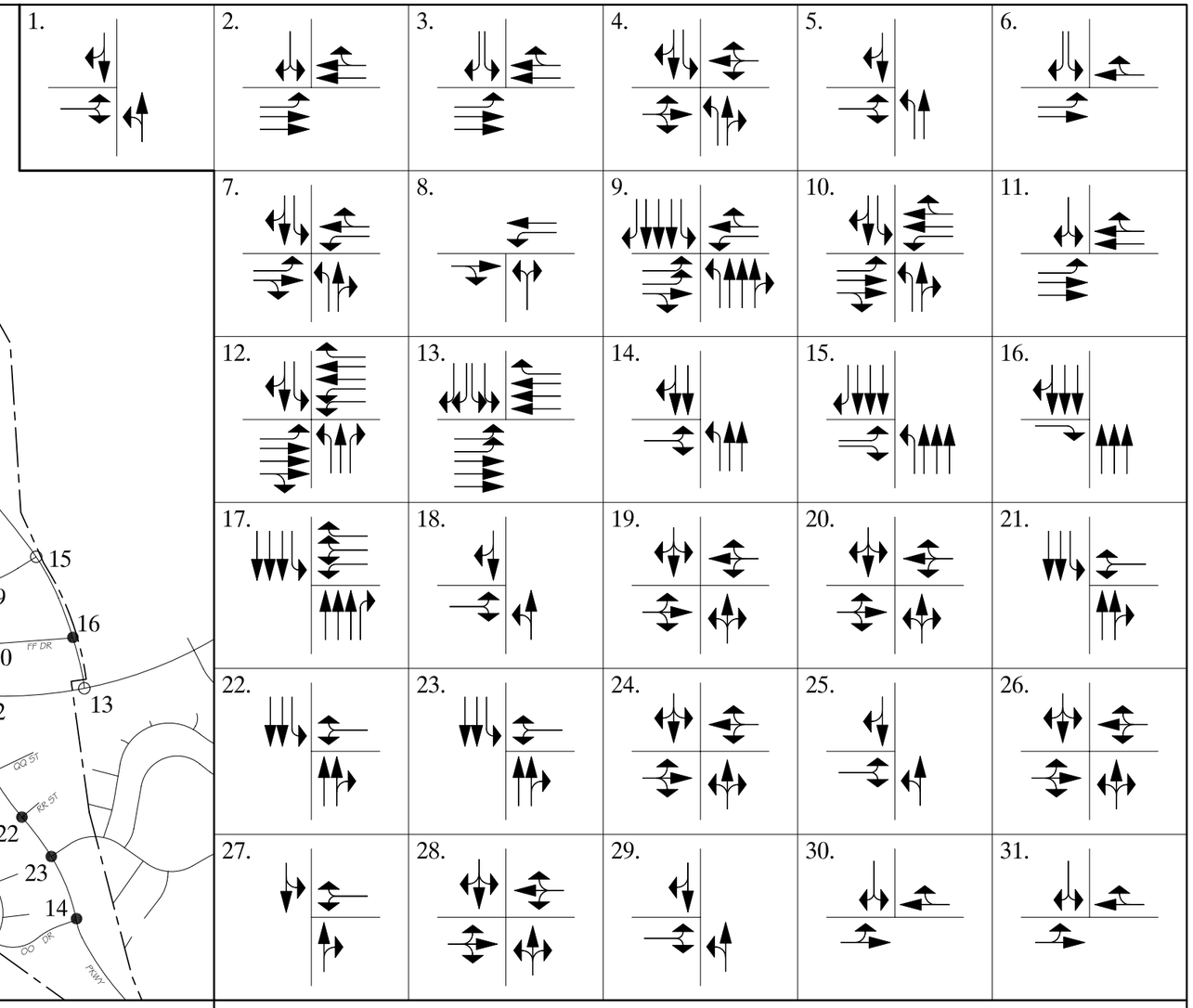
SOURCE: Austin Foust Associates, Inc. – August 2010

FIGURE **4.5-9**

Roadway Classifications – On-Site



INTERSECTION LOCATIONS



INTERSECTION LANES

Legend

- Intersection Location (Stop Sign Control)
- Intersection Location (Signal Control)
- Project Boundary
- Intersection Lane

NOT TO SCALE

SOURCE: Austin Foust Associates, Inc. – August 2010

FIGURE **4.5-10**

Intersection Lane Configurations – On-Site

- result in inadequate emergency access; or[12]
- conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.[13]

With respect to the first criterion, circulation system performance criteria are based on two primary measures. The first is "capacity," which establishes the vehicle carrying ability of a roadway, and the second is "volume." The volume measure is either a traffic count (in the case of existing volumes) or a forecast for a future point in time. The ratio between the volume and the capacity gives a V/C ratio and based on that V/C ratio, a corresponding LOS is defined.

Table 4.5-6, Volume/Capacity Ratio Level of Service Ranges, summarizes the V/C ranges that correspond to LOS "A" through "F" for arterial roads, intersections, and freeway segments. The V/C ranges listed for arterial roads and intersections within the study area are those used by the County of Los Angeles and the City of Santa Clarita. The V/C ranges listed for freeway segments are based on the V/C and LOS relationships specified in the *2000 Highway Capacity Manual* for basic freeway sections with free-flow speeds of 105 kilometers per hour (65 miles per hour); the V/C methodology is specified by the County's CMP for the evaluation of CMP freeway monitoring stations.

Both the V/C ratio and the LOS are used in determining impact significance. Certain LOS values are deemed unacceptable by the County and City, and increases in the V/C ratio that cause or contribute to the LOS being unacceptable are defined as a significant impact (see following sections for details). With respect to state highways, while the Caltrans guidelines for the preparation of traffic studies recommends the HCM method for the evaluation of state highway facilities, those guidelines do not include a threshold of significance criteria for the determination of a significant project impact based on the HCM methodologies. As such, the thresholds of significance criteria specified by the local agencies (i.e., County of Los Angeles, City of Santa Clarita, and the LA County CMP) are utilized for this analysis.

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12 The *Mission Village Initial Study* determined that the proposed project would not result in potential impacts relating to inadequate emergency access. (See, *Mission Village Initial Study*, Appendix ES, p. 16.) Therefore, no further analysis is necessary. For related information, see EIR **Section 4.11, Sheriff Services**, and **Section 4.12, Fire Protection Services**.

13 In addition to the analysis provided in this section, EIR, **Section 2.0**, **Environmental and Regulatory Setting**, analyzes the proposed project's consistency with SCAG's Regional Transportation Plan, and Compass Growth Vision Report. The project is considered consistent with these adopted plans and programs.

Table 4.5-6
Volume/Capacity Ratio Level of Service Ranges

V/C Ratio Range	LOS
Arterial Roads/Intersections	
0.00–0.60	A
0.61–0.70	B
0.71–0.80	C
0.81–0.90	D
0.91–1.00	E
Above 1.00	F
Freeway Segments (FFS = 65 mph)	
0.00–0.30	A
0.31–0.50	B
0.51–0.71	C
0.72–0.89	D
0.90–1.00	E
Above 1.00	F

*Source: Austin-Foust Associates, Inc., Mission Village Traffic Impact Analysis, October 2010 (**Appendix 4.5**).*

In establishing V/C based performance criteria, there are certain items that need to be addressed to obtain suitable V/C estimates and relate them to LOS. For instance, while average daily traffic is a useful measure to show general levels of traffic on a facility and to provide data for other related aspects such as noise and air quality, highway congestion is largely a peak hour or peak period occurrence and ADT does not reflect peak period conditions very effectively. For this reason, the analysis presented here focuses on those parts of the day when such congestion can occur, specifically the AM and PM peak hours. For the arterial and freeway system, the peak hour is the accepted period used for impact evaluation and a number of techniques are available to establish suitable V/C ratios and define the corresponding LOS. These definitions and procedures are established by individual local jurisdictions, such as the County, the City of Santa Clarita, or by regional programs such as the Congestion Management Program.

The analysis of the arterial road system is based on intersection capacity since this is the defining capacity limitation on an arterial highway system. There may be exceptions where certain facilities have long distances between signalized intersections, but within the traffic analysis study area in this case, peak hour intersection performance is the most representative measure for evaluating the arterial road system.

As to the freeway system, the analysis of the freeway system is based on peak hour volumes by direction. The measure used to provide an estimate of LOS can be V/C, speed (miles per hour) or density (passenger cars/mile/lane). The three basic measurements for traffic (speed, density, and volume) are interrelated in such a way that if values for two of these measures are known, the third can be computed. **Table 4.5-7,**

LOS Criteria for Basic Freeway Segments, shows the relationship between these three measures and how they translate to LOS.

Table 4.5-7
LOS Criteria for Basic Freeway Segments

Criteria	LOS				
	A	B	C	D	E
Maximum density (pc/mi/ln)	11	18	26	35	45
Minimum speed (mi/h)	65.0	65.0	64.6	59.7	52.2
Maximum V/C	0.30	0.50	0.71	0.89	1.00
Maximum service flow rate (pc/h/ln)	710	1,170	1,680	2,090	2,350

Notes:
The exact mathematical relationship between density and V/C has not always been maintained at LOS boundaries because of the use of rounded values. Density is the primary determinant of LOS. The speed criterion is the speed at maximum density for a given LOS. Values based on a free flow speed of 65 mph.
*Source: Highway Capacity Manual 2000 (HCM 2000) (**Appendix 4.5**, AFA Traffic Impacts Analysis, October 2010).*

Levels of service for arterial roadway intersections and for freeway mainline segments are determined based on operating conditions during the AM and PM peak hours. For intersections, the intersection capacity utilization (ICU) methodology is applied, providing a planning level basis for determining V/C and LOS. This methodology sums the V/C ratios for the critical movements of an intersection and is the preferred procedure for intersection analysis by the City of Santa Clarita and the County of Los Angeles. The ICU methodology is generally compatible with the intersection capacity analysis methodology outlined in the *HCM 2000*. For freeway segments, the V/C methodology is applied, which also provides a planning level basis for determining capacity utilization and LOS, and which is the methodology specified by the County CMP. The HCM 2000 equates V/C ratios to other performance measures such as speed and density as shown in **Table 4.5-7**.

The following outlines the impact criteria for the facilities within the project study area.

(1) Arterial Intersections

The ICU calculation methodology and associated impact criteria for the project study area arterial system are summarized in **Table 4.5-8, Arterial Intersection Performance Criteria**. The County strives to maintain LOS C (ICU not to exceed 0.80) at existing intersections, and utilizes LOS D (ICU not to exceed 0.90) as the accepted standard and target LOS for the design of future intersections, as well as for existing intersections for long-range planning purposes. The City of Santa Clarita strives to maintain LOS D for existing and future conditions.However, several intersections in both the city and county have been identified as operating at LOS E for General Plan Buildout Conditions as part of the pending General Plan/Area Plan update.

Table 4.5-8
Arterial Intersection Performance Criteria

V/C Calculation Methodology	
Level of service to be based on peak hour intersection capacity utilization (ICU) values calculated using the following assumptions:	
Saturation Flow Rates	
County Methodology:	1,600 vehicles/hour/lane for through lanes, right-turn lanes and single left-turn lanes
	2,880 vehicles/hour for dual left-turn lanes
City Methodology:	1,750 vehicles/hour/lane for all lanes
Clearance Interval:	.10
Performance Targets	
County:	LOS D (peak hour ICU less than or equal to 0.90) for long-range cumulative buildout conditions
	Mid-LOS C (peak hour ICU less than 0.75) or existing LOS, whichever is greater, for existing intersections for short-range conditions
City:	LOS D or existing LOS, whichever is greater, or LOS E as identified in the General Plan for select intersections
Impact Thresholds	
An intersection is considered to be significantly impacted if compared to the ICU in the no-project alternative, the ICU in the with-project alternative increases the ICU by the following:	
County Thresholds: Pre-Project ICU	Project Increment
0.71–0.80 (LOS C)	greater than or equal to 0.04
0.81–0.90 (LOS D)	greater than or equal to 0.02
0.91 or more (LOS E & F)	greater than or equal to 0.01
City Thresholds: With-Project ICU	Project Increment
0.81–0.90 (LOS D)	greater than or equal to 0.02
0.91 or more (LOS E&F)	greater than or equal to 0.01

*Source: Austin-Foust Associates, Inc., Mission Village Traffic Impact Analysis, October 2010 (**Appendix 4.5**).*
Abbreviations: ICU – Intersection Capacity Utilization; V/C – Volume/Capacity Ratio
Note: The County guidelines do not address situations where pre-project conditions are less than 0.71. In that situation, County staff has interpreted the guidelines to mean that an increase that results in a with-project condition of 0.75 or more is considered significant. The interpretation is based on the following scenario, which is addressed by the guidelines: 0.71 (pre-project) + 0.04 (project increment) = 0.75 and is a significant impact.

(2) Freeway Mainline Facilities

The freeway V/C calculation methodology and associated impact criteria for the study area freeway system are summarized below in **Table 4.5-9, Freeway Mainline Performance Criteria**. The County CMP specifies that LOS E or existing LOS, whichever is worse, represents the performance standard for freeway segments, and Caltrans goal is to maintain no worse than LOS E conditions in urban areas.

Table 4.5-9
Freeway Mainline Performance Criteria

V/C Calculation Methodology	
Level of service to be based on peak hour V/C values calculated using the following assumptions:	
Saturation/Service Flow Rates:	
Mainline Mixed-flow/General Purpose Lane:	2,200 vehicles/hour/lane
Mainline Mixed-flow/General Purpose Lane on an Extended Uphill Grade:	1,600 vehicles/hour/lane
High Occupancy Vehicle (HOV) Lane:	2,200 vehicles/hour/lane
Auxiliary Lane:	1,000 vehicles/hour/lane
Truck Lane:	1,200 vehicles/hour/lane
Saturation flow rates derived from Caltrans PeMS data and through discussions with Caltrans staff.	
Performance Standard	
LOS E or existing LOS, whichever is worse (applicable to Urban areas)	
Impact Threshold	
A freeway mainline segment is considered to be adversely impacted if each of the following conditions are met:	
The segment is forecast to operate deficiently (i.e., worse than the performance standard).	
Compared to the V/C in the no-project alternative, the V/C in the with-project alternative increases by greater than or equal to 0.02 (the impact threshold specified in the CMP).	

Abbreviations:
V/C – Volume/Capacity Ratio
PeMS – Performance Monitoring System
LOS – Level of Service
CMP – Congestion Management Program
*Source: Austin-Foust Associates, Inc. Traffic Impacts Analysis (October 2010) (see **Appendix 4.5**)*

(3) Congestion Management Program

As noted above, the CMP defines a significant impact as occurring when the proposed project increases traffic demand on a CMP facility by 2 percent or more of capacity (V/C ≥ 0.02), causing or worsening LOS F (V/C > 1.00).

The Los Angeles County Congestion Management Program requires that a proposed development address two major subject areas with respect to traffic impacts. These are the project's impacts on the CMP highway system and the project's impacts on the local and regional transit systems.

With respect to CMP highway system impacts, according to the CMP guidelines, the geographical area examined in a CMP traffic impact analysis consists of the CMP monitoring locations that meet the following criteria:

1. CMP intersections where the proposed project will add 50 or more trips during the AM or PM weekday peak hours (of adjacent street traffic).
2. Mainline freeway locations where the project will add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

b. Construction-Related Impacts

Construction of the proposed project and recommended improvements could result in temporary disruptions of normal traffic patterns on roadways or intersections in the immediate vicinity of the active construction zone. The disruption of normal traffic flow would be limited in both duration and extent, with most disruption occurring during earlier phases of construction when earthwork and utility construction is taking place. Potential traffic disruption and conflicts between construction activities and through traffic will be controlled in accordance with the Caltrans Manual of Traffic Controls. These controls are expected to adequately reduce any potentially significant impacts resulting from disruptions of traffic and access during the construction period to a level below significant. Specific measures described in the Traffic Manual that are typically used at a construction site are summarized below:

- All traffic control measures, construction signs, delineators, etc., and their use during the construction phase of this project shall conform to the provisions set forth in the State of California, Department of Transportation, Manual of Traffic Controls, January 1992.
- In areas where traffic control necessitates, the contractor shall provide, post, and maintain "No Parking" and "No Stopping" signs, as directed by the Director of Public Works.
- The location of all signs shall be determined in the field by the County Engineer in conjunction with the contractor.
- No travel lane shall be less than 10 feet wide.
- Delineators shall be spaced at 50 feet maximum, or as noted on the final Traffic Control Plan.
- All traffic signal facilities shall be protected during construction or relocation.
- "Construction Ahead" and appurtenant signs are to be placed 1,000 feet in advance of all approaches to the project area, for the duration of construction.
- Private driveway closures shall be limited to the times of the day that construction is in progress.
- Cross street closures shall be limited to the times of the day that construction is in process.

With respect to the additional traffic that would be added to the study area roadway system as a result of construction-related vehicle trips, because the level of construction activities will vary throughout the

duration of the project and, therefore, the level of average daily vehicle trips will vary, average daily worker trips were estimated for each category of vehicle trip for each year of the period of project construction. Based on those estimates, the peak year for construction activity was determined to be in the 13th quarter of construction, when approximately 640 ADT due to construction activity would be generated. (See EIR **Appendix 4.5**, Traffic Impacts Analysis, Appendix H.)

The construction trips will be dispersed throughout the project site, with trips to and from the site occurring primarily on Magic Mountain Parkway and Commerce Center Drive. By the peak year of construction activity, the project will have constructed the Magic Mountain Parkway extension (which will be 4 to 10 lanes in size, with 6 lanes at the easterly project limits), and the Westridge Parkway extension (which will be 4 lanes). These two roadways collectively would provide capacity for approximately 90,000 ADT, of which construction-related traffic would utilize less than 1 percent of the available capacity. Therefore, based on the dispersed trip distribution, in combination with the fact that the construction activities would generate a relatively negligible amount of traffic on any given roadway, the increase in traffic due to construction activities would not result in a significant impact.

c. Project Trip Generation

Trip generation estimates for the proposed project are shown in **Table 4.5-10, Mission Village Land Use and Trip Generation Summary**. The trip generation estimates were calculated utilizing ITE trip generation rates and rates derived from the SCVCTM, as shown in the table. As depicted in **Table 4.5-10**, the proposed project is estimated to generate approximately 58,452 ADT at project buildout, with approximately 5,065 tripends occurring in the AM peak hour and approximately 5,926 tripends occurring in the PM peak hour.

d. Project Trip Distribution

(1) Internal Trips

As shown in **Table 4.5-10,** at buildout the proposed project would result in approximately 58,500 gross ADT, with approximately 5,100 gross trips during the AM peak hour (2,700 inbound), and approximately 5,900 gross trips during the PM peak hour (3,200 outbound), based on standard SCVCTM and ITE rates. However, due to the complementary mix of uses planned for the site, many of the trips generated by the project will remain internal to the project site. To determine the amount of trips that would be internal to the project site, as noted above, a mixed-use development (MXD) trip generation estimate has been prepared for the project.[14]

[14] As noted above, the quantitative model was developed by Fehr & Peers in cooperation with the U.S. Environmental Protection Agency and ITE.

Table 4.5-10
Mission Village Land Use and Trip Generation Summary

		AM Peak Hour			PM Peak Hour			
Land Use Type	**Units**	**IB**	**OB**	**Total**	**IB**	**OB**	**Total**	**ADT**
3. Single Family (6–10 du/ac)	382 du	73	213	286	244	143	387	3,783
4. Condominium/Townhouse	2,315 du	234	1,110	1,344	1,086	604	1,690	18,520
5. Apartment	905 du	73	388	461	370	190	560	6,244
7. Senior (Active)	459 du	37	54	91	73	45	118	1,702
8. CCRC	351 du	42	21	63	49	53	102	986
Residential Total	*4,412 du*	*459*	*1,786*	*2,245*	*1,822*	*1,035*	*2,857*	*31,235*
13. Commercial Shops	224.1 tsf	162	107	269	404	404	808	8,306
20. Elementary/Middle School	900 STU	234	180	414	72	81	153	1,305
24. Library	36 tsf	27	11	38	122	133	255	3,059
31. Business Park	697 tsf	836	160	996	210	690	900	7,110
40. Commercial Office	634 tsf	983	120	1,103	132	819	951	7,329
51. Developed Park[1]	40.9 AC	0	0	0	1	1	2	108
Non-Residential Total		*2,242*	*578*	*2,820*	*941*	*2,128*	*3,069*	*27,217*
TOTAL		2,701	2,364	5,065	2,763	3,163	5,926	58,452
Trip Rates								
3. Single Family (6–10 du/ac)[2]	du	0.19	0.56	0.75	0.64	0.37	1.01	9.90
4. Condominium/Townhouse[2]	du	0.10	0.48	0.58	0.47	0.26	0.73	8.00
5. Apartment[2]	du	0.08	0.43	0.51	0.41	0.21	0.62	6.90
7. Senior (Active) [2]	du	0.08	0.12	0.20	0.16	0.10	0.26	3.71
8. CCRC[3]	du	0.12	0.06	0.18	0.14	0.15	0.29	2.81
13. Commercial Shops[2]	tsf	0.72	0.48	1.20	1.80	1.80	3.60	37.06
20. Elementary/Middle School[2]	STU	0.26	0.20	0.46	0.08	0.09	0.17	1.45
24. Library[2]	tsf	0.76	0.30	1.06	3.40	3.69	7.09	84.98
31. Business Park[2]	tsf	1.20	0.23	1.43	0.30	0.99	1.29	10.20
40. Commercial Office[2]	tsf	1.55	0.19	1.74	0.21	1.29	1.50	11.56
51. Developed Park[2]	AC	0.00	0.00	0.00	0.03	0.04	0.07	2.60

du = Dwelling Units
tsf = Thousand Square Feet
STU = Students
AC = Acres
[1] *Includes private recreation centers.*
Trip rate sources:
[2] *Santa Clarita Valley Consolidated Transportation Model (SCVCTM)*
[3] *Institute of Transportation Engineers (ITE) Trip Generation 8th Edition, Category 255 (Continued Care Retirement Community)*
Source: Austin-Foust Associates, Inc., Traffic Impact Analysis, October 2010, ***Appendix 4.5****.*

A description of the MXD model and the model's results for the Mission Village project is provided in Appendix E of the AFA Traffic Impacts Analysis in **Appendix 4.5**. The MXD analysis concluded that due to the specific characteristics of the proposed project, approximately one-third (33 percent) of the daily gross tripends would remain internal to the project site. Specific to the peak hours, approximately

29 percent of the AM peak hour tripends and approximately 30 percent of the PM peak hour tripends would remain internal to the project site, as summarized in **Table 4.5-11, Project MXD Trip Generation and Internalization Estimate**.[15]

Table 4.5-11
Project MXD Trip Generation/Internalization Estimate

Period	Gross Trips	Net External Trips	Vehicle Trip Internalization
Daily	57,878	38,922	33 percent
AM Peak Hour	5,101	3,615	29 percent
PM Peak Hour	5,889	4,123	30 percent

Source: Fehr & Peers
Note: Gross trips derived using MXD model and these values differ slightly (<1%) from SCVCTM/ITE estimates.

To illustrate how the complementary mix of land uses interact with each other, an approximation of the split of internal and external trips has been derived for each of the individual project land use categories, and is presented in **Table 4.5-12, Internal/External Trip Volumes and Percentages**. The individual project land uses will have varying amounts of internal capture based on the specific type of land use that is planned. For example, commercial office uses are anticipated to have approximately 20 percent overall internal capture, while the schools, library and parks are anticipated to have approximately 50 percent internal capture, with approximately 90 percent internalization during the peak hour in the peak direction. In addition, the balanced mix of project uses would result in approximately 30 percent of the overall residential tripends as internal trips.

(2) External Trips

As previously noted, the geographic distribution of project-generated external trips (i.e., those trips external to the project site) was derived by utilizing the SCVCTM, a computerized travel demand model. The SCVCTM first calculates production and attraction tripends for the proposed land uses and, by using the built in distribution functions of the model, an estimation of travel patterns for the project site is developed. The SCVCTM derives trip distribution patterns and related trip lengths based on mathematical functions that consider the amount of trips generated on a zone-by-zone basis, the type of trips generated, and the geographic relationship between these trips and the remainder of trips generated in the modeled area. Data input into the model includes details relevant to the specific land uses that would be developed in each travel analysis zone with implementation of the proposed project. The trip distribution process then utilizes a statistical probability formula to calculate the interchange of trips

15 This data was reviewed and approved by the County Department of Public Works Traffic and Lighting Division staff in February 2010 for use in this traffic impact analysis.

between travel analysis zones.As discussed above, the volume of trips internal and external to the project site has been derived using a model developed specifically for mixed-use developments of this type (MXD model). To derive the distribution patterns of the external trips, a special select zone trip assignment was prepared using the SCVCTM based on the total volume of external trips estimated by the MXD model.

Illustrations of the project's trip distribution patterns are provided in **Figure 4.5-11, Trip Distribution (%),** and **Figure 4.5-11a, Trip Distribution (%) Off-Site**, and are based on the adjusted SCVCTM select zone run. As shown on **Figure 4.5-11**, the model calculates that approximately 28 percent of the project's traffic would be distributed to Magic Mountain Parkway east of the project site and approximately 21 percent is distributed to Commerce Center Drive north of the site. Approximately 9 percent of the project's traffic is distributed to Westridge Parkway south of the project site, and approximately 8 percent is distributed to Magic Mountain Parkway west of the project site. Less than 1 percent of the project traffic is distributed to each of the four local streets that also access the project site (three streets that provide access to the Legacy Village project site and one street that provides access to the Entrada project site). Project only peak hour turning movement volumes for project buildout 2021 and long-range 2035 conditions are illustrated in EIR **Appendix 4.5,** Traffic Impacts Analysis, Figures 3-8 through 3-15.

(3) Commerce Center Drive Bridge

The initial access to the project site will be provided via the extensions of Magic Mountain Parkway and Westridge Parkway. As noted in the previous sections, an extension of Commerce Center Drive between SR-126 and the project site will provide access to the north, and a future extension of Magic Mountain Parkway to the west of the project site will provide access to the westerly areas of the Newhall Ranch Specific Plan area.

Since the initial occupancies within the project site are anticipated to occur prior to completion of the Commerce Center Drive connection, this section identifies the interim level of project development that could be accommodated without the Commerce Center Drive connection. This interim level of development is based on the amount of traffic that could be accommodated by the remaining roadways (i.e., the area roadways without the Commerce Center Drive connection), and is summarized in **Table 4.5-13, Land Use and Trip Generation without Commerce Center Drive Extension**.

Table 4.5-12
Internal/External Trip Volumes and Percentages

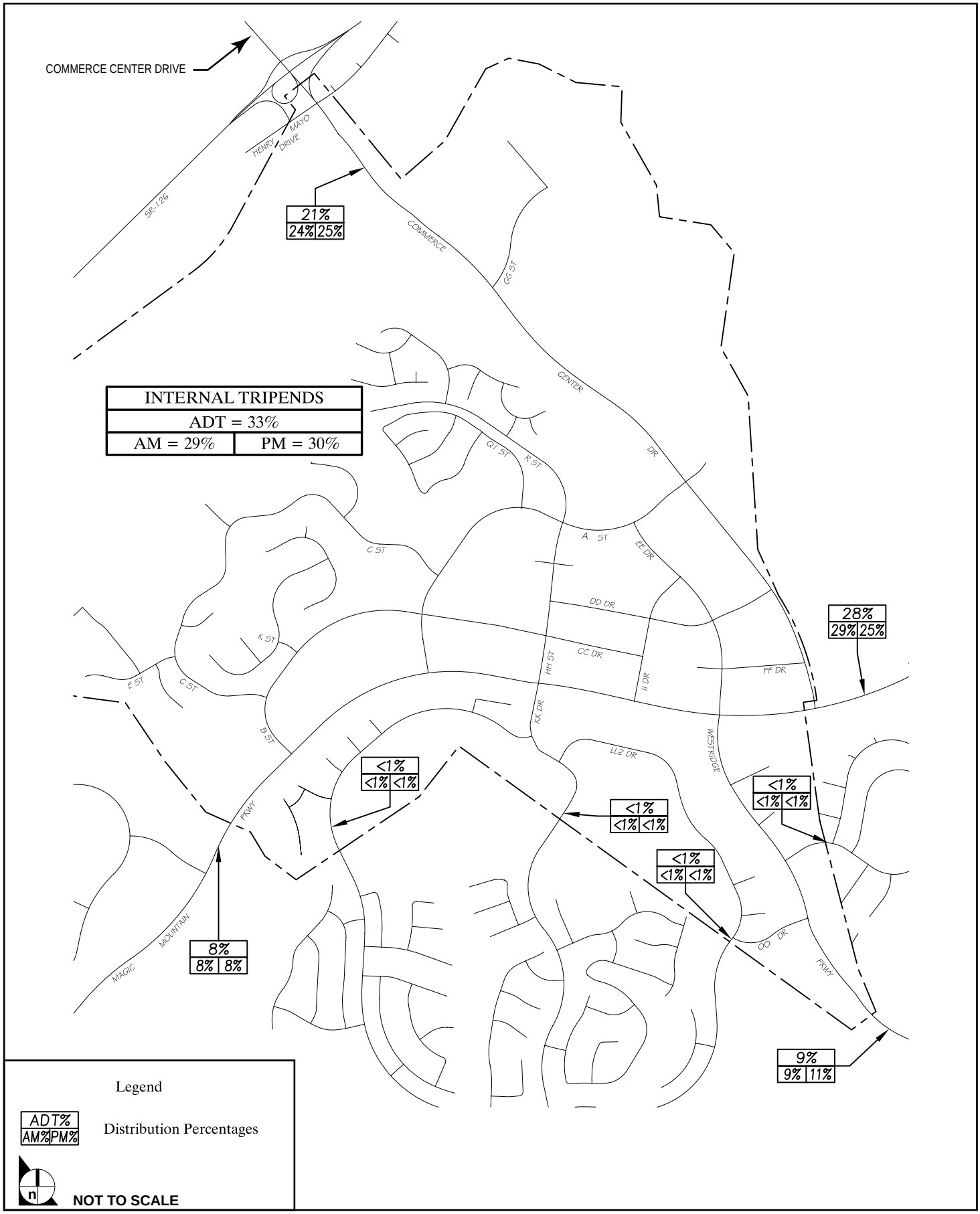
Land Use	Units		AM Peak Hour			PM Peak Hour			ADT
			IB	OB	Total	IB	OB	Total	
Traditional Residential									
Single Family (6–10 du/ac)	382	du	73	213	286	244	143	387	3,783
Condominium/Townhouse	2,315	du	234	1,110	1,344	1,086	604	1,690	18,520
Apartment	905	du	73	388	461	370	190	560	6,244
Sub-total	3,602	du	380	1,711	2,091	1,700	937	2,637	28,547
Internal %			30%	30%		25%	30%		30%
Tripends for Trips Internal to Site			114	513	627	425	281	706	8,564
Tripends for Trips External to Site			266	1,198	1,464	1,275	656	1,931	19,983
Active Senior Residential									
Senior (Active)	459	du	37	54	91	73	45	118	1,702
Internal %			20%	25%		30%	30%		30%
Tripends for Trips Internal to Site			7	14	21	22	14	36	511
Tripends for Trips External to Site			30	40	70	51	31	82	1,191
Continuing Care Senior Residential									
CCRC	351	du	42	21	63	49	53	102	986
Internal %			10%	10%		15%	15%		20%
Tripends for Trips Internal to Site			4	2	6	7	8	15	197
Tripends for Trips External to Site			38	19	57	42	45	87	789
School, Library & Parks									
Elementary/Middle School	900	STU	234	180	414	72	81	153	1,305
Library	36	tsf	27	11	38	122	133	255	3,059
Developed Park	40.9	AC	0	0	0	1	1	2	108
Sub-total			261	191	452	195	215	410	4,472
Internal %			90%	35%		45%	75%		50%
Tripends for Trips Internal to Site			235	67	302	88	161	249	2,236
Tripends for Trips External to Site			26	124	150	107	54	161	2,236
Commercial Retail									
Commercial Shops	224.1	tsf	162	107	269	404	404	808	8,306
Internal %			65%	65%		70%	55%		60%
Tripends for Trips Internal to Site			105	70	175	283	222	505	4,984
Tripends for Trips External to Site			57	37	94	121	182	303	3,322
Commercial Office									
Business Park	697	tsf	836	160	996	210	690	900	7,110
Commercial Office	634	tsf	983	120	1,103	132	819	951	7,329
Sub-total	1,331	tsf	1,819	280	2,099	342	1,509	1,851	14,439
Internal %			15%	15%		20%	15%		20%
Tripends for Trips Internal to Site			273	42	315	68	226	294	2,888
Tripends for Trips External to Site			1,546	238	1,784	274	1,283	1,557	11,551
Total									
Total Tripends			2,701	2,364	5,065	2,763	3,163	5,926	58,452
Total Tripends for Trips Internal to Site			738	708	1,446	893	912	1,805	19,380
Total Internal %			27%	30%	29%	32%	29%	30%	33%
Total Tripends for Trips External to Site			1,963	1,656	3,619	1,870	2,251	4,121	39,072

Table 4.5-13
Land Use and Trip Generation without Commerce Center Drive Extension

Land Use Type	Units	AM Peak Hour			PM Peak Hour			
		IB	OB	Total	IB	OB	Total	ADT
3. Single Family (6–10 du/ac)	250 du	48	140	188	160	93	253	2,475
4. Condominium/Townhouse	1,500 du	150	720	870	705	390	1,095	12,000
5. Apartment	500 du	40	215	255	205	105	310	3,450
7. Senior (Active)	300 du	24	36	60	48	30	78	1,113
8. CCRC	230 du	28	14	41	32	35	67	646
Residential Total	2,780 du	289	1,125	1,414	1,150	652	1,802	19,684
% of Total		17%	76%	45%	65%	33%	48%	53%
13. Commercial Shops	135 tsf	97	65	162	243	243	486	5,004
20. Elementary/Middle School	600 STU	156	120	276	48	54	102	870
24. Library	36 tsf	27	11	38	122	133	255	3,059
31. Business Park	420 tsf	504	97	601	126	416	542	4,284
40. Commercial Office	380 tsf	589	72	661	80	490	570	4,393
51. Developed Park1	40.9 AC	0	0	0	1	2	3	106
Non-Residential Total		1,374	364	1,738	620	1,338	1,958	17,717
% of Total		83%	24%	55%	35%	67%	52%	47%
TOTAL		1,663	1,489	3,152	1,771	1,990	3,760	37,401
% of Full Project		62%	63%	62%	64%	63%	63%	64%
External Trips		1,210	1,041	2,251	1,196	1,418	2,615	25,002
% External		73%	70%	71%	68%	71%	70%	67%

du = Dwelling Units
tsf = Thousand Square Feet
STU = Students
AC = Acres
[1] *Includes private recreation centers.*
Source: Austin-Foust Associates, Inc., Traffic Impact Analysis (October 2010), ***Appendix 4.5****.*

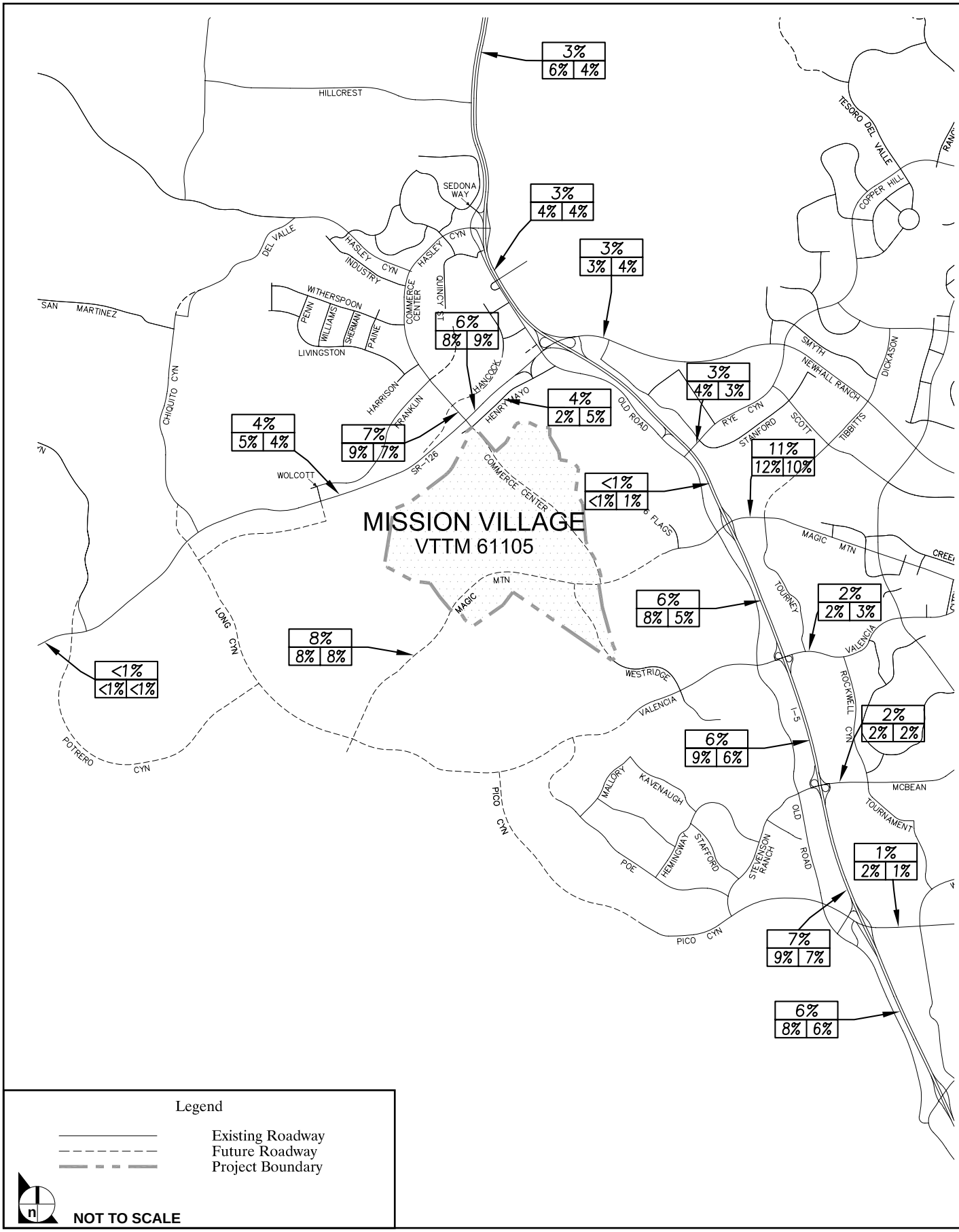
The interim level of development that can be accommodated without the Commerce Center Drive connection maintains the same ratio of residential to non-residential development as does the full project, and therefore is anticipated to achieve a rate of internal trip capture that is comparable to the full project. As shown on **Table 4.5-13**, this scenario would consist of 2,780 residential units and approximately 935,000 square feet of non-residential commercial development. **Table 4.5-13** also illustrates that this interim level of development would generate approximately 25,000 external trips daily (2,250 in the AM peak hour and 2,600 in the PM peak hour), which is roughly equivalent to the amount of project traffic that will be accommodated by each of the project access roadways other than the Commerce Center Drive connection.



SOURCE: Austin Foust Associates, Inc. – August 2010

FIGURE **4.5-11**

Trip Distribution (%)



SOURCE: Austin Foust Associates, Inc. – October 2010

FIGURE **4.5-11a**

Trip Distribution (%) Off-Site

The land use mix depicted in **Table 4.5-13** represents one scenario that could be accommodated prior to construction of the Commerce Center Drive extension. However, multiple combinations of residential and non-residential development could result in similar amounts of off-site project traffic volumes and, therefore, could be accommodated prior to the construction of the Commerce Center Drive extension. The determining factor is that the net amount of off-site traffic generated by the project does not exceed the amounts indicated in **Table 4.5-13**.

Table 4.5-14, External Totals With and Without Commerce Center Drive Extension, summarizes the amount of project traffic that is anticipated to utilize the Commerce Center Drive connection to the north. As shown in **Table 4.5-14**, approximately 30 percent to 37 percent of the project's external traffic is anticipated to utilize the Commerce Center Drive connection to the north once the project is fully built out.

Table 4.5-14
External Trip Totals With and Without Commerce Center Drive Extension

	AM Peak Hour			PM Peak Hour			
	IB	OB	Total	IB	OB	Total	ADT
Total External Project Trips	1,960	1,660	3,620	1,870	2,250	4,120	39,000
Commerce Center Drive Bridge Volumes	590	620	1,210	680	770	1,450	12,000
% of Total	30%	37%	33%	36%	34%	35%	31%
Volumes for Remainder of Access Roadway	1,370	1,040	2,410	1,190	1,480	2,670	27,000
% of Total	70%	63%	67%	64%	66%	65%	69%

Source: Austin-Foust Associates, Inc., Mission Village Traffic Impact Analysis, April 2010, Table 4-13.

e. Project Impacts

As discussed above, the impacts of the proposed project relative to roadway capacities are assessed under three different scenarios: (1) Existing plus Ambient plus Project, (2) 2021 Project Buildout Cumulative Conditions, and (3) Long-Range (2035) Cumulative Conditions. Scenarios 1 and 2 are each addressed separately below. The Long-Range 2035 Cumulative Conditions scenario is addressed in **subsection 10, Long-Range Cumulative Impacts**.

(1) Existing plus Ambient plus Project

As noted above, project occupancies are anticipated to begin in 2014 and reach buildout in 2021. Therefore, in accordance with the County of Los Angeles Traffic Study Guidelines, a 2021 horizon has been derived based on an annual ambient growth rate; that is, the project buildout traffic conditions are based on existing roadway conditions plus 12 years of ambient growth (2010 through 2021). For purposes of this analysis, a 2.0 percent ambient growth rate generally was utilized to represent growth that would occur absent any other cumulative developments.[16] This results in total ambient growth (i.e., growth not including cumulative development) of 24 percent between the 2009 traffic count year and the year 2021. The purpose of this scenario is to evaluate the impacts of the project in a setting that does not include the traffic from other future developments; hence, the use of this ambient growth factor. Future conditions inclusive of traffic generated by other future cumulative development projects are addressed in the other two impact scenarios.

The existing conditions plus ambient growth (2021 no project) peak hour turning movement volumes for the intersections in the project study area and ADT volumes for select roadway segments are shown in Section 4.1.2 of the AFA report in EIR **Appendix 4.5.** As shown on **Table 4.5-15, ICU and LOS Summary – Existing plus Ambient Conditions With and Without Project**, each of the intersections would operate at LOS D or better under without project conditions, with the exception of The Old Road/I-5 Southbound Ramps, which would operate at LOS E. As noted above, the City of Santa Clarita does not consider this hypothetical scenario in assessing impacts within the City.

Year 2021 peak hour turning movement volumes without and with traffic from the project at buildout (existing conditions plus ambient growth plus project) are depicted on Figures 4-9 through 4-12 in the AFA Traffic Impacts Analysis in EIR **Appendix 4.5**. Peak hour ICU values and the resulting LOS are depicted in EIR **Table 4.5-15, ICU and LOS Summary – Existing plus Ambient Conditions With and Without Project**, which provides a comparison between 2021 no-project and 2021 with-project conditions. As shown on **Table 4.5-15**, under this scenario the following County intersections would be significantly impacted as a result of project traffic:

28. The Old Road & McBean Parkway (County); and

94. Commerce Center Drive and SR-126 (Caltrans/County)

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16 The 2.0 percent annual growth rate was not applied to estimate traffic into and out of the Commerce Center area since Commerce Center development currently is capped at 9.3 million square feet until the Commerce Center Drive/SR-126 interchange is constructed. Therefore, for the Commerce Center Drive at SR-126 intersection only, County staff determined that the ambient growth rate applied for peak hour operations should be based on the specific volume of traffic occurring prior to reaching the cap on development. All other traffic movements through the intersection are evaluated based on the 2.0 percent annual growth rate.

Mitigation that would reduce the identified impacts to a level below significant is provided below.

Table 4.5-15
ICU and LOS Summary – Existing plus Ambient Conditions with and without Project

Intersection	Existing plus Ambient				Existing plus Ambient plus Project				Increase	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
Freeway Ramp Intersections (County)										
7. I-5 SB Ramps & Henry Mayo Drive (SR-126)	0.86	D	.50	A	0.84	D	0.55	A	0.02	0.05
9. The Old Road & I-5 SB Ramps	0.88	D	1.11	F	0.88	D	1.06	F	0.00	0.05
10. I-5 SB Ramps & Magic Mountain Parkway	0.43	A	0.44	A	0.52	A	0.49	A	0.09	0.05
12. I-5 SB Ramps & Valencia Boulevard	0.62	B	0.55	A	0.68	B	0.59	A	0.06	0.04
14. I-5 SB Ramps & McBean Parkway	0.45	A	0.58	A	0.46	A	0.60	A	0.01	0.02
16. I-5 SB/Marriott & Pico Canyon Road/Lyons Avenue	0.69	B	0.73	C	0.69	B	0.74	C	0.00	0.01
County Arterial Intersections										
25. The Old Road & Rye Canyon	0.74	C	0.79	C	0.65	B	0.79	C	0.09	0.00
26. The Old Road & Magic Mountain Parkway	0.32	A	0.38	A	0.49	A	0.43	A	0.17	0.05
27. The Old Road & Valencia Boulevard	0.80	C	0.53	A	0.82	D	0.58	A	0.02	0.05
28. The Old Road & McBean Parkway	0.70	B	0.92	E	0.78	C	0.95	E	**0.08**	**0.03**
29. The Old Road & Pico Canyon Road	0.75	C	0.84	D	0.75	C	0.84	D	0.00	0.00
94. Commerce Center Drive & SR-126	0.64	B	0.89	D	1.13	F	1.15	F	**0.49**	**0.26**
105. Westridge Parkway & Valencia Boulevard	0.66	B	0.22	A	0.71	C	0.35	A	0.05	0.13
108. Stevenson Ranch Parkway & Pico Canyon Road	0.57	A	0.62	B	0.58	A	0.62	B	0.01	0.00
109. Stevenson Ranch Parkway & Poe Parkway/Chase	0.77	C	0.47	A	0.77	C	0.48	A	0.00	0.01

Bold = Significant Impact (See criteria in Table 4.5-8)
Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F

(2) Project Buildout Year 2021 Cumulative Conditions

As noted above, the proposed project is expected to reach buildout in year 2021; therefore, a horizon year of 2021 is utilized to evaluate project impacts. Under the scenario presented in this section, the impacts of

the proposed project are evaluated under Year 2021 cumulative conditions. As noted above, long-range cumulative conditions, which represent buildout of the Santa Clarita Valley, are derived by the SCVCTM based on the proposed County Area Plan and City of Santa Clarita General Plan updates. Year 2021 cumulative conditions have been derived using data interpolated from the long-range cumulative 2035 SCVCTM traffic forecasts. Impacts to arterial intersections and the I-5 freeway mainline are addressed separately below.

(a) Arterial Intersections

The 2021 no-project cumulative conditions peak hour turning movement volumes for the intersections in the project study area are depicted on Figures 4-1 through 4-4 in the AFA Traffic Impacts Analysis, EIR **Appendix 4.5. Table 4.5-16, ICU and LOS Summary – 2021 Cumulative Conditions With and Without Project**, depicts the ICU and LOS for each of the study area intersections under no-project conditions and provides a comparison between the no-project and the with-project conditions. As shown on **Table 4.5-16**, each of the intersections would operate at LOS D or better under without project conditions, with the exception of the following:

9. The Old Road & I-5 Southbound Ramps (LOS F PM)

25. The Old Road & Rye Canyon (LOS F AM/PM)

94. Commerce Center Drive & SR-126 (LOS F AM/PM)

45. McBean Pkwy & Magic Mountain Pkwy (LOS E PM)

48. McBean Pkwy & Newhall Ranch Road (LOS F PM)

65. Bouquet Canyon Road & Soledad Canyon Road (LOS E PM)

66. Bouquet Canyon Road & Newhall Ranch Road (LOS F PM)

The 2021 with-project cumulative conditions peak hour turning movement volumes for the intersections in the project study area are depicted on Figures 4-5 through 4-8 in the AFA Traffic Impacts Analysis, EIR **Appendix 4.5.** EIR **Table 4.5-16, ICU and LOS Summary – 2021 Cumulative Conditions With and Without Project**, depicts the ICU and LOS for each of the study area intersections under with project conditions and provides a comparison between the no-project and the with-project conditions. As shown on **Table 4.5-16**, under 2021 cumulative conditions, the following intersections are forecast to be significantly impacted by the project:

Table 4.5-16
ICU and LOS Summary – 2021 Cumulative Conditions With and Without Project

Intersection	2021 Cumulative without Project				2021 Cumulative with Project				Increase	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
Freeway Ramp Intersections (County)										
7. I-5 SB Ramps & Henry Mayo Drive (SR-126)	0.83	D	0.70	B	0.85	D	0.75	C	**0.02**	**0.05**
9. The Old Road & I-5 SB Ramps	0.81	D	1.06	F	0.82	D	1.06	F	0.01	0.00
10. I-5 SB Ramps & Magic Mountain Parkway	0.58	A	0.56	B	0.64	B	0.62	B	0.06	0.06
12. I-5 SB Ramps & Valencia Boulevard	0.72	C	0.81	D	0.76	C	0.85	D	**0.04**	**0.04**
14. I-5 SB Ramps & McBean Parkway	0.52	A	0.71	C	0.54	A	0.73	C	0.02	0.02
16. I-5 SB/Marriott & Pico Canyon Road/Lyons Avenue	0.61	B	0.69	B	0.62	B	0.71	C	0.01	0.02
Freeway Ramp Intersections (City)										
8. I-5 NB Ramps & Henry Mayo Drive (SR-126)	0.59	A	0.59	A	0.61	B	0.62	B	0.02	0.03
11. I-5 NB Ramps & Magic Mountain Parkway	0.60	A	0.61	B	0.68	B	0.70	B	0.08	0.09
13. I-5 NB Ramps & Valencia Boulevard	0.67	B	0.62	B	0.68	B	0.64	B	0.01	0.02
15. I-5 NB Ramps & McBean Parkway	0.52	A	0.57	A	0.53	A	0.59	A	0.01	0.02
17. I-5 NB On/Off & Lyons Avenue	0.51	A	0.75	C	0.52	A	0.77	C	0.01	0.02
County Arterial Intersections										
25. The Old Road & Rye Canyon	1.03	F	1.21	F	1.09	F	1.25	F	**0.06**	**0.04**
26. The Old Road & Magic Mountain Parkway	0.43	A	0.51	A	0.60	A	0.59	A	0.17	0.08
27. The Old Road & Valencia Boulevard	0.68	B	0.60	A	0.71	C	0.73	C	0.03	0.13
28. The Old Road & McBean Parkway	0.53	A	0.85	D	0.54	A	0.88	D	0.01	**0.03**
29. The Old Road & Pico Canyon Road	0.71	C	0.80	C	0.74	C	0.82	D	0.03	0.02
94. Commerce Center Drive & SR-126	1.04	F	1.17	F	1.44	F	1.53	F	**0.40**	**0.36**
105. Westridge Parkway & Valencia Boulevard	0.53	A	0.38	A	0.58	A	0.51	A	0.05	0.13
108. Stevenson Ranch Parkway & Pico Canyon Road	0.60	A	0.55	A	0.60	A	0.56	A	0.00	0.01
109. Stevenson Ranch Parkway & Poe Parkway/Chase	0.57	A	0.46	A	0.57	A	0.46	A	0.00	0.00

Intersection	2021 Cumulative without Project				2021 Cumulative with Project				Increase	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
City Arterial Intersections										
30. Avenue Stanford & Rye Canyon Road	0.57	A	0.66	B	0.60	A	0.68	B	0.03	0.02
33. Copper Hill Drive & Newhall Ranch Road	0.72	C	0.77	C	0.75	C	0.80	C	0.03	0.03
City Arterial Intersections										
35. Copper Hill Drive & Decoro Drive	0.63	B	0.63	B	0.65	B	0.64	B	0.02	0.01
36. Tourney Road & Valencia Boulevard	0.51	A	0.60	A	0.52	A	0.62	B	0.01	0.02
37. Tourney Road & Magic Mountain Parkway	0.52	A	0.56	A	0.56	A	0.62	B	0.04	0.06
44. McBean Parkway & Valencia Boulevard	0.70	B	0.83	D	0.70	B	0.84	D	0.00	0.01
45. McBean Parkway & Magic Mountain Parkway	0.71	C	0.92	E	0.75	C	0.94	E	0.04	**0.02**
48. McBean Parkway & Newhall Ranch Road	0.78	C	1.01	F	0.79	C	1.05	F	0.01	**0.04**
49. McBean Parkway & Decoro Drive	0.70	B	0.60	A	0.72	C	0.61	B	0.02	0.01
51. Wiley Canyon Road & Lyons Avenue	0.65	B	0.83	D	0.66	B	0.84	D	0.01	0.01
54. Orchard Village Road & Wiley Canyon Road	0.65	B	0.75	C	0.65	B	0.75	C	0.00	0.00
55. Orchard Village Road & McBean Parkway	0.65	B	0.83	D	0.66	B	0.85	D	0.01	**0.02**
57. Valencia Boulevard & Magic Mountain Parkway	0.79	C	0.83	D	0.80	C	0.84	D	0.01	0.01
65. Bouquet Canyon Road & Soledad Canyon Road	0.79	C	0.91	E	0.80	C	0.91	E	0.01	0.00
66. Bouquet Canyon Road & Newhall Ranch Road	0.89	D	1.01	F	0.91	E	1.03	F	**0.02**	**0.02**

Bold = Significant Impact

Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F

Source: Austin-Foust Associates, Inc., Traffic Impact Analysis (October 2010), ***Appendix 4.5****.*

7. I-5 SB Ramps & Henry Mayo Drive (SR-126) (Caltrans/County)

12. I-5 SB Ramps & Valencia Boulevard (Caltrans/County)

25. The Old Road & Rye Canyon Road (County)

28. The Old Road & McBean Parkway (County)

45. McBean Parkway & Magic Mountain Parkway (City)

48. McBean Parkway & Newhall Ranch Road (City)

55. Orchard Village Road & McBean Parkway (City)

66. Bouquet Canyon Road & Newhall Ranch Road (City)

94. Commerce Center Drive & SR-126 (County)

Mitigation that would reduce the identified impacts to a level below significant is provided below.

(b) Freeway Mainline

The proposed project would be located approximately 1.25 miles west of I-5, and approximately 0.5 mile south of SR-126. In the vicinity of the project site, I-5 is generally an eight-lane (four lanes in each direction) freeway. SR-126 is generally a four-lane highway between I-5 and Commerce Center Drive and it transitions to a two-lane highway west of Commerce Center Drive.

As discussed above, the I-5 freeway currently operates at an acceptable level of service within the Santa Clarita Valley, with the exception of the southbound segments just north and south of the SR-14 interchange. Also as noted above, a Caltrans project currently is underway to add one HOV lane in each direction to the I-5 within the Santa Clarita Valley from SR-14 to Parker Road, as well as add new dedicated truck lanes south of Pico Canyon Road. The first stage of that project will address the existing deficiency between Calgrove and SR-14 by adding dedicated truck lanes to that segment.

South of the SR-14, Caltrans currently is constructing the I-5/SR-14 Direct HOV Connector project. This project involves the construction of an elevated two-lane direct HOV connector at the I-5 and SR-14 interchange, and construction of HOV lanes in the north- and southbound directions of I-5 at the interchange, which will address the existing deficiency south of SR-14.

The volume of project traffic forecast to utilize the State highway system is summarized in **Table 4.5-17, Project Only Peak Hour Volumes – State Highway System (Buildout Conditions)**. **Table 4.5-17** shows how the project's peak hour directional volumes within the Santa Clarita Valley vary from 0 to 269 vehicles per hour on I-5, and vary from 78 to 331 vehicles per hour on SR-126. South of the Santa Clarita Valley, the project's peak hour directional volumes are less than 150 vehicles per hour. North of the Santa Clarita Valley, the project's peak hour directional volumes are less than 90 vehicles per hour.

The results of an evaluation of the I-5 freeway for conditions with and without the project is provided in **Table 4.5-18, Freeway Volumes and V/C Ratios - 2021 Conditions**. The analysis is based on a 2021 horizon, which represents the estimated buildout year of the project. Year 2021 traffic volumes have been derived by interpolating between existing (2010) traffic counts and the SCVCTM Year 2035 long-range

cumulative buildout conditions traffic forecasts. While the entire I-5 Truck Lane and HOV project is anticipated to be completed by 2021, only the first stage of improvements (the truck lane portion of the project) has been assumed to be in place for the analysis of the 2021 horizon in order to present a worst case scenario.

Table 4.5-17
Project Only Peak Hour Volumes - State Highway System (Buildout Conditions)

I-5 Freeway				
	AM Peak Hour		PM Peak Hour	
Segment	NB	SB	NB	SB
401. North of Lake Hughes	32	87	66	34
402. Between Lake Hughes & Parker	45	129	112	50
403. Between Parker & Hasley Canyon	53	174	152	72
404. Between Hasley Canyon & SR-126	53	162	152	59
405. Between SR-126 & Rye Canyon	0	33	23	52
406. Between Rye Canyon & Magic Mtn	0	27	23	61
407. Between Magic Mtn & Valencia	142	269	113	183
408. Between Valencia & McBean	200	243	144	227
409. Between McBean & Pico/Lyons	261	201	155	263
410. Between Pico/Lyons & Calgrove	233	150	123	241
411. Between Calgrove & SR-14	217	120	109	225
412. South of SR-14	133	109	90	141
SR-126 Highway				
	AM Peak Hour		PM Peak Hour	
Segment	EB	WB	EB	WB
501. Between I-5 and Commerce Center	174	206	331	170
502. West of Commerce Center	154	78	110	129

The freeway impact analysis is based on the Los Angeles County CMP impact criteria. This criteria identifies a significant project impact when project traffic causes or worsens LOS F conditions by a V/C of 0.02 or more. As previously discussed, Caltrans has not adopted criteria for the evaluation of impacts resulting from the development of private projects such as the proposed project; therefore, the CMP impact criteria is applied to this analysis.

As shown in **Table 4.5-18**, under the 2021 buildout horizon year cumulative analysis, the incremental increase in traffic caused by the proposed project would not result in significant impacts to the I-5 freeway.

Table 4.5-18
Freeway Volumes and V/C Ratios – 2021 Conditions

Segment	Lanes	Capacity	2021 Without Project				2021 With Project				Project Increment	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			Vol	V/C	Vol	V/C	Vol	V/C	Vol	V/C	AM	PM
Northbound												
401. North of Lake Hughes	4M	8,000	2,200	0.28	4,000	0.50	2,232	0.28	4,066	0.51	0.00	0.01
402. Between Lake Hughes & Parker	4M	8,000	2,400	0.30	4,700	0.59	2,445	0.31	4,812	0.60	0.01	0.01
403. Between Parker & Hasley Canyon	4M + 1H	10,000	2,700	0.27	5,600	0.56	2,753	0.28	5,752	0.58	0.01	0.02
404. Between Hasley Canyon & SR-126	4M + 1H + 1A	11,000	3,800	0.35	6,300	0.57	3,853	0.35	6,452	0.59	0.00	0.02
405. Between SR-126 & Rye Canyon	4M + 1H	10,000	4,400	0.44	6,000	0.60	4,400	0.44	6,023	0.60	0.00	0.00
406. Between Rye Canyon & Magic Mtn	4M + 1H	10,000	4,400	0.44	6,000	0.60	4,400	0.44	6,023	0.60	0.00	0.00
407. Between Magic Mtn & Valencia	4M + 1H + 1A	11,000	5,300	0.48	6,400	0.58	5,442	0.49	6,513	0.59	0.01	0.01
408. Between Valencia & McBean	4M + 1H	10,000	6,300	0.63	7,200	0.72	6,500	0.65	7,344	0.73	0.02	0.01
409. Between McBean & Pico/Lyons	4M + 1H	10,000	6,300	0.63	7,200	0.72	6,561	0.66	7,355	0.74	0.03	0.02
410. Between Pico/Lyons & Calgrove	4M + 1H + 1A	11,000	6,200	0.56	7,400	0.67	6,433	0.58	7,523	0.68	0.02	0.01
411. Between Calgrove & SR-14	4M + 1H + 1T	11,200	6,200	0.55	7,400	0.66	6,417	0.57	7,509	0.67	0.02	0.01
412. South of SR-14	6M + 1H + 2T	16,400	8,200	0.50	15,200	0.93	8,333	0.51	15,290	0.93	0.01	0.00
Southbound												
401. North of Lake Hughes	4M	8,000	2,800	0.35	3,800	0.48	2,887	0.36	3,834	0.48	0.01	0.00
402. Between Lake Hughes & Parker	4M	8,000	3,400	0.43	4,100	0.51	3,529	0.44	4,150	0.52	0.01	0.01
403. Between Parker & Hasley Canyon	4M + 1H	10,000	4,300	0.43	4,800	0.48	4,474	0.45	4,872	0.49	0.02	0.01
404. Between Hasley Canyon & SR-126	4M + 1H	10,000	5,000	0.50	5,700	0.57	5,162	0.52	5,759	0.58	0.02	0.01
405. Between SR-126 & Rye Canyon	4M + 1H + 1A	11,000	5,200	0.47	6,300	0.57	5,233	0.48	6,352	0.58	0.01	0.01
406. Between Rye Canyon & Magic Mtn	4M + 1H + 1A	11,000	5,700	0.52	7,500	0.68	5,727	0.52	7,561	0.69	0.00	0.01
407. Between Magic Mtn & Valencia	4M + 1H	10,000	5,800	0.58	7,400	0.74	6,069	0.61	7,583	0.76	0.03	0.02

Segment	Lanes	Capacity	2021 Without Project				2021 With Project				Project Increment	
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
			Vol	V/C	Vol	V/C	Vol	V/C	Vol	V/C	AM	PM
408. Between Valencia & McBean	4M + 1H + 1A	11,000	6,900	0.63	8,100	0.74	7,143	0.65	8,327	0.76	0.02	0.02
409. Between McBean & Pico/Lyons	4M + 1H	10,000	7,100	0.71	8,000	0.80	7,301	0.73	8,263	0.83	0.02	0.03
410. Between Pico/Lyons & Calgrove	4M + 1H + 1T	11,200	7,300	0.65	8,200	0.73	7,450	0.67	8,441	0.75	0.02	0.02
411. Between Calgrove & SR-14	4M + 1H + 2T	12,400	7,500	0.60	8,300	0.67	7,620	0.61	8,525	0.69	0.01	0.02
412. South of SR-14	6M + 1H + 2T	16,400	15,100	0.92	11,300	0.69	15,209	0.93	11,441	0.70	0.01	0.01

M = Mixed-Flow/General Purpose Lane (Capacity = 2,000 vehicles per hour)
H = HOV Lane (Capacity = 2,000 vehicles per hour)
T = Truck Lane (Capacity = 1,200 vehicles per hour)
A = Auxiliary Lane (Capacity = 1,000 vehicles per hour)
Capacities derived from PeMS data and through discussions with Caltrans staff.
Source: Austin-Foust Associates, Inc., Traffic Impact Analysis (October 2010), ***Appendix 4.5***

f. Congestion Management Program (CMP) Analysis

As noted above, the CMP is a state-mandated program enacted by the state legislature with the passage of various Assembly Bills. The requirements for the program became effective with voter approval of Proposition 111 in June 1990. The Los Angeles County CMP requires that a proposed development project address two subject area with respect to traffic impacts—the project's impacts on the CMP highway system and the project's impacts on the local and regional transit system. Each is addressed separately below.

(1) Highways

The CMP highway network consists of all state highways (both freeways and arterials) and principal arterials that meet the criteria established by the Metro. Impacts are evaluated by monitoring LOS performance standards for specific highway segments and key roadway intersections on the CMP highway network, as designated by the Metro.

According to the CMP guidelines, the geographical area examined in a CMP traffic impact analysis consists of the CMP monitoring locations that meet the following criteria:

1. CMP intersections where the proposed project would add 50 or more trips during the AM or PM weekday peak hours (of adjacent street traffic); and/or

2. Mainline freeway locations where the project would add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.

(a) CMP Intersections

The CMP intersections nearest to the project site are the intersection of Chiquito Canyon Road/SR-126 and the Valencia Boulevard/Magic Mountain Parkway intersection. The number of trips to and from the proposed project is forecast to include more than 50 peak hour trips at each of these intersections; 201 peak hour trips for Chiquito Canyon Road/SR-126 and 174 peak hour trips for Valencia Boulevard/Magic Mountain Parkway. The next closest CMP intersection is the intersection of Railroad Avenue (formerly San Fernando Road) and Lyons Avenue, and the maximum number of project trips at that location would be less than 50 during the peak hour (approximately 6 peak hour trips).

The impact analyses presented above show how the proposed project alone does not result in a significant impact at either CMP intersection location; however, under cumulative conditions each intersection requires mitigation to operate at an acceptable CMP level of service. As shown on **Table 4.5-21, ICU and LOS Summary – With Project Conditions with Mitigation**, the mitigation identified for each intersection would result in LOS D conditions at each location, which exceeds the CMP acceptable LOS E threshold.

(b) CMP Freeway Segments

The nearest mainline freeway CMP monitoring locations are the following:

- I-5 north of SR-126
- I-5 north of SR-14

The proposed project is forecast to add 150 or more peak hour trips to each of these locations and, as such, a CMP mainline freeway analysis is required. See **Appendix 4.5**, Traffic Impacts Analysis, Table 3-5. The next closest mainline freeway CMP monitoring location is the segment of I-5 north of Osborne Street in the San Fernando Valley. The maximum number of project trips at that location is less than 150 during the peak hour since the amount of project trips entering and leaving the Santa Clarita Valley is under that threshold. See **Appendix 4.5**, Traffic Impacts Analysis, Table 3-5.

As shown above in **Table 4.5-18,** analysis of the I-5 mainline freeway segments that meet the CMP criteria for analysis determined that the proposed project would not result in a significant impact at either of those locations.

(2) Project Transit Impacts

Another component of the CMP transportation impact analysis is a review of transit impacts. This review requires evidence that transit operators received the Notice of Preparation (provided in EIR **Appendix I**), an estimation of the number of project trips assigned to transit, information on facilities and/or programs that would encourage public transit use, and an analysis of project impacts on transit service. Information relevant to existing transit service in the project area was provided earlier in this EIR section.

Buildout of the Mission Village project is forecast to generate approximately 58,000 ADT. To estimate the number of project trips that would use public transit, the number of project ADT is multiplied by an occupancy factor (1.4) to determine total person trips, the resulting number is then multiplied by the applicable Metro factor (0.035) to determine the forecast number of transit trips that would be generated by the proposed project. As shown on **Table 4.5-19, Transit Trip Summary**, under the Standard Bus Route scenario, the proposed project would generate approximately 230 transit trips during the AM peak hour and 290 transit trips during the PM peak hour. Under the CMP Transit Corridor Scenario, which represents a scenario in which there would be more bus routes and shorter headways, the proposed project would generate approximately 400 transit trips during the AM peak hour and 500 transit trips during the PM peak hour

Table 4.5-19
Transit Trip Summary

	Standard Bus Route Scenario		CMP Transit Corridor Scenario[1]	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Residential Vehicle Trips	2,245	2,857	2,245	2,857
Residential Person Trips[2]	3,143	4,000	3,143	4,000
Factor to Transit Trips	3.5%	3.5%	5%	5%
Sub-Total - Residential Transit Trips	110	140	157	200
Commercial Vehicle Trips	2,406	2,916	2,406	2,916
Commercial Person Trips[2]	3,368	4,082	3,368	4,082
Factor to Person Trips	3.5%	3.5%	7%	7%
Sub-Total – Commercial Transit Trips	118	143	236	286
Total Transit Trips	**228**	**283**	**393**	**486**

[1] *"Transit Corridor" consists of a series of transit nodes where frequent transit activity occurs. A transit node is defined as the inter section of two bus lines or fixed route shuttles, each with evening peak hour headways of 10 minutes or less.*

[2] *Person Trips = Vehicle Trips x 1.4*

Sources: Congestion Management Program for Los Angeles County, 2002 and 2004.

The City of Santa Clarita *Transportation Development Plan 2006–2015* (November 2006) (TDP) includes recommendations for short-term and medium term (5 to 10 years in future) transit service expansion in the Santa Clarita Valley. Specific to the vicinity of the Mission Village project, the TDP recommends the

following medium-term bus route modifications as development proceeds and new road linkages are available:

> *Routes 3/7: As further development occurs, these routes should be extended further west on Magic Mountain Parkway and Valencia Boulevard. Portions could be converted to hybrid [combination fixed route/flexible route] service.*
>
> *Route 11: This potential hybrid route would serve the Newhall Ranch Landmark Village along Henry Mayo Drive, connecting to the MTS via Commerce Center Drive and Magic Mountain Parkway. [Route 11 would travel north on the Commerce Center Drive extension through the Mission Village project site and intersect with Henry Mayo Drive at SR-126.]*

With respect to funding, the TDP notes "if there are no significant changes in present formulas, it appears that SCT will maintain sufficient financial capacity to fund the recommended service expansion, subject to keeping escalation in operating expenses under tight control. If service expansion increases the budget faster than available revenues, the service expansion implementation can be delayed by a year or two." (TDP Executive Summary.)

The County does not have LOS standards for transit service that are applicable to future development, such as the proposed project; however, the potential demand for transit service that would result from the Mission Village project has the potential to result in a significant impact to transit services. As previously noted, in accordance with Specific Plan approval, the project includes a 1.2-acre site for a bus transfer station, which would facilitate the use of public transit for those who live or work at the project site. Additionally, the project applicant is working with City of Santa Clarita Transit to provide bus service to the project site.

Transit service is evaluated and funded on an as-needed basis. Coordination with the transit provider to identify appropriate bus stops (three proposed for Mission Village) and the payment of transit mitigation fees (adopted by SCT, Metro), as appropriate, would reduce the potential for transit-related impacts to a less than significant level. In this regard, to ensure that adequate transit capacity to serve the proposed project is available in the future, mitigation is proposed that requires the project applicant to pay applicable transit mitigation fees at the time of building permit issuance, unless the payment of such fees is modified by a transit mitigation agreement.

Metrolink, which is operated by the Southern California Regional Rail Authority (SCRAA), provides commuter rail service between the Antelope Valley and Downtown Los Angeles, and also links Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego counties with transfer service between the bus and rail systems. The closest Metrolink station to the project site (approximately 4.5 miles east) is located along Soledad Canyon Road east of Bouquet Canyon Road. Long-range plans as yet unspecified

include an eventual Metrolink extension along the SR-126 corridor; land within Newhall Ranch is set aside for the Metrolink right-of-way, and a park-and-ride and/or train station.

With respect to bicycle and pedestrian facilities, the project has been designed for pedestrian connectivity and includes facilities for walking and bicycle use. The proposed project includes approximately 18,900 linear feet of community trails, 12,400 linear feet of local trails, and 9,200 linear feet of pathways. Community trails are unified pedestrian and bicycle routes (i.e., multi-use) in landscaped parkways, and are located along major roads in order to connect the Villages of the Specific Plan. A local trail is a multi-use route that may or may not follow a roadway; it provides access to amenities, the community trail network, or serves to link the Specific Plan Villages. Pathways consist of multi-purpose trails located adjacent to local collector roadways and provide a means of access between residential neighborhoods and parks, recreation centers, the school, and mixed-use commercial areas. In addition to these pedestrian/bicycle facilities, the project includes the installation of Class 2 bicycle lanes on portions of Magic Mountain Parkway and Commerce Center Drive extensions. For additional information regarding the pedestrian and bicycle facilities that would be provided as part of the project, please see EIR **Section 4.14**, **Parks and Recreation**.

In addition to the range of pedestrian and bicycle facilities that would be provided as part of the project, the proposed project would not conflict with the Metro Bicycle Transportation Strategic Plan to promote links between bicycle facilities and the transit network, including completion of the identified gaps in the inter-jurisdictional bikeway network.

g. On-Site Circulation Impacts

(1) On-Site Traffic Forecast

To derive traffic volume forecasts for the roadways within the project site, a focused traffic model was developed. Referred to as the Mission Village Traffic Model (MVTM), the model was developed to estimate traffic volume forecasts for roadways within the project site. The model was developed with the capability to derive detailed peak hour turning movement volumes at each of the on-site intersections. Forecast ADT volumes for buildout conditions (including Newhall Ranch plus other cumulative developments) within the project site and are provided in **Figure 4.5-12, ADT Volumes, Newhall Ranch Buildout Conditions – On-Site**.

As previously noted, the SCVCTM was used to calculate the general distribution of trips to and from the project site. From these overall distribution patterns, the MVTM was developed to provide an additional level of detail not possible with the SCVCTM. **Figure 4.5-13, Intersection Location Map – On-Site**, illustrates the intersection locations that were analyzed for peak hour volumes. Forecast traffic volumes

for buildout conditions, including buildout of the entire Newhall Ranch Specific Plan, are illustrated in **Figure 4.5-14, AM Peak Hour Volumes, Newhall Ranch Buildout and Other Cumulative Development Buildout Conditions– On-Site**, for the AM peak hour and in **Figure 4.5-15, PM Peak Hour Volumes, Newhall Ranch Buildout And Other Cumulative Development Buildout Conditions – On-Site**, for the PM peak hour.

The peak hour traffic volumes referenced above were utilized to derive intersection lane configurations for the on-site intersections. An intersection capacity analysis based on these lanes and the forecast peak hour volumes is summarized in **Table 4.5-20, ICU and LOS Summary – On-Site Intersections**. As shown, each intersection of local and/or private street roadways is anticipated to operate at LOS C or better under buildout conditions. Two intersections along Magic Mountain Parkway, KK Drive/HH Street at Magic Mountain Parkway and Westridge Parkway at Magic Mountain Parkway, are forecast to operate at LOS D during the PM peak hour and LOS C during the AM peak hour. Detailed ICU calculation worksheets for each intersection are provided in Appendix B of the AFA Traffic Impacts Analysis in **Appendix 4.5** of the EIR.

Table 4.5-20
ICU and LOS Summary – On-Site Intersections

Intersection		Peak Hour			
		AM		PM	
		ICU	LOS	ICU	LOS
1.	B St/C St	0.16	A	0.18	A
2.	B St/Magic Mtn Pkwy	0.56	A	0.61	B
3.	A St/Magic Mtn Pkwy	0.62	B	0.66	B
4.	A St/B St	0.29	A	0.29	A
5.	A St/C St	0.19	A	0.19	A
6.	Q1 St/A St	0.25	A	0.24	A
7.	R St/A St	0.50	A	0.49	A
8.	EE Dr/A St	0.51	A	0.44	A
9.	Commerce Center Drive/A St	0.60	A	0.60	A
10.	KK/HH Dr/Magic Mtn Pkwy	0.72	C	0.82	D
11.	II Dr/Magic Mtn Pkwy	0.65	B	0.72	C
12.	Westridge Pkwy/Magic Mtn Pkwy	0.71	C	0.89	D
13.	Commerce Center Drive/Magic Mtn Pkwy	0.73	C	0.69	B
14.	Westridge Pkwy/OO Dr	0.34	A	0.42	A
15.	Commerce Center Drive/DD Dr	0.44	A	0.59	A
16.	Commerce Center Drive/FF Dr	0.37	A	0.55	A
17.	Commerce Center Drive/GG St	0.60	A	0.52	A
18.	EE Dr/II Dr	0.13	A	0.13	A
19.	EE Dr/DD Dr	0.28	A	0.37	A
20.	EE Dr/FF Dr	0.50	A	0.49	A
21.	Westridge Pkwy/QQ St	0.40	A	0.43	A
22.	Westridge Pkwy/RR St	0.36	A	0.42	A

Intersection		Peak Hour			
		AM		PM	
		ICU	LOS	ICU	LOS
23.	Westridge Pkwy/Entrada	0.35	A	0.39	A
24.	II Dr/DD Dr	0.14	A	0.17	A
25.	II Dr/CC Dr	0.13	A	0.18	A
26.	HH St/Driveway	0.36	A	0.33	A
27.	HH St/DD Dr	0.29	A	0.28	A
28.	HH St/CC Dr	0.34	A	0.38	A
29.	KK Dr/LL St	0.15	A	0.14	A
30.	KK Dr/LL2 Dr	0.15	A	0.14	A
31.	K St/B St	0.14	A	0.16	A

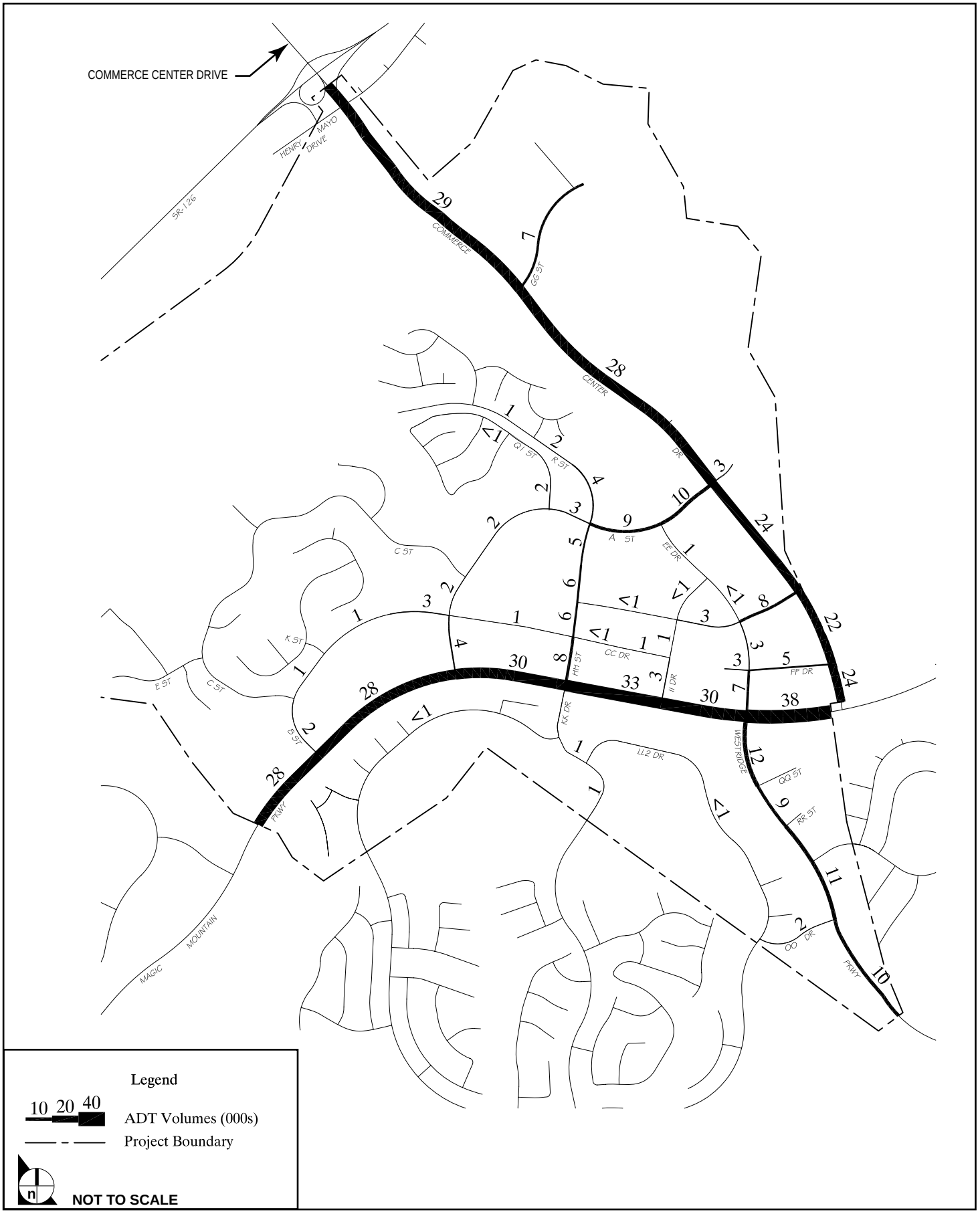
Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F

*Source: Austin-Foust Associates, Inc., Mission Village Traffic Impact Analysis, October 2010 (**Appendix 4.5**).*

Each on-site intersection also was evaluated regarding the need for traffic signals based on peak hour traffic signal warrants. Details of the warrants analysis are provided in Appendix I to the AFA Traffic Impacts Analysis, which is included in **Appendix 4.5** of this EIR. Based on the warrants analysis, the following intersections are anticipated to meet the peak hour warrants when the Newhall Ranch Specific Plan area is fully built out:

2. B Street and Magic Mountain Parkway
3. A Street and Magic Mountain Parkway
9. Commerce Center Drive and A Street
10. KK Drive/HH Street and Magic Mountain Parkway
11. II Drive and Magic Mountain Parkway
12. Westridge Parkway and Magic Mountain Parkway
13. Commerce Center Drive and Magic Mountain Parkway
15. Commerce Center Drive and DD Drive
17. Commerce Center Drive and GG Street
21. Westridge Parkway and QQ Street (fire station signal)

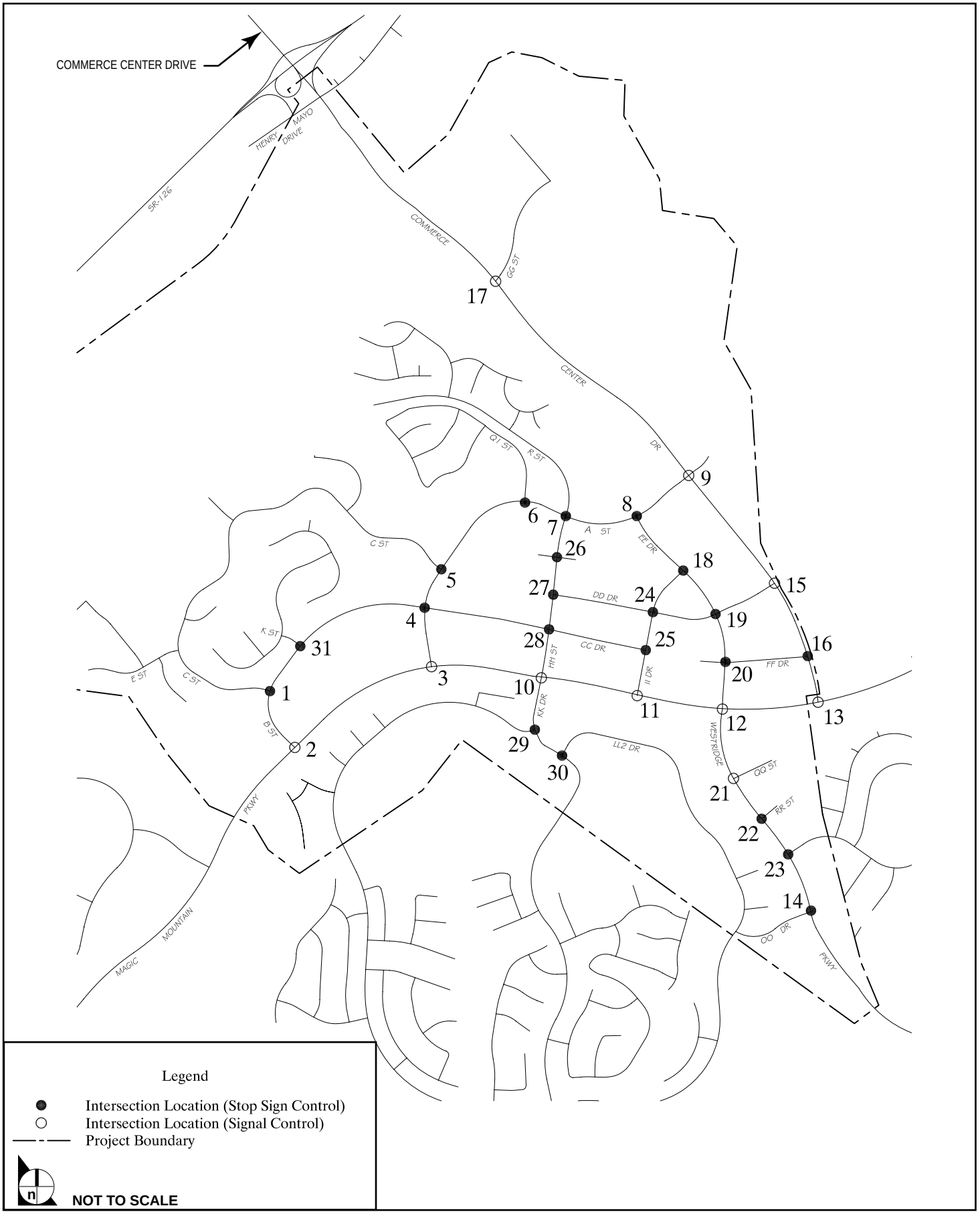
In addition, the County has determined that a traffic signal will be necessary at the Westridge Parkway at Old Rock Road/Boulder Crest Drive intersection due to the proximity of the existing elementary school.



SOURCE: Austin Foust Associates, Inc. – August 2010

FIGURE **4.5-12**

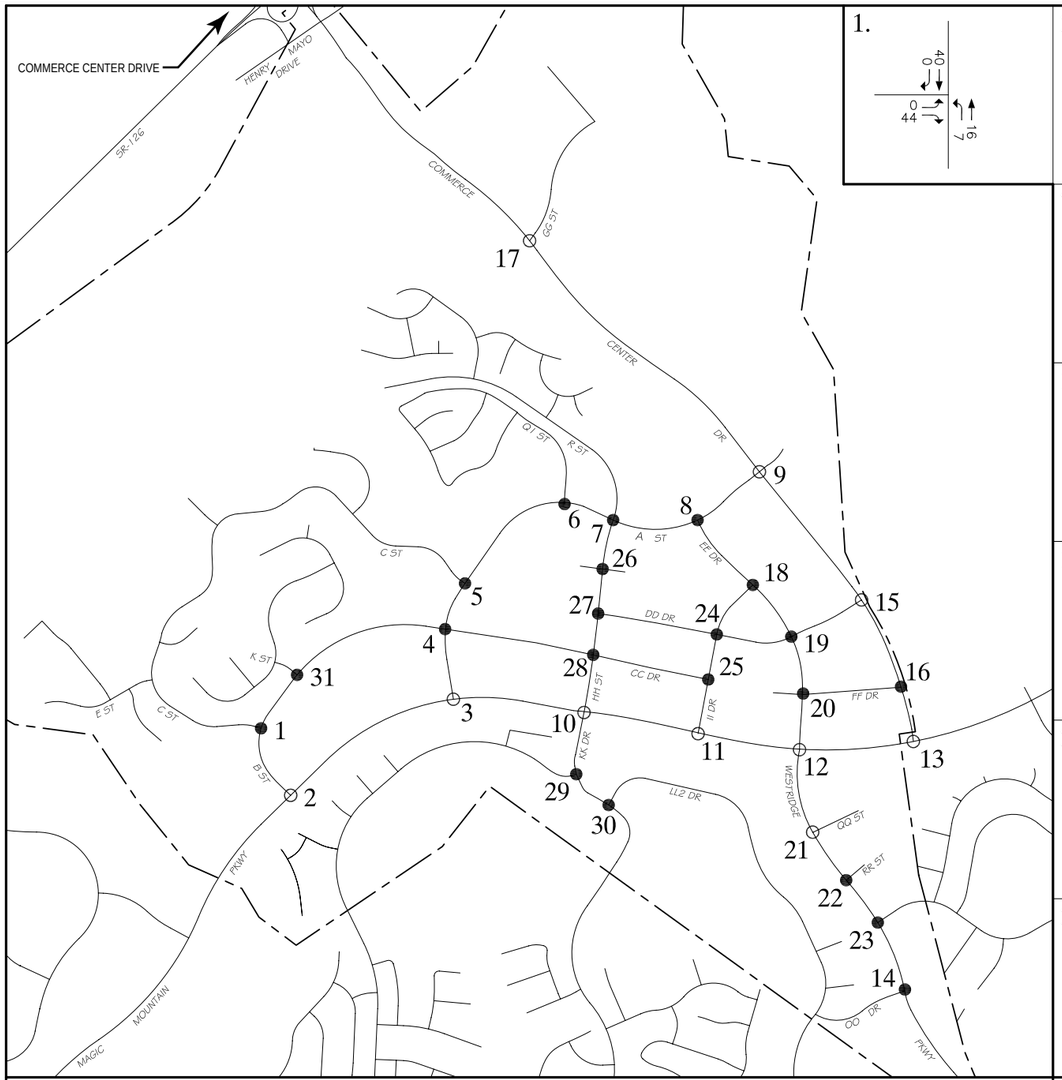
ADT Volumes, Newhall Ranch Buildout Conditions – On-Site



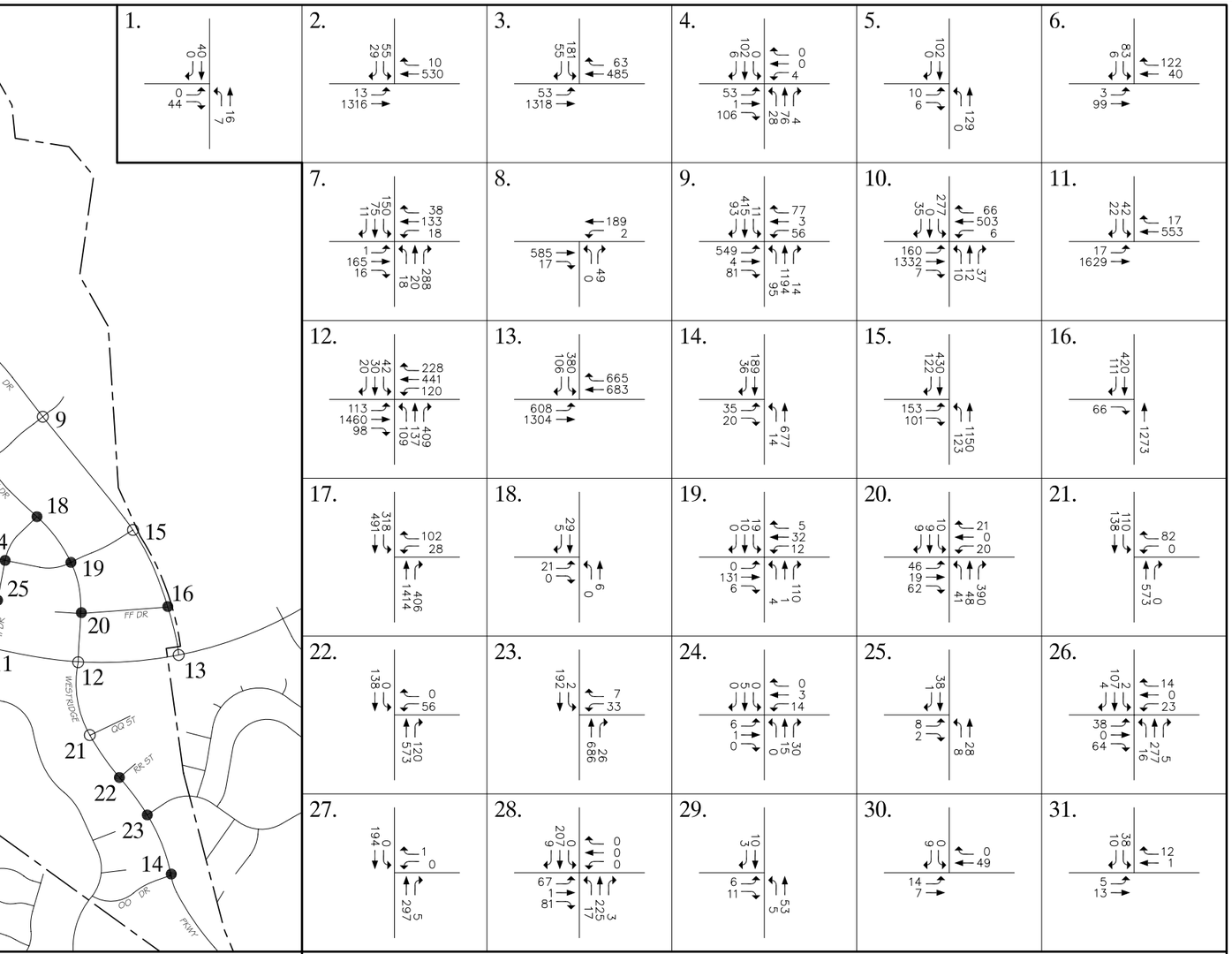
SOURCE: Austin Foust Associates, Inc. – August 2010

FIGURE **4.5-13**

Intersection Location Map – On-Site



INTERSECTION LOCATIONS



INTERSECTION VOLUMES - AM PEAK HOUR

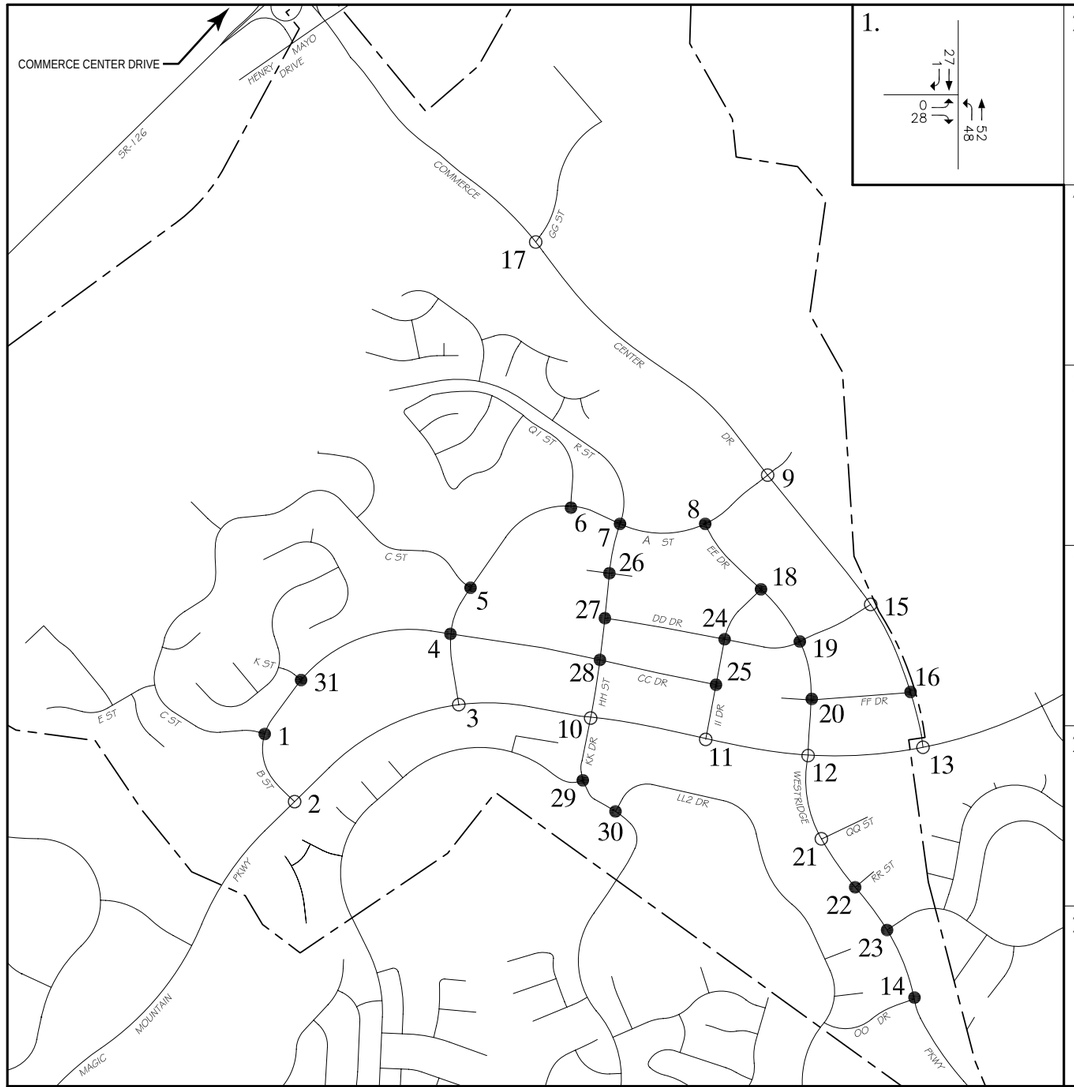
Legend
- Intersection Location (Stop Sign Control)
- Intersection Location (Signal Control)
- Project Boundary
- XX Intersection Volume

NOT TO SCALE

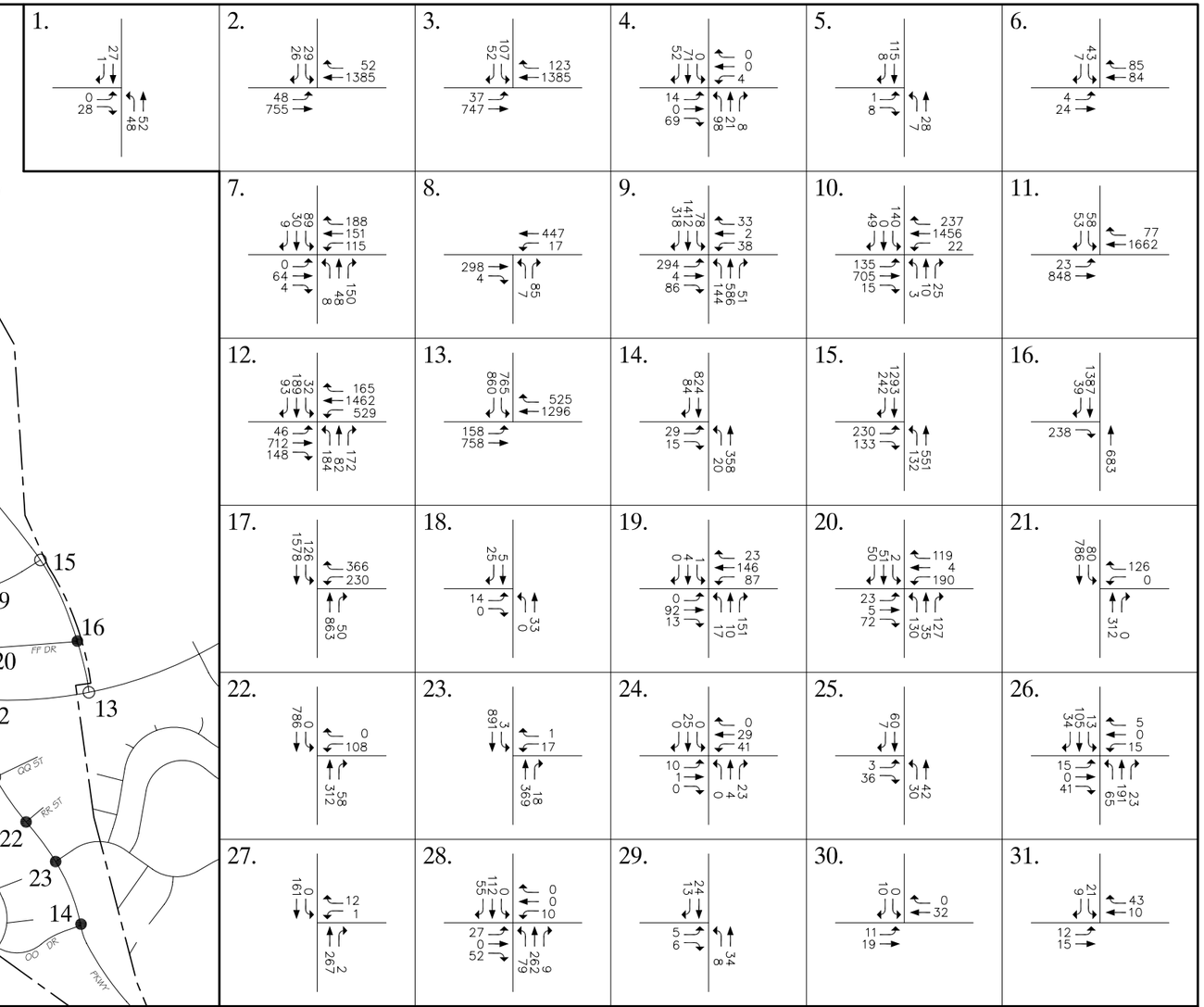
SOURCE: Austin Foust Associates, Inc. – August 2010

FIGURE **4.5-14**

AM Peak Hour Volumes, Newhall Ranch and Other Cumulative Development Buildout Conditions – On-Site



INTERSECTION LOCATIONS



INTERSECTION VOLUMES - PM PEAK HOUR

Legend

- Intersection Location (Stop Sign Control)
- Intersection Location (Signal Control)
- Project Boundary
- XX Intersection Volume

NOT TO SCALE

SOURCE: Austin Foust Associates, Inc. – August 2010

FIGURE **4.5-15**

PM Peak Hour Volumes, Newhall Ranch and Other Cumulative Development Buildout Conditions – On-Site

9. MITIGATION MEASURES

Although the proposed Mission Village project may result in potential traffic/access impacts absent mitigation, the County previously imposed mitigation measures as part of the Newhall Ranch Specific Plan. These mitigation measures, as they relate to traffic/access, are found in the previously certified Newhall Ranch Specific Plan Program EIR and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). In addition, this EIR identifies recommended mitigation measures specific to the Mission Village project site. The project applicant has committed to implementing the applicable mitigation measures from the Newhall Ranch Specific Plan. The applicant will implement the mitigation measures recommended for the proposed Mission Village project to ensure that adequate traffic capacity exists to accommodate build out of the Specific Plan, and that future development of the project site would not adversely affect adjacent properties.

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as they Relate to the Mission Village Project

The following mitigation measures (**Mitigation Measures SP 4.8-1** through **SP 4.8-13**, below) were adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). The applicable mitigation measures will be implemented to mitigate the potentially significant traffic/access impacts associated with the proposed Mission Village project These measures are preceded by "SP," which stands for Specific Plan.

(1) On-Site Mitigation

SP 4.8-1 The applicants for future subdivision maps which permit construction shall be responsible for funding and constructing all on-site traffic improvements except as otherwise provided below. The obligation to construct improvements shall not preclude the applicant's ability to seek local, state, or federal funding for these facilities. *[All on-site traffic improvements included as part of the Mission Village project will be funded and/or constructed by the project applicant.]*

SP 4.8-2 Prior to the approval of each subdivision map which permits construction, the applicant for that map shall prepare a transportation performance evaluation which shall indicate the specific improvements for all on-site roadways which are necessary to provide adequate roadway and intersection capacity as well as adequate right-of-way for the subdivision and other expected traffic. Transportation performance evaluations shall be approved by Los Angeles County Department of Public Works according to standards and policies in effect at that time. The transportation performance evaluation shall form the basis for specific conditions of approval for the subdivision. *[This EIR, **Section 4.5**, provides the required transportation performance evaluation and, in combination with **Project Description, Section 1.0**, indicates the on-site roadway improvements necessary to provide adequate capacity.]*

SP 4.8-3 The applicants for future subdivisions shall provide the traffic signals at the 15 locations labeled B through P in Figure 4.8-17 [of the Newhall Ranch Specific Plan Final EIR] as well as any additional signals warranted by future subdivision design. Signal warrants shall be prepared as part of the transportation performance evaluations noted in Mitigation Measure 4.8-2 [of the Newhall Ranch Specific Plan Final EIR]**.** *[Ten (10) of the intersections located within the Mission Village site will be signalized intersections, including the three intersections depicted as signalized by Specific Plan Figure 4.8-17: Commerce Center Drive and "A" Street, Commerce Center Drive and Magic Mountain Parkway, and Magic Mountain Parkway and "A" Street. This EIR,* ***Section 4.5****, in combination with the traffic analysis presented in EIR* ***Appendix 4.5****, provides the required signal warrants.]*

SP 4.8-4 All development within the Specific Plan shall conform to the requirements of the Los Angeles County Transportation Demand Management (TDM) Ordinance. *[The Mission Village project would conform to the County's TDM Ordinance.]*

SP 4.8-5 The applicants for all future subdivision maps which permit construction shall consult with the local transit provider regarding the need for, and locations of, bus pull-ins on highways within the Specific Plan area. All bus pull-in locations shall be approved by the Department of Public Works, and approved bus pull-ins shall be constructed by the applicant. *[Final locations of bus pull-ins will be coordinated with the local transit provider and the Department of Public Works, and constructed in conjunction with the project.]*

(2) Off-Site Arterials

SP 4.8-6 Prior to the recordation of the first subdivision map which permits construction, the applicant for that map shall prepare a transportation performance evaluation which shall determine the specific improvements needed to each off-site arterial and related costs in order to provide adequate roadway and intersection capacity for the expected Specific Plan and General Plan buildout traffic trips. The transportation performance evaluation shall be based on the Master Plan of Highways in effect at that time and shall be approved by the Los Angeles County Department of Public Works. The applicant shall be required to fund its fair share of improvements to these arterials, as stated on Table 4.8-18 [of the Newhall Ranch Specific Plan Final EIR]. The applicants' total funding obligation shall be equitably distributed over the housing units and non-residential building square footage (i.e., Business Park, Visitor-Serving, Mixed-Use, and Commercial) in the Specific Plan, and shall be a fee to be paid to the County and/or the City at each building permit. For off-site areas within the County unincorporated area, the applicant may construct improvements for credit against or in lieu of paying the fee. *[This mitigation measure may or may not be applicable depending upon approval of other Newhall Ranch Specific Plan subdivisions in process.]*

(3) I-5 and SR-126 in Los Angeles County

SP 4.8-7 Each future performance evaluation which shows that a future subdivision map will create significant impacts on SR-126 shall analyze the need for additional travel lanes on SR-126. If adequate lane capacity is not available at the time of subdivision, the applicant of the subdivision shall fund or construct the improvements necessary to serve the proposed increment of development. Construction or funding of any required facilities

shall not preclude the applicant's ability to seek state, federal, or local funding for these facilities. *[The future performance evaluation presented in this EIR, **Section 4.5**, determined that the Mission Village project would cause significant impacts at the Commerce Center Drive/SR-126 intersection at buildout, and that the project would be responsible for its fair-share of improvements to the intersections.]*

(4) Congestion Management Plan Mitigation

SP 4.8-8 Project-specific environmental analysis for future subdivision maps which allow construction shall comply with the requirements of the CMP in effect at the time that subdivision map is filed. *[The future performance evaluation presented in this EIR, **Section 4.5**, complies with the requirements of the Congestion Management Program presently in effect.]*

(a) SR-126 in Ventura County

SP 4.8-9 Prior to the recordation of the first subdivision map which permits construction, the applicant for that map shall prepare a transportation evaluation including all of the Specific Plan land uses which shall determine the specific improvements needed to the following intersections with SR-126 in the City of Fillmore and community of Piru in Ventura County: "A", "B", "C", "D", and "E" Streets, Old Telegraph, Olive, Central, Santa Clara, Mountain View, El Dorado Road, and Pole Creek (Fillmore), and Main/Torrey and Center (Piru). The related costs of those intersection improvements and the project's fair share shall be estimated based upon the expected Specific Plan traffic volumes. The transportation performance evaluation shall be based on the Los Angeles County Master Plan of Highways in effect at that time and shall be approved by the Los Angeles County Department of Public Works. The applicant's total funding obligation shall be equitably distributed over the housing units and non-residential building square footage (i.e., Business Park, Visitor Center, Mixed Use, and Commercial) in the Specific Plan, and shall be a fee to be paid to the City of Fillmore and the County of Ventura at each building permit. *[This mitigation measure may or may not be applicable depending upon approval other Newhall Ranch Specific Plan subdivisions in process.]*

(5) Freeway/Highway Intersections and Interchanges

SP 4.8-10 The Specific Plan is responsible to construct or fund its fair-share of the intersections and interchange improvements indicated on Table 4.8-18 [of the Newhall Ranch Specific Plan Final EIR]. Each future transportation performance evaluation required by **Mitigation Measure SP 4.8-2** [of the Newhall Ranch Specific Plan Final EIR] which identifies a significant impact at these locations due to subdivision map-generated traffic shall address the need for additional capacity at each of these locations. If adequate capacity is not available at the time of subdivision map recordation, the performance evaluation shall determine the improvements necessary to carry Specific Plan generated traffic, as well as the fair share cost to construct such improvements. If the future subdivision is conditioned to construct a phase of improvements which results in an overpayment of the fair-share cost of the improvement, then an appropriate adjustment (offset) to the fees paid to Los Angeles County and/or City of Santa Clarita pursuant to **Mitigation Measure SP 4.8-6**, above, shall be made. *[The transportation performance evaluation presented in this EIR, **Section 4.5**, fulfills the requirements of this Specific Plan mitigation measure relative to Mission Village.]*

SP-4.8-11 The applicant of the Newhall Ranch Specific Plan shall participate in an I-5 developer fee program, if adopted by the Board of Supervisors for the Santa Clarita Valley. *[The Board of Supervisors has not adopted a developer fee program for the Santa Clarita Valley. However, the applicant currently is in negotiations with Caltrans regarding a funding agreement.].*

SP-4.8-12 The applicant of the Newhall Ranch Specific Plan shall participate in a transit fee program, if adopted for the entire Santa Clarita Valley by Los Angeles County and City of Santa Clarita. *[The applicant will be required to pay the applicable transit fees in place at the time of map recordation.]*

SP-4.8-13 Prior to the approval of each subdivision map which permits construction, the applicant for that map shall prepare a traffic analysis approved by the Los Angeles County Department of Public Works. The analysis will assess project and cumulative development (including an existing plus cumulative development scenario under the County's Traffic Impact Analysis Report Guidelines [TIA] and its Development Monitoring System [DMS]). In response to the traffic analysis, the applicant may construct off-site traffic improvements for credit against, or in lieu of paying, the mitigation fees described in **Mitigation Measure 4.8-6** [of the Newhall Ranch Specific Plan Final EIR]. If future subdivision maps are developed in phases, a traffic study for each phase of the subdivision map may be submitted to determine the improvements needed to be constructed with that phase of development. *[The traffic analysis presented in this **Section 4.5** fulfills the requirements of this Specific Plan mitigation measure.]*

b. Additional Mitigation Measures Proposed by this EIR

The following project-specific mitigation measures are recommended to mitigate the potentially significant traffic/access impacts that may occur with implementation of the Mission Village project. These mitigation measures, which shall be made conditions of approval, are in addition to those adopted in the certified Newhall Ranch Specific Plan Program EIR. To reflect that the measures relate specifically to the Mission Village project, each measure is preceded by "MV," which stands for Mission Village.

Mitigation is proposed relative to the significant impacts identified under the existing plus ambient plus project scenario, and under the 2021 project buildout cumulative scenario. (Mitigation relative to the significant impacts identified under a 2035 long-range cumulative scenario are set forth in Section 11, Cumulative Mitigation Measures, below.) As to the improvements proposed to mitigate the identified impacts under the existing plus ambient plus project condition, the project, along with other projects as appropriate, is responsible for the construction of these improvements and, consistent with County Department of Public Works policy, the improvements are to be implemented prior to occupancy of the project, unless otherwise indicated by an approved phasing analysis.

With respect to the 2021 project buildout cumulative mitigation, the project is responsible for its fair share of the recommended improvements, and the timing of these improvements shall be as determined by the *Westside Santa Clarita Valley Phasing Analysis for the City of Santa Clarita* (July 2006) and the *Westside Santa*

Clarita Valley Roadway Phasing Analysis (November 2006), as updated (collectively, *Westside Roadway Phasing Analysis*). As discussed above, the *Westside Roadway Phasing Analysis* identifies the specific roadway and intersection improvements necessary to support Westside development. The cumulative mitigation measures identified below and in Section 11 are derived from the improvements identified in the phasing analysis and, consequently, represent a subset of the phasing analysis improvements. The phasing analysis considered the additional traffic associated with all Westside development, not just the proposed Mission Village project, and it apportions to each project its share of the identified improvements based on ADT volumes, not on the basis of significant impacts as is the case with the analysis presented in this section.

The *Westside Roadway Phasing Analysis* also identifies milestones based on residential unit counts and commercial square footages to specify when the improvements identified herein as mitigation should be in place. As such, the proposed project will be developed in accordance with these milestones and the corresponding specific improvements as identified in the most current County Department of Public Works-approved phasing analysis. The project applicant intends to document regularly the amount of Westside development that has occurred and that the required improvements have been constructed at the identified milestones. A copy of the *Westside Roadway Phasing Analysis* is included in EIR **Appendix 4.5**.

In the event the project fully constructs any of the mitigation improvements set forth below at its own cost, the project shall be entitled to a credit in an amount equal to the cost to construct the improvement, less the project's proportionate share. Additionally, once the B&T District is established that encompasses the area covered by the *Westside Roadway Phasing Analysis*, i.e., the Westside B&T District, the payment of B&T fees by the project shall be in lieu of any remaining proportionate share due for those improvements located within the boundaries of the newly formed district.

For those improvements identified below that are located within the Valencia or Via Princessa B&T District, no payment of mitigation or B&T District fees towards the improvements is required by the proposed project. The Mission Village project site is not located within the boundaries of either district, and the defined "area of benefit" for these districts, i.e., those properties identified as receiving benefit from the improvements funded by the respective district, does not include the project site. Therefore, payment of the B&T District fees is not required of the project. Moreover, the Valencia and Via Princessa B&T Districts are full mitigation districts, which means that the B&T fees paid by development within the districts (development east of I-5 or "Eastside Development"), combined with other funding sources (e.g., state and federal funds, gas and sales taxes, etc.), have been calculated to cover the full cost of all improvements necessary to construct the arterial network as described in the respective county and city general plan transportation elements. This network has been designed to accommodate both local and

cumulative traffic from outside the B&T districts, including Mission Village. Therefore, the B&T district improvements, which include improvements identified as project mitigation below, will be fully funded and constructed through the respective district without Mission Village participation and, as a result, the corresponding significant impacts identified in this section will be fully mitigated and no further mitigation is necessary. (Please see EIR **Appendix 4.5** for copies of the Valencia B&T District Report Update [March 2008] and the Via Princessa Bridge and Major Thoroughfare Construction Fee District Update Report [March 2002].)

Additionally, as previously noted, the project applicant is in the process of forming a new B&T District, the Westside B&T District, which would encompass the Mission Village site, as well as other Westside development. By its participation in the new district, the project will be required to contribute funding towards construction of the planned Westside roadway infrastructure. As is the case with the Valencia and Via Princessa B&T Districts, the infrastructure to be constructed within the district will be based on approved general plan transportation elements and, accordingly, has been designed to accommodate both local traffic within the district and cumulative traffic from outside the district. In this manner, the Mission Village project will be required to fund its share of the improvements within the new district that are necessary to support both Westside and Eastside Development.

(1) Off-Site Mitigation

(a) Off-Site Mitigation Measures – Existing Plus Ambient Plus Project Conditions

MV 4.5-1 28. The Old Road & McBean Parkway – Consistent with the milestones established in the most current County Department of Public Works (DPW) approved Westside Roadway Phasing Analysis, the project applicant shall stripe a third southbound through lane and a westbound right-turn lane at the intersection. Detailed signing and striping plans and traffic signal plans shall be submitted to the County Department of Public Works for review and approval. (*The Mission Village project's fair-share responsibility for the improvements identified in this mitigation measure is 27% in the cumulative condition. This fair-share information is provided to facilitate any future action by the Project applicant to seek participatory funding from other development unrelated to the Mission Village project. Please refer to EIR* ***Appendix 4.5****, AFA Traffic Impact Analysis, Appendix J, for fair-share calculations.*)

MV 4.5-2 94. Commerce Center Drive & SR-126 – The project applicant shall reconstruct the existing intersection as a grade-separated interchange prior to issuance of building permits for the 2,780th residential unit and 935,000 square feet of non-residential commercial uses (or an equivalent traffic-generating combination thereof), or as otherwise provided in the most current County DPW approved Westside Roadway Phasing Analysis, whichever would require reconstruction of the intersection first. Detailed signing and striping plans and traffic signal plans shall be submitted to the County Department of Public Works for review and approval. (*The Mission Village project's fair-share responsibility for the improvements identified in this mitigation measure is 44.8% in the cumulative condition. This fair-share information is provided to facilitate any future*

action by the Project applicant to seek participatory funding from other development unrelated to the Mission Village project. Please refer to EIR ***Appendix 4.5****, AFA Traffic Impact Analysis, Appendix J, for fair-share calculations.*)

(b) Off-Site Mitigation Measures – 2021 Project Buildout Cumulative Conditions

MV 4.5-3 7. I-5 Southbound Ramps & SR-126 – Consistent with the milestones established in the most current County DPW approved Westside Roadway Phasing Analysis, the project applicant shall fund its fair share of the cost to stripe a fourth westbound through lane. (Project Share = 14.3 percent. Please refer to EIR **Appendix 4.5**, AFA Traffic Impact Analysis, Appendix J, for fair-share calculations.)

MV 4.5-4 12. I-5 Southbound Ramps & Valencia Boulevard – Consistent with the milestones established in the most current County DPW approved Westside Roadway Phasing Analysis, the project applicant shall fund its fair share of the cost to re-stripe the second westbound free-flow right-turn lane to a third westbound through lane/shared free-flow right-turn lane. (Project Share = 7.5 percent)

MV 4.5-5 25. The Old Road & Rye Canyon Road – Consistent with the milestones established in the most current County DPW approved Westside Roadway Phasing Analysis, the project applicant shall fund its fair share of the cost to: (i) add a second northbound through lane and a second southbound left-turn lane; and (ii) convert the northbound and westbound free-flow right-turn lanes to conventional right-turn lanes with overlap phasing. (Project Share = 7.1 percent)

28. The Old Road & McBean Parkway – The project's compliance with **mitigation MV 4.5-1** would mitigate the project's contribution to the identified significant impact and no further mitigation is required.

45. McBean Parkway/Magic Mountain Parkway – The improvements recommended to mitigate the project's identified significant impacts at this intersection are to re-stripe for a third eastbound through lane and add a right-turn overlap phase for a westbound right-turn lane. These improvements are located within and will be constructed through the Valencia B&T District. Therefore, the project's identified impacts will be reduced to a level below significant through the B&T District and no further mitigation is required.

48. McBean Parkway/Newhall Ranch Road – The improvements recommended to mitigate the project's identified significant impacts at this intersection are: (i) Re-stripe for a fourth westbound through lane; and (ii) Reconstruct the northbound approach to remove the pork-chop island and reconfigure as conventional dual right-turn lanes. These improvements are located within and will be constructed through the Valencia B&T District. Therefore, the project's identified impacts will be reduced to a level below significant through the B&T District and no further mitigation is required.

55. Orchard Village & McBean Parkway – The improvements recommended to mitigate the project's identified significant impacts at this intersection are: (i) add a separate southbound left-turn lane; (ii) add a separate southbound through lane; (iii) add a separate southbound right-turn lane; and (iv) reconfigure the existing southbound right-turn lane as a shared left-turn through lane, as identified in the mitigation for the Hospital expansion project. These improvements are located within and will be constructed

through the Valencia B&T District. Therefore, the project's identified impacts will be reduced to a level below significant through the B&T District and no further mitigation is required.

66. Bouquet Canyon Road & Newhall Ranch Road – The improvement recommended to mitigate the project's identified significant impacts at this intersection is to stripe a third eastbound through lane while maintaining three eastbound left-turn lanes and two eastbound right-turn lanes. This improvement is located within and will be constructed through the Valencia B&T District. Therefore, the project's identified impacts will be reduced to a level below significant through the B&T District and no further mitigation is required.

94. Commerce Center Drive & SR-126 – The project's compliance with **Mitigation MV 4.5-2** would mitigate the project's contribution to the identified significant impact and no further mitigation is required.

(c) Other Mitigation Measures

MV 4.5-6 Applicable transit mitigation fees shall be paid by the project applicant at the time of building permit issuance, unless modified by an approved transit mitigation agreement.

MV 4.5-7 Prior to the commencement of project construction activities, the project applicant shall institute construction traffic management controls in accordance with the California Department of Transportation (Caltrans) traffic manual. These traffic management controls shall include measures determined on the basis of site-specific conditions including, as appropriate, the use of construction signs (e.g., "Construction Ahead") and delineators, and private driveway and cross-street closures.

MV 4.5-8 Traffic signals shall be installed at the following intersections within the project site. The design and construction of the traffic signals shall be the sole responsibility of the project. The signals shall be in place to the satisfaction of the County Department of Public Works. Detailed signing and striping plans and traffic signal plans shall be submitted to Public Works for review and approval:

- B Street at Magic Mountain Parkway;
- A Street at Magic Mountain Parkway;
- Commerce Center Drive at A Street;
- KK Drive/HH Street at Magic Mountain Parkway;
- II Drive at Magic Mountain Parkway;
- Westridge Parkway at Magic Mountain Parkway;
- Commerce Center Drive at Magic Mountain Parkway;
- Commerce Center Drive at DD Drive;
- Commerce Center Drive at GG Street; and
- Westridge Parkway at QQ Street (Fire Station Signal).

MV 4.5-9 The project applicant, or the current owner of the development, shall monitor the following intersections for the installation of traffic signals once the Mission Village elementary school is opened and every year thereafter for up to five years after the certificate of occupancy of the last residential unit of Mission Village (excluding age restricted/qualified residential units and residential units within the Saugus School District) is issued and the full planned occupancy of 900 students for the school is reached (or fewer students if official documentation from the Newhall School District shows no increase in student enrollment for five consecutive school years):

- A Street at B Street/CC Drive;
- Q1 Street at A Street; and
- HH Street/R Street at A Street.

The referenced monitoring shall include the submittal of annual traffic signal warrant analyses to the County Department of Public Works for review and approval. At the time, if any, traffic signals are warranted, the applicant shall enter into a secured agreement/bond with Public Works to guarantee the installation of traffic signals, design the necessary striping and signal plans, and construct the signals to the satisfaction of Public Works. Any security for the traffic signal construction submitted will be returned once the construction is completed to the satisfaction of Public Works or at the expiration of the referenced monitoring program.

MV 4.5-10 The project shall install a traffic signal at the following location after detailed signing and striping plans and traffic signal plans have been reviewed and approved by the County Department of Public Works:

- Westridge Parkway at Old Rock Road.

MV 4.5-11 Prior to recordation of the first tract map in Mission Village, a revised Westside Roadway Phasing Analysis (RPA), prepared and submitted by the project applicant, shall be reviewed and approved by the County Department of Public Works (DPW). This RPA shall update the previously approved RPA and identify the necessary improvements and residential unit thresholds (timing requirements) for those improvements for Mission Village based on then-current phasing assumptions. The revised RPA shall include actual traffic counts on newly constructed roadways and/or at intersections where traffic mitigation measures have been carried out. Subsequent updates of the RPA shall be prepared based on the following development thresholds:

i) 3,176 residential units and 13.17 million square feet non-residential uses;

ii) 6,066 residential units and 14.87 million square feet non-residential uses;

iii) 14,515 residential units and 16.00 million square feet non-residential uses;

iv) 21,373 residential units and 17.65 million square feet non-residential uses;

v) 25,001 residential units and 19.78 million square feet non-residential uses; and

vi) 27,615 residential units and 22.08 million square feet non-residential uses.

In addition, the applicant shall submit to DPW for review and approval an annual report, due January 30th for the prior year, identifying the number and type of residential and commercial building permits issued for Mission Village (and any otherdevelopment within the Westside Santa Clarita area). The purpose of this annual report will be to track development progress against the thresholds identified in the AFA Traffic Impact Analysis and the then-current RPA.

c. Post-Mitigation Level of Significance

Table 4.5-21, ICU and LOS Summary – With Project Conditions with Mitigation, depicts the level of service for each of the significantly impacted intersections, before and after implementation of the recommended mitigation measures. **Table 4.5-21** shows that, under project buildout conditions, implementation of the mitigation measures would fully mitigate the project's impacts.

Specific to the Commerce Center Drive/SR-126 intersection (Intersection 94), which is to be re-constructed as a grade-separated interchange, a project report for the interchange has been completed and as of this writing final design plans are being prepared. The interchange project will reconstruct the following three intersections: (1) Commerce Center Drive at Henry Mayo Drive (Intersection 81); (2) Commerce Center Drive at SR-126 Eastbound Ramps (Intersection 82); and (3) Commerce Center Drive at SR-126 Westbound Ramps (Intersection 83). Once the interchange project is completed, each of the three intersections will operate at LOS D or better under long-range buildout conditions that include the proposed Mission Village project. (See EIR **Appendix 4.5**, AFA Traffic Impacts Analysis, Appendix A.)

10. LONG-RANGE (2035) CUMULATIVE IMPACTS

a. Introduction

As discussed in detail in this EIR, **Section 3.0, Cumulative Impact Analysis Methodology,** Section 15130(b) of the *State CEQA Guidelines* allows two methods for identifying the future projects to be considered when assessing cumulative impacts. These two methods involve:

> *(a) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or*
>
> *(b) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified which described or evaluated regional or areawide conditions contributing to the cumulative impact.*

Table 4.5-21
ICU and LOS Summary - With Project Conditions with Mitigation

Intersection	Existing plus Ambient without Project				Existing plus Ambient plus Project with Mitigation				Change	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
28. The Old Road & McBean Pky	0.70	B	0.92	E	0.67	B	0.91	E	-0.03	-0.01
94. Commerce Center Dr. & SR-126	0.57	A	0.84	D	n/a	n/a	n/a	n/a	n/a	n/a
Intersection	**2021 Cumulative Conditions without Project**				**2021 Cumulative Conditions with Project with Mitigation**				**Change**	
	AM		**PM**		**AM**		**PM**			
	ICU	**LOS**	**ICU**	**LOS**	**ICU**	**LOS**	**ICU**	**LOS**	**AM**	**PM**
Freeway Ramp Intersections (County)										
7. I-5 SB Ramps & SR-126	0.83	D	0.70	B	0.73	C	0.66	B	-0.10	-0.04
12. I-5 SB Ramps & Valencia	0.72	C	0.81	D	0.62	B	0.67	B	-0.10	-0.14
County Arterial Intersections										
25. The Old Road & Rye Canyon	1.03	F	1.21	F	0.78	C	0.91	E	-0.25	-0.30
28. The Old Road & McBean Pky	0.53	A	0.85	D	0.54	A	0.86	D	0.01	0.01
City Arterial Intersections										
45. McBean Parkway & Magic Mountain Parkway	0.71	C	0.92	E	0.75	C	0.92	E	-0.04	-0.00
48. McBean Parkway & Newhall Ranch Road	0.78	C	1.01	F	0.70	B	0.81	D	-0.08	-0.20
55. Orchard Village & McBean Parkway	0.65	B	0.83	D	0.64	B	0.80	C	-0.01	-0.03
66. Bouquet Canyon Road & Newhall Ranch Road	0.89	D	1.01	F	0.83	D	0.88	D	-0.06	-0.13

Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F

The impacts analysis presented above for the 2021 Project Buildout Cumulative Conditions scenario was based on the SCVCTM long-range model, which includes both specifically identified future development projects and a summary of projections based on the planned land uses designated in the County Area Plan and City General Plan update. As noted above, the 2021 scenario was derived based on an interpolation of the long-range 2035 buildout forecast for the Santa Clarita Valley, adjusted to 2021 conditions. The cumulative impacts analysis presented in this section is based on full valley buildout under 2035 conditions.

b. Long-Range 2035 Valley Buildout Conditions

The following provides an analysis of cumulative transportation impacts using a plans/projections approach. The Newhall Ranch Specific Plan Program EIR included a long-range cumulative impacts analysis, which entailed buildout of all lands under the current land use designations in the Los Angeles County Santa Clarita Valley Areawide Plan and the City of Santa Clarita General Plan, plus the proposed Specific Plan, plus all known active pending General Plan Amendment requests for additional urban development in the County unincorporated area of Santa Clarita Valley and the City of Santa Clarita. This section updates that information by presenting long-range cumulative traffic volume forecasts based on the current cumulative land use data for the Santa Clarita Valley.

As discussed above, future land development is anticipated for the Santa Clarita Valley as quantified in the SCVCTM. The SCVCTM includes a land use database prepared by Los Angeles County and the City of Santa Clarita that is based on the approved General Plans of each jurisdiction. This database is regularly updated as specific projects are proposed and thus is a comprehensive listing of cumulative projects. In addition, the land use database has also been updated based on the proposed One Valley One Vision plan.[17]

Table 4.5-22, Land Use and ADT Summary – 2035 Buildout Cumulative Conditions, summarizes the SCVCTM land use databases for the base year of the model and the Long-range Buildout/Cumulative horizon, which is referred to as 2035. From the land use summarized here, the SCVCTM calculates vehicle trip generation estimates for the Santa Clarita Valley.

As previously noted, where future development will occur but specific projects have not been developed, the SCVCTM Long-range Buildout/Cumulative database utilizes land use projections based on the allowable uses shown in the proposed One Valley One Vision County Area Plan/City General Plan update. Additionally, the trips forecast by the model are not limited to trips generated in the Santa Clarita Valley, but also include trips to and from the Valley, as well as through trips; thus, regional growth, which is traffic volume increases occurring outside of the SCVCTM area, is incorporated into the model.

17 Austin-Foust Associates, Inc., *One Valley One Vision Valley-Wide Traffic Study*, September 2009.

Table 4.5-22
Land Use and ADT Summary – 2035 Buildout Cumulative Conditions

Land Use Type	Units	Existing[1]		Long-Range General Plan/Cumulative (2035)[2]	
		Amount	ADT	Amount	ADT
Single Family Residential	du	48,300	471,200	81,500	796,400
Multi-Family Residential	du	24,400	191,000	67,000	504,400
Commercial Retail	msf	9,200	515,700	23,300	1,215,700
Commercial Office	msf	2,100	26,000	18,100	214,400
Industrial Park	msf	18,300	107,600	40,700	240,700
Hotel	Rooms	1,000	8,000	2,500	20,800
Elem/Middle School	Stu.	29,900	43,400	51,900	75,200
High School	Stu.	10,500	18,800	18,500	33,100
Other	--	--	106,300	--	174,100
TOTAL	--	--	1,488,000	--	3,274,800

Notes:
du = Dwelling Units
msf = Million Square Feet
Stu. = Students
Source: Santa Clarita Valley Consolidated Traffic Model
[1] *Most current information available at time of report preparation (2004 conditions).*
[2] *Proposed One Valley One Vision County Area Plan/City General Plan update*
Source: Austin-Foust Associates, Inc., Traffic Impact Analysis (October 2010), ***Appendix 4.5***

(1) Year 2035 Cumulative Impacts on Arterial Roadways

The most current version of the SCVCTM that includes all the cumulative projects in the vicinity of the project site is the version of the model utilized in connection with preparation of the *One Valley One Vision (OVOV) Valley-Wide Traffic Study*, September 2009. The OVOV version of the SCVCTM provides forecasts of buildout conditions generally considered applicable to the year 2035, and it was updated specifically to include the proposed project and the current proposals for nearby cumulative projects. To estimate Santa Clarita Valley buildout conditions for a scenario without the project, the project traffic was subtracted from the SCVCTM forecasts for Valley buildout conditions.

The 2035 no project and with-project cumulative conditions peak hour turning movement volumes for the intersections in the project study area are depicted on Figures 4-13 through 4-20 in the AFA Traffic Impacts Analysis, EIR **Appendix 4.5**. Peak hour ICU values for project buildout conditions can be found in **Table 4.5-23, ICU and LOS Summary – Buildout Conditions with and without Project**, which provides a comparison between the no-project and the with-project conditions for 2035 cumulative conditions. As shown on the table, under buildout conditions with project traffic, several intersections are forecast to exceed the City's impact threshold. The following intersections are those at which the proposed project's contribution would be cumulatively considerable, thereby resulting in significant cumulative impacts under cumulative buildout conditions:

7. I-5 SB Ramps & SR-126 (Caltrans/County)
9. The Old Road & I-5 SB Ramps (Caltrans/County)
10. I-5 SB Ramps & Magic Mountain Parkway (Caltrans/County)
11. I-5 NB Ramps & Magic Mountain Parkway (Caltrans/City)
12. I-5 SB Ramps & Valencia Boulevard (Caltrans/County)
14. I-5 SB Ramps & McBean Parkway (Caltrans/County)
16. I-5 SB Ramps/Marriott Way & Pico Canyon Road (Caltrans/County)
17. I-5 NB On/Off & Lyons Avenue (Caltrans/City)
25. The Old Road & Rye Canyon Road (County)
26. The Old Road & Magic Mountain Parkway (County)
28. The Old Road & McBean Parkway (County)
37. Tourney Road & Magic Mountain Parkway (City)
45. McBean Parkway & Magic Mountain Parkway (City)
48. McBean Parkway & Newhall Ranch Road (City)
51. Wiley Canyon Road & Lyons Avenue (City)
54. Orchard Village Road & Wiley Canyon (City)
55. Orchard Village Road & McBean (City)
57. Valencia Boulevard & Magic Mountain Parkway (City)
66. Bouquet Canyon Road & Newhall Ranch Road (City)
94. Commerce Center Drive & SR-126 (County/Caltrans)

(2) Year 2035 Cumulative Impacts on Freeway Mainline

Long-range cumulative impacts on freeways (I-5) were assessed based on a peak hour analysis as recommended by Caltrans and as required by the CMP, which identifies peak hour directional volumes as the basis for the evaluation. LOS was calculated based on volume-density (passenger cars per hour per lane) using the HCM procedures for mainline freeway segment analysis, as recommended by Caltrans.

Table 4.5-23
ICU and LOS Summary – Buildout Conditions with and without Project

Intersection	Year 2035 Cumulative Conditions without Project				Year 2035 Cumulative Conditions with Project				Increase	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
Freeway Ramp Intersections (County)										
7. I-5 SB Ramps & Henry Mayo Drive (SR-126)	0.96	E	0.96	E	0.97	**E**	0.98	**E**	**0.01**	**0.02**
9. The Old Road & I-5 SB Ramps	0.84	D	1.34	F	0.85	D	1.35	**F**	0.01	**0.01**
10. I-5 SB Ramps & Magic Mountain Parkway	0.82	D	0.88	D	0.89	D	0.95	**E**	0.07	**0.07**
12. I-5 SB Ramps & Valencia Boulevard	0.77	C	1.19	F	0.81	D	1.22	**F**	0.04	**0.03**
14. I-5 SB Ramps & McBean Parkway	0.72	C	0.94	E	0.74	C	0.98	**E**	0.02	**0.04**
16. I-5 SB/Marriott & Pico Canyon Road/Lyons Avenue	0.67	B	1.08	F	0.69	B	1.09	**F**	0.02	**0.01**
Freeway Ramp Intersections (City)										
8. I-5 NB Ramps & SR-126	0.59	A	0.69	B	0.60	A	0.71	C	0.01	0.02
11. I-5 NB Ramps & Magic Mountain	0.78	C	0.86	D	0.87	D	0.95	**E**	0.09	**0.09**
13. I-5 NB Ramps & Valencia	0.78	C	0.83	D	0.79	C	0.84	D	0.01	0.01
15. I-5 NB Ramps & McBean	0.60	A	0.67	B	0.62	B	0.69	B	0.02	0.02
17. I-5 NB On/Off & Lyons Ave	0.56	A	0.89	D	0.57	A	0.91	**E**	0.01	**0.02**
County Arterial Intersections										
25. The Old Road & Rye Canyon	1.73	F	2.04	F	1.79	**F**[1]	2.10	**F**[1]	**0.06**	**0.06**
26. The Old Road & Magic Mountain Parkway	0.66	B	0.79	C	0.78	C	0.93	**E**	0.12	**0.14**
27. The Old Road & Valencia Boulevard	0.72	C	0.83	D	0.79	C[1]	0.89	D[1]	0.07	0.06
28. The Old Road & McBean Parkway	0.63	B	0.94	E	0.70	B	0.98	**E**	0.07	**0.04**
29. The Old Road & Pico Canyon Road	0.89	D	0.96	E	0.91	E[1]	0.97	E[1]	0.02	0.01
94. Commerce Center Drive & SR-126	1.31	F	1.60	F	1.60	**F**	1.89	**F**	**0.29**	**0.29**
105. Westridge Parkway & Valencia Boulevard	0.58	A	0.62	B	0.59	A	0.76	C	0.01	0.14
108. Stevenson Ranch Parkway & Pico Canyon Road	0.61	B	0.79	D	0.61	B	0.79	C	0.00	0.00
109. Stevenson Ranch Parkway & Poe Parkway/Chase	0.48	A	0.58	A	0.48	A	0.58	A	0.00	0.00

Intersection	Year 2035 Cumulative Conditions without Project				Year 2035 Cumulative Conditions with Project				Increase	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
City Arterial Intersections										
30. Stanford & Rye Canyon	0.55	A	0.77	C	0.57	A	0.78	C	0.02	0.01
33. Copper Hill & Newhall Ranch	0.78	C	0.84	D	0.81	D	0.87	D	0.03	0.03
35. Copper Hill & Decoro	0.70	B	0.80	C	0.72	C	0.81	D	0.02	0.01
36. Tourney & Valencia	0.67	B	0.87	D	0.68	B	0.88	D	0.01	0.01
37. Tourney & Magic Mountain	0.67	B	0.86	D	0.74	C	0.93	**E**	0.07	**0.07**
44. McBean & Valencia	0.69	B	0.94	E	0.70	B	0.94	E	0.01	0.00
45. McBean & Magic Mountain	0.92	E	1.19	F	0.96	E[1]	1.22	**F**[1]	0.04	**0.03**
48. McBean & Newhall Ranch	0.81	D	1.11	F	0.83	D	1.15	**F**	0.02	**0.04**
49. McBean & Decoro	0.65	B	0.66	B	0.65	B	0.66	B	0.00	0.00
51. Wiley Canyon & Lyons Cyn	0.70	B	1.07	F	0.71	C	1.08	**F**	0.01	**0.01**
54. Orchard Village & Wiley Cyn	1.06	F	1.42	F	1.08	**F**[1]	1.44	**F**[1]	**0.02**	**0.02**
55. Orchard Village & McBean	0.90	D	1.20	F	0.92	E[1]	1.23	**F**[1]	0.02	**0.03**
57. Valencia & Magic Mountain	1.10	F	1.24	F	1.12	**F**	1.25	**F**	**0.02**	**0.01**
65. Bouquet & Soledad	0.78	C	0.99	E	0.79	C	0.99	E	0.01	0.00
66. Bouquet & Newhall Ranch	0.99	E	1.14	F	0.99	**E**	1.17	**F**	0.00	**0.03**

Bold = Significant Impact
Intersection Level of Service Performance Criteria is LOS D, unless noted otherwise.
[1] *LOS E is the Level of Service Performance Criteria for this location*
Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F
Source: Austin-Foust Associates, Inc., Traffic Impact Analysis (October 2010), ***Appendix 4.5***

The results of the analysis are provided in **Table 4.5-24, Freeway Volumes and V/C Ratios - 2035 Valley Buildout Conditions**. For this scenario, the full I-5 Truck Lane and HOV project is presumed to be in place, as are new HOV lanes south of the SR-14 interchange. As noted above, Caltrans presently is implementing the I-5 HOV Truck Lane Project SR-14 to Parker Road with completion scheduled for 2016. As shown on **Table 4.5-24**, the incremental increase in traffic resulting from the proposed project would not exceed 0.02 and, therefore, the proposed project would not result in significant cumulative impacts to the I-5 freeway under this scenario. Based on the above analysis, and because the increment of project traffic decreases as the distance from the project site increases, the project would not result in significant traffic impacts on the I-5 mainline north of Lake Hughes, nor south of the confluence of the I-5 and SR-14.

Nonetheless, the project applicant presently is in negotiations with Caltrans regarding improvements to the I-5 freeway that would be funded, in part, by Westside development, including the Newhall Ranch Specific Plan area. While the proposed Mission Village project would not result in significant impacts to the I-5 freeway and, therefore, no mitigation is required under CEQA, the applicant and Caltrans, nevertheless, are working cooperatively towards transportation improvements for the facility.

Table 4.5-24
Freeway Volumes and V/C Ratios – 2035 Valley Buildout Conditions

Segment	Lanes	Capacity	Long-Range Without Project				Long-Range With Project				Project Increment	
			AM Pk Hr		PM Pk Hr		AM Pk Hr		PM Pk Hr			
			Vol	V/C	Vol	V/C	Vol	V/C	Vol	V/C	AM	PM
Northbound												
401. North of Lake Hughes	4M	8,000	3,368	0.42	6,334	0.79	3,400	0.43	6,400	0.80	0.01	0.01
402. Between Lake Hughes & Parker	4M	8,000	3,655	0.46	7,388	0.92	3,700	0.46	7,500	0.94	0.00	0.02
403. Between Parker & Hasley Cyn	4M + 1H	10,000	4,047	0.40	8,848	0.88	4,100	0.41	9,000	0.90	0.01	0.02
404. Between Hasley Cyn & SR-126	4M + 1H + 1A	11,000	5,647	0.51	9,148	0.83	5,700	0.52	9,300	0.85	0.01	0.02
405. Between SR-126 & Rye Cyn	4M + 1H	10,000	6,000	0.60	8,077	0.81	6,000	0.60	8,100	0.81	0.00	0.00
406. Between Rye Cyn & Magic Mtn	4M + 1H	10,000	6,000	0.60	8,077	0.81	6,000	0.60	8,100	0.81	0.00	0.00
407. Between Magic Mtn & Valencia	4M + 1H + 1A	11,000	6,758	0.61	7,987	0.73	6,900	0.63	8,100	0.74	0.02	0.01
408. Between Valencia & McBean	4M + 1H	10,000	7,700	0.77	8,656	0.87	7,900	0.79	8,800	0.88	0.02	0.01
409. Between McBean & Pico/Lyons	4M + 1H	10,000	7,739	0.77	8,245	0.82	8,000	0.80	8,400	0.84	0.03	0.02
410. Between Pico/Lyons & Calgrove	4M + 1H + 1A	11,000	7,567	0.69	8,277	0.75	7,800	0.71	8,400	0.76	0.02	0.01
411. Between Calgrove & SR-14	4M + 1H + 1T	11,200	7,583	0.68	8,191	0.73	7,800	0.70	8,300	0.74	0.02	0.01
412. South of SR-14	6M + 2H + 2T	18,400	10,067	0.55	17,310	0.94	10,200	0.55	17,400	0.95	0.00	0.01
Southbound												
401. North of Lake Hughes	4M	8,000	4,613	0.58	6,366	0.80	4,700	0.59	6,400	0.80	0.01	0.00
402. Between Lake Hughes & Parker	4M	8,000	5,571	0.70	6,850	0.86	5,700	0.71	6,900	0.86	0.01	0.00
403. Between Parker & Hasley Cyn	4M + 1H	10,000	7,026	0.70	7,928	0.79	7,200	0.72	8,000	0.80	0.02	0.01

Segment	Lanes	Capacity	Long-Range Without Project				Long-Range With Project				Project Increment	
			AM Pk Hr		PM Pk Hr		AM Pk Hr		PM Pk Hr			
			Vol	V/C	Vol	V/C	Vol	V/C	Vol	V/C	AM	PM
404. Between Hasley Cyn & SR-126	4M + 1H	10,000	7,338	0.73	9,241	0.92	7,500	0.75	9,300	0.93	0.02	0.01
405. Between SR-126 & Rye Cyn	4M + 1H + 1A	11,000	7,367	0.67	9,048	0.82	7,400	0.67	9,100	0.83	0.00	0.01
406. Between Rye Cyn & Magic Mtn	4M + 1H + 1A	11,000	7,373	0.67	10,239	0.93	7,400	0.67	10,300	0.94	0.00	0.01
407. Between Magic Mtn & Valencia	4M + 1H	10,000	7,231	0.72	9,717	0.97	7,500	0.75	9,900	0.99	0.03	0.02
408. Between Valencia & McBean	4M + 1H+ 1A	11,000	8,457	0.77	10,273	0.93	8,700	0.79	10,500	0.95	0.02	0.02
409. Between McBean & Pico/Lyons	4M + 1H	10,000	8,299	0.83	9,737	0.97	8,500	0.85	10,000	1.00	0.02	0.03
410. Between Pico/Lyons & Calgrove	4M + 1H + 1T	11,200	8,050	0.72	10,259	0.92	8,200	0.73	10,500	0.94	0.01	0.02
411. Between Calgrove & SR-14	4M + 1H + 2T	12,400	8,180	0.66	10,675	0.86	8,300	0.67	10,900	0.88	0.01	0.02
412. South of SR-14	6M + 2H + 2T	18,400	16,691	0.91	13,859	0.75	16,800	0.91	14,000	0.76	0.00	0.01

Notes:
M = Mixed-Flow/General Purpose Lane (Capacity = 2,200 vehicles per hour)
M = Mixed-Flow Lane on an Extended Uphill Grade, Without a Truck Lane (Capacity = 1,600 vehicles per hour)*
H = HOV Lane (Capacity = 2,200 vehicles per hour)
A = Auxiliary Lane (Capacity = 1,000 vehicles per hour)
T = Truck Lane (Capacity = 1,200 vehicles per hour)
Capacities derived from PeMS data and through discussions with Caltrans staff.
Source: Austin-Foust Associates, Inc., Traffic Impact Analysis (October 2010), ***Appendix 4.5***

11. CUMULATIVE MITIGATION MEASURES

If all of the cumulative projects are approved, each would be required to construct or finance, through the applicable B&T District or otherwise, its fair share of the improvements necessary to mitigate the affected roadways significantly impacted by the respective project. Additionally, project-specific environmental analysis conducted for other cumulative projects is to comply with the requirements of the CMP, which provides lead agencies with the opportunity to assess each project's improvement program to ensure that it meets its mitigation goal.

Because the Mission Village project would result in significant cumulative impacts to County and City intersections and freeway interchange intersections under the long-range 2035 buildout scenario, the following mitigation is proposed to reduce the traffic-related impacts attributable to the project's share of increased cumulative traffic levels. The project is responsible for the payment of its fair-share of the costs of the recommend improvements, and the timing of these improvements shall be as determined by the then-current *Westside Roadway Phasing Analysis*:

7. I-5 SB Ramps & Henry Mayo Drive (SR-126) – The project's compliance with **mitigation MV 4.5-3** would mitigate the project's contribution to the identified significant impact and no further mitigation is required.

MV 4.5-12 9. The Old Road & I-5 SB Ramps – Consistent with the milestones established in the most current County DPW approved Westside Roadway Phasing Analysis, the project applicant shall fund its fair share of the cost to: (i) add a second northbound right-turn lane; (ii) add a second southbound left-turn lane; (iii) add a third southbound through lane; and (iv) convert the shared westbound left/right-turn lane to a second westbound left-turn lane and add a right-turn lane. (Project Share = 1.4 percent. Please refer to EIR **Appendix 4.5**, AFA Traffic Impacts Analysis, Appendix J, for fair-share calculations.)

MV 4.5-13 10. I-5 SB Ramps & Magic Mountain Parkway – Consistent with the milestones established in the most current County DPW approved Westside Roadway Phasing Analysis, the project applicant shall fund its fair share of the cost to re-stripe the shared southbound left-turn/through lane to a left-turn lane and the first southbound right-turn lane to a shared through/left-turn lane (Project Share = 19.7 percent)

MV 4.5-14 11. I-5 NB Ramps & Magic Mountain Parkway – Consistent with the milestones established in the most current County DPW approved Westside Roadway Phasing Analysis, the project applicant shall fund its fair share of the cost to re-stripe the shared northbound through/right-turn lane to a shared left-turn/through/right-turn lane. (Project Share = 17.6 percent)

12. I-5 SB Ramps & Valencia Boulevard – The project's compliance with **mitigation MV 4.5-4** would mitigate the project's contribution to the identified significant impact and no further mitigation is required.

MV 4.5-15 14. I-5 SB Ramps & McBean Parkway – Consistent with the milestones established in the most current County DPW approved Westside Roadway Phasing Analysis, the project applicant shall fund its fair share of the costs to add a second southbound left-turn lane. (Project Share = 12.6 percent.)

MV 4.5-16 16. I-5 SB/Marriott & Pico Canyon Road/Lyons Avenue – Consistent with the milestones established in the most current County DPW approved Westside Roadway Phasing Analysis, the project applicant shall fund its fair share of the costs to add: (i) a left-turn phase for the westbound left-turn lane (can be protected/permissive configuration); and (ii) right-turn overlap phasing for the northbound right-turn lane. (Project Share = 4.7% percent.)

17. I-5 NB On/Off Ramps & Lyons Avenue – The improvements recommended to mitigate the project's identified significant impacts at this intersection are: (i) re-stripe the third westbound through lane to a right-turn lane; and (ii) re-stripe the second westbound through lane to a shared through/right-turn lane. These improvements are located within and will be constructed through the Via Princessa B&T District. Therefore, the project's identified impacts will be reduced to a level below significant through the B&T District and no further mitigation is required.

MV 4.5-17 25. The Old Road & Rye Canyon Road – Consistent with the milestones established in the most current County DPW approved Westside Roadway Phasing Analysis, and in addition to compliance with mitigation MV 4.5-5, the project applicant shall fund its fair share of the costs to: (i) add a third northbound through lane; (ii) add a third southbound through lane; and (iii) add a second and third westbound left-turn lane. (Project Share = 7.1 percent) (Note: This mitigation is supplemental to **mitigation MV 4.5-5**.)

MV 4.5-18 26. The Old Road & Magic Mountain Parkway – Consistent with the milestones established in the most current County DPW approved Westside Roadway Phasing Analysis, the project applicant shall fund its fair share of the cost to add right-turn overlap phasing for the southbound right-turn lane. (Project Share = 21.1 percent)

28. The Old Road & McBean Pkwy – The project's compliance with **mitigation MV 4.5-1** would mitigate the project's contribution to the identified significant impact and no further mitigation is required.

37. Tourney & Magic Mountain Parkway – The improvement recommended to mitigate the project's identified significant impacts at this intersection is to stripe a fourth eastbound through lane. This improvement is located within and will be constructed through the Valencia B&T District. Therefore, the project's identified impacts will be reduced to a level below significant through the B&T District and no further mitigation is required.

45. McBean Parkway & Magic Mountain Parkway – The improvements recommended to mitigate the project's identified significant impacts at this intersection are to re-stripe for a third eastbound through lane and add a right-turn overlap phase for a westbound right-turn lane. These improvements are located within and will be constructed through the Valencia B&T District. Therefore, the project's identified impacts will be reduced to a level below significant through the B&T District and no further mitigation is required.

48. McBean Parkway & Newhall Ranch Road – The improvements recommended to mitigate the project's identified significant impacts at this intersection are: (i) Re-stripe for a fourth westbound through lane; and (ii) Reconstruct the northbound approach to remove the pork-chop island and reconfigure as conventional dual right-turn lanes. These improvements are located within and will be constructed through the Valencia B&T District. Therefore, the project's identified impacts will be reduced to a level below significant through the B&T District and no further mitigation is required.

51. Wiley Canyon & Lyons – The improvement recommended to mitigate the project's identified significant impacts at this intersection is to re-stripe the eastbound right-turn lane to a third through lane (shared through/right-turn lane). This improvement is located within and will be constructed through the Via Princessa B&T District. Therefore, the project's identified impacts will be reduced to a level below significant through the B&T District and no further mitigation is required.

54. Orchard Village & Wiley Canyon – The improvement recommended to mitigate the project's identified significant impact at this intersection is to stripe a northbound right-turn lane. This improvement is located within and will be constructed through the Via Princessa B&T District. Therefore, the project's identified impacts will be reduced to a level below significant through the B&T District and no further mitigation is required.

55. Orchard Village & McBean Parkway – The improvements recommended to mitigate the project's identified significant impacts at this intersection are: (i) add a separate southbound left-turn lane; (ii) add a separate southbound through lane; (iii) add a separate southbound right-turn lane; and (iv) reconfigure the existing southbound right-turn lane as a shared left-turn through lane, as identified in the mitigation for the Hospital expansion project. These improvements are located within and will be constructed through the Valencia B&T District. Therefore, the project's identified impacts will be reduced to a level below significant through the B&T District and no further mitigation is required.

57. Valencia Boulevard & Magic Mountain Parkway – The improvement recommended to mitigate the project's identified significant impacts at this intersect is to add a second westbound left-turn lane by removing or relocating the existing east leg raised median. These improvements are located within and will be constructed through the Valencia B&T District. Therefore, the project's identified impacts will be reduced to a level below significant through the B&T District and no further mitigation is required.

66. Bouquet Canyon Road & Newhall Ranch Road – The improvement recommended to mitigate the project's identified significant impacts at this intersection is to stripe a third eastbound through lane while maintaining three eastbound left-turn lanes and two eastbound right-turn lanes. This improvement is located within and will be constructed through the Valencia B&T District. Therefore, the project's identified impacts will be reduced to a level below significant through the B&T District and no further mitigation is required.

94. Commerce Center Drive & SR-126 – The project's compliance with **mitigation MV 4.5-2** would mitigate the project's contribution to the identified significant impact and no further mitigation is required.

MV 4.5-19 State Highways. The applicant shall work cooperatively with Caltrans to determine and provide transportation mitigation needed on State Highway facilities. The applicant shall construct mitigation improvements or pay an equitable share for mitigation projects to the satisfaction of Caltrans. The applicant shall enter into a traffic mitigation agreement with Caltrans before or within six months of certification of the EIR.

a. Post-Mitigation Level of Significance

Table 4.5-25, ICU and LOS Summary - 2035 Cumulative Conditions with Mitigation, depicts the ICU and LOS for each of the cumulatively impacted intersections under with project and mitigation scenario. As shown on **Table 4.5-25**, implementation of the recommended mitigation would reduce the project's contribution to below cumulatively considerable levels.

As noted above, the *Westside Roadway Phasing Analysis* identifies the specific roadway and intersection improvements that are needed to mitigate the cumulative impacts of the Westside projects. Since the

individual Westside projects will be developed concurrently, the phasing analysis identifies milestones based on residential unit counts and commercial square footages to specify when the specific improvements shall be in place. As such, the proposed project will be developed in accordance with these milestones and the corresponding specific improvements as identified in the phasing analysis.

b. Condominiums In Place Of Apartments Scenario

As noted on **Table 4.5-10, Mission Village Land Use and Trip Generation Summary**, the proposed project trip generation is based on a housing mix that would include 905 apartments and 2,315 condominium/townhomes; the impacts analysis presented above is based on that housing mix. However, the Specific Plan provides the applicant with certain flexibility relative to the specific type of housing to be built due, in part, to market considerations. For example, if at project buildout the rental market weakened while the for-sale market strengthened, the Specific Plan provides the applicant with the flexibility to adjust the housing mix such that the 905 apartments could be developed as condominiums. However, under that scenario, the project trip generation would increase because the trip generation rate for townhomes/condominiums is higher (8.0) than is the trip rate for apartments (6.9). See **Table 4.5-10**.

To address the potential traffic-related impacts associated with such shift in housing type, the traffic impacts analysis considered a scenario in which all 905 apartments were developed instead as condominiums. The analysis determined that under this scenario, the proposed project would generate an additional 63 AM peak hour tripends, 100 more PM peak hour tripends, and 996 more daily tripends. (See EIR **Appendix 4.5**, Traffic Impacts Analysis, Table 4-18.)

To determine the impact of the additional trips that would be generated under an all condominium scenario, the net volume of trips external to the project site was distributed throughout the project study area. A summary of the ICU calculations based on this scenario is provided in **Table 4.5-26, ICU and LOS Summary – Existing plus Ambient plus Project With Mitigation (Condominium Scenario); Table 4.5-27, ICU and LOS Summary – Year 2021 Project Cumulative Conditions With Mitigation (Condominium Scenario);** and **Table 4.5-28, ICU and LOS Summary – Long-Range (2035) Project Cumulative Conditions With Mitigation (Condominium Scenario)**. As shown on the tables, with the mitigation measures recommended in this section, no additional project impacts would occur under these scenarios.

12. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project Impacts

Significant project traffic/access impacts would be reduced to less than significant levels with implementation of the mitigation measures recommended in this EIR section and there would be no unavoidable significant traffic/access impacts.

b. Cumulative Impacts

By implementing the mitigation measures discussed above that are attributable to the proposed project, and provided that the County and City require fair-share participation of the mitigation measures by other projects, no unavoidable significant cumulative traffic/access impacts would occur at any impacted roadway in the project study area.

Table 4.5-25
ICU and LOS Summary – 2035 Cumulative Conditions with Mitigation

	Buildout Conditions (Year 2035) without Project				Buildout Conditions (Year 2035) with Project with Mitigation				Change	
	AM		PM		AM		PM			
Intersection	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
Freeway Ramp Intersections (County)										
7. I-5 SB Ramps & Henry Mayo Drive (SR-126)	0.96	E	0.96	E	0.83	D	0.90	D	-0.13	-0.06
9. The Old Road & I-5 SB Ramps	0.84	D	1.34	F	0.81	D	1.06	F	-0.03	-0.28
10. I-5 SB Ramps & Magic Mountain Parkway	0.82	D	0.88	D	0.75	C	0.82	D	-0.07	-0.06
12. I-5 SB Ramps & Valencia Boulevard	0.77	C	1.19	F	0.65	B	0.96	E	-0.12	-0.23
14. I-5 SB Ramps & McBean Parkway	0.72	C	0.94	E	0.62	B	0.84	D	-0.10	-0.10
16. I-5 SB/Marriott & Pico Canyon Road/Lyons Avenue	0.67	B	1.08	F	0.69	B	1.08	F	0.02	0.00
Freeway Ramp Intersections (City)										
11. I-5 NB Ramps & Magic Mountain	0.78	C	0.86	D	0.76	C	0.84	D	-0.02	-0.02
17. I-5 NB On/Off & Lyons Ave	0.56	A	0.89	D	0.57	A	0.79	C	0.01	-0.10

Intersection	Buildout Conditions (Year 2035) without Project				Buildout Conditions (Year 2035) with Project with Mitigation				Change	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
County Arterial Intersections										
25. The Old Road & Rye Canyon	1.73	F	2.04	F	.83	D[1]	0.89	D[1]	-0.90	-1.15
26. The Old Road & Magic Mountain Parkway	0.66	B	0.79	C	0.78	C	0.89	D	0.12	0.10
28. The Old Road & McBean Parkway	0.63	B	0.94	E	0.70	B	0.89	D	0.07	-0.05
94. Commerce Center Drive & SR-126	1.31	F	1.60	F	n/a (Grade Separated Intersection)					
City Arterial Intersections										
37. Tourney & Magic Mountain	0.67	B	0.86	D	0.74	C	0.82	D	0.07	-0.04
45. McBean & Magic Mountain	0.92	E	1.19	F	0.81	D[1]	1.06	F[1]	-0.11	-0.13
48. McBean & Newhall Ranch	0.81	D	1.11	F	0.83	D	0.89	D	0.02	-0.22
51. Wiley Canyon & Lyons Cyn	0.70	B	1.07	F	0.63	B	0.96	E	-0.07	-0.11
54. Orchard Village & Wiley Cyn	1.06	F	1.42	F	0.98	E[1]	1.27	F[1]	-0.08	-0.15
55. Orchard Village & McBean	0.90	D	1.20	F	0.91	E[1]	1.18	F[1]	-0.01	-0.02
57. Valencia & Magic Mountain	1.10	F	1.24	F	0.93	E	1.12	F	-0.17	-0.12
66. Bouquet & Newhall Ranch	0.99	E	1.14	F	0.95	E	0.97	D	-0.04	-0.17

Intersection Level of Service Performance Criteria is LOS D, unless otherwise noted.
[1]LOS E is the Level of Service Performance Criteria for this location. See AFA Traffic Impact Study, Section 1.6, Reference 6.
Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F
Source: Austin-Foust Associates, Inc., Traffic Impact Analysis (October 2010), ***Appendix 4.5***

Table 4.5-26
ICU and LOS Summary – Existing plus Ambient plus Project With Mitigation
(Condominium Scenario)

Intersection	Existing plus Ambient without Project				Existing plus Ambient plus Project (Condo Scenario) with Mitigation				Increase	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
Freeway Ramp Intersections (County)										
7. I-5 SB Ramps & Henry Mayo Drive (SR-126)	0.86	D	0.50	A	0.84	D	0.55	A	-0.02	0.05
9. The Old Road & I-5 SB Ramps	0.88	D	1.11	F	0.88	D	1.06	F	0.00	-0.05
10. I-5 SB Ramps & Magic Mountain Parkway	0.43	A	0.44	A	0.52	A	0.49	A	0.09	0.05
12. I-5 SB Ramps & Valencia Boulevard	0.62	B	0.55	A	0.68	B	0.59	A	0.06	0.04
14. I-5 SB Ramps & McBean Parkway	0.45	A	0.58	A	0.46	A	0.60	A	0.01	0.02
16. I-5 SB/Marriott & Pico Canyon Road/Lyons Avenue	0.69	B	0.73	C	0.69	B	0.74	C	0.00	0.01

Intersection	Existing plus Ambient without Project				Existing plus Ambient plus Project (Condo Scenario) with Mitigation				Increase	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
County Arterial Intersections										
25. The Old Road & Rye Canyon	0.74	C	0.79	C	0.66	B	0.79	C	-0.08	0.00
26. The Old Road & Magic Mountain Parkway	0.32	A	0.38	A	0.49	A	0.43	A	0.17	0.05
27. The Old Road & Valencia Boulevard	0.80	C	0.53	A	0.82	D	0.59	A	0.02	0.06
28. The Old Road & McBean Parkway	0.70	B	0.92	E	0.67	B	0.91	E	-0.03	-0.01
29. The Old Road & Pico Canyon Road	0.75	C	0.84	D	0.75	C	0.84	D	0.00	0.00
94. Commerce Center Drive & SR-126	0.65	B	0.97	E	n/a (Grade Separated Intersection)					
105. Westridge Parkway & Valencia Boulevard	0.66	B	0.22	A	0.71	C	0.36	A	0.05	0.14
108. Stevenson Ranch Parkway & Pico Canyon Road	0.57	A	0.62	B	0.58	A	0.62	B	0.01	0.00
109. Stevenson Ranch Parkway & Poe Parkway/Chase	0.77	C	0.47	A	0.77	C	0.48	A	0.00	0.01

Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F

Table 4.5-27
ICU and LOS Summary – Year 2021 Project Cumulative Conditions With Mitigation
(Condominium Scenario)

Intersection	2021 Cumulative without Project				2021 Cumulative with Project (Condo Scenario) with Mitigation				Increase	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
Freeway Ramp Intersections (County)										
7. I-5 SB Ramps & Henry Mayo Drive (SR-126)	0.83	D	0.70	B	0.73	C	0.66	B	-0.10	-0.04
9. The Old Road & I-5 SB Ramps	0.81	D	1.06	F	0.82	D	1.06	F	0.01	0.00
10. I-5 SB Ramps & Magic Mountain Parkway	0.58	A	0.56	B	0.64	B	0.63	B	0.06	0.07
12. I-5 SB Ramps & Valencia Boulevard	0.72	C	0.81	D	0.62	B	0.67	B	-0.10	-0.14
14. I-5 SB Ramps & McBean Parkway	0.52	A	0.71	C	0.54	A	0.73	C	0.02	0.02
16. I-5 SB/Marriott & Pico Canyon Road/Lyons Avenue	0.61	B	0.69	B	0.63	B	0.71	C	0.02	0.02

Intersection	2021 Cumulative without Project				2021 Cumulative with Project (Condo Scenario) with Mitigation				Increase	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
Freeway Ramp Intersections (City)										
8. I-5 NB Ramps & Henry Mayo Drive (SR-126)	0.59	A	0.59	A	0.61	B	0.62	B	0.02	0.03
11. I-5 NB Ramps & Magic Mountain Parkway	0.60	A	0.61	B	0.69	B	0.70	B	0.09	0.09
13. I-5 NB Ramps & Valencia Boulevard	0.67	B	0.62	B	0.68	B	0.64	B	0.01	0.02
15. I-5 NB Ramps & McBean Parkway	0.52	A	0.57	A	0.53	A	0.59	A	0.01	0.02
17. I-5 NB On/Off & Lyons Avenue	0.51	A	0.75	C	0.52	A	0.77	C	0.01	0.02
County Arterial Intersections										
25. The Old Road & Rye Canyon	1.03	F	1.21	F	0.78	C	0.91	E	-0.25	-0.30
26. The Old Road & Magic Mountain Parkway	0.43	A	0.51	A	0.60	A	0.59	A	0.17	0.08
27. The Old Road & Valencia Boulevard	0.68	B	0.60	A	0.71	C	0.73	C	0.03	0.13
28. The Old Road & McBean Parkway	0.53	A	0.85	D	0.54	A	0.86	D	0.01	0.01
29. The Old Road & Pico Canyon Road	0.71	C	0.80	C	0.74	C	0.82	D	0.03	0.02
94. Commerce Center Drive & SR-126	1.04	F	1.17	F	n/a (Grade Separated Intersection)					
105. Westridge Parkway & Valencia Boulevard	0.53	A	0.38	A	0.58	A	0.52	A	0.05	0.14
108. Stevenson Ranch Parkway & Pico Canyon Road	0.60	A	0.55	A	0.60	A	0.56	A	0.00	0.01
109. Stevenson Ranch Parkway & Poe Parkway/Chase	0.57	A	0.46	A	0.57	A	0.46	A	0.00	0.00
City Arterial Intersections										
30. Avenue Stanford & Rye Canyon Road	0.57	A	0.66	B	0.60	A	0.68	B	0.03	0.02
33. Copper Hill Drive & Newhall Ranch Road	0.72	C	0.77	C	0.75	C	0.80	C	0.03	0.03
City Arterial Intersections										
35. Copper Hill Drive & Decoro Drive	0.63	B	0.63	B	0.65	B	0.64	B	0.02	0.01
36. Tourney Road & Valencia Boulevard	0.51	A	0.60	A	0.52	A	0.62	B	0.01	0.02
37. Tourney Road & Magic Mountain Parkway	0.52	A	0.56	A	0.56	A	0.62	B	0.04	0.06
44. McBean Parkway & Valencia Boulevard	0.70	B	0.83	D	0.70	B	0.84	D	0.00	0.01
45. McBean Parkway & Magic Mountain Parkway	0.71	C	0.92	E	0.75	C	0.92	E	0.04	0.00
48. McBean Parkway & Newhall Ranch Road	0.78	C	1.01	F	0.70	B	0.81	D	-0.08	-0.20

Intersection	2021 Cumulative without Project				2021 Cumulative with Project (Condo Scenario) with Mitigation				Increase	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
49. McBean Parkway & Decoro Drive	0.70	B	0.60	A	0.72	C	0.61	B	0.02	0.01
51. Wiley Canyon Road & Lyons Avenue	0.65	B	0.83	D	0.66	B	0.84	D	0.01	0.01
54. Orchard Village Road & Wiley Canyon Road	0.65	B	0.75	C	0.65	B	0.75	C	0.00	0.00
55. Orchard Village Road & McBean Parkway	0.65	B	0.83	D	0.64	B	0.80	C	-0.01	0.03
57. Valencia Boulevard & Magic Mountain Parkway	0.79	C	0.83	D	0.80	C	0.84	D	0.01	0.01
65. Bouquet Canyon Road & Soledad Canyon Road	0.79	C	0.91	E	0.80	C	0.91	E	0.01	0.00
66. Bouquet Canyon Road & Newhall Ranch Road	0.89	D	1.01	F	0.83	D	0.88	D	-0.06	-0.13

Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F

Table 4.5-28
ICU and LOS Summary – Long-Range (2035) Project Cumulative Conditions With Mitigation (Condominium Scenario)

Intersection	2035 Cumulative without Project				2035 Cumulative with Project (Condo Scenario) with Mitigation				Increase	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
Freeway Ramp Intersections (County)										
7. I-5 SB Ramps & Henry Mayo Drive (SR-126)	0.96	E	0.96	E	0.83	D	0.90	D	-0.13	-0.06
9. The Old Road & I-5 SB Ramps	0.84	D	1.34	F	0.81	D	1.06	F	-0.03	-0.28
10. I-5 SB Ramps & Magic Mountain Parkway	0.82	D	0.88	D	0.76	C	0.82	D	-0.06	-0.06
12. I-5 SB Ramps & Valencia Boulevard	0.77	C	1.19	F	0.65	B	0.96	E	-0.12	-0.23
14. I-5 SB Ramps & McBean Parkway	0.72	C	0.94	E	0.62	B	0.84	D	-0.10	-0.10
16. I-5 SB/Marriott & Pico Canyon Road/Lyons Avenue	0.67	B	1.08	F	0.69	B	1.08	F	0.02	0.00

Intersection	2035 Cumulative without Project				2035 Cumulative with Project (Condo Scenario) with Mitigation				Increase	
	AM		PM		AM		PM			
	ICU	LOS	ICU	LOS	ICU	LOS	ICU	LOS	AM	PM
Freeway Ramp Intersections (City)										
8. I-5 NB Ramps & SR-126	0.59	A	0.69	B	0.60	A	0.71	C	0.01	0.02
11. I-5 NB Ramps & Magic Mountain	0.78	C	0.86	D	0.76	C	0.84	D	-0.02	-0.02
13. I-5 NB Ramps & Valencia	0.78	C	0.83	D	0.79	C	0.84	D	0.01	0.01
15. I-5 NB Ramps & McBean	0.60	A	0.67	B	0.62	B	0.69	B	0.02	0.02
17. I-5 NB On/Off & Lyons Ave	0.56	A	0.89	D	0.57	A	0.79	C	0.01	-0.10
County Arterial Intersections										
25. The Old Road & Rye Canyon	1.73	F	2.04	F	0.83	D[1]	0.89	D[1]	-0.90	-1.15
26. The Old Road & Magic Mountain Parkway	0.66	B	0.79	C	0.78	C	0.89	D	0.12	0.10
27. The Old Road & Valencia Boulevard	0.72	C	0.83	D	0.79	C[1]	0.89	D[1]	0.07	0.06
28. The Old Road & McBean Parkway	0.63	B	0.94	E	0.70	B	0.89	D	0.07	-0.05
29. The Old Road & Pico Canyon Road	0.89	D	0.96	E	0.91	E[1]	0.97	E[1]	0.02	0.01
94. Commerce Center Drive & SR-126	1.31	F	1.60	F	n/a (Grade Separated Intersection)					
105. Westridge Parkway & Valencia Boulevard	0.58	A	0.62	B	0.59	A	0.76	C	0.01	0.14
108. Stevenson Ranch Parkway & Pico Canyon Road	0.61	B	0.79	D	0.61	B	0.79	C	0.00	0.00
109. Stevenson Ranch Parkway & Poe Parkway/Chase	0.48	A	0.58	A	0.48	A	0.58	A	0.00	0.00
City Arterial Intersections										
30. Stanford & Rye Canyon	0.55	A	0.77	C	0.57	A	0.78	C	0.02	0.01
33. Copper Hill & Newhall Ranch	0.78	C	0.84	D	0.81	D	0.87	D	0.03	0.03
35. Copper Hill & Decoro	0.70	B	0.80	C	0.72	C	0.81	D	0.02	0.01
36. Tourney & Valencia	0.67	B	0.87	D	0.68	B	0.88	D	0.01	0.01
37. Tourney & Magic Mountain	0.67	B	0.86	D	0.74	C	0.82	D	0.07	-0.04
44. McBean & Valencia	0.69	B	0.94	E	0.70	B	0.94	E	0.01	0.00
45. McBean & Magic Mountain	0.92	E	1.19	F	0.81	D[1]	1.06	F[1]	-0.11	-0.13
48. McBean & Newhall Ranch	0.81	D	1.11	F	0.83	D	0.89	D	0.02	-0.22
49. McBean & Decoro	0.65	B	0.66	B	0.65	B	0.66	B	0.00	0.00
51. Wiley Canyon & Lyons Cyn	0.70	B	1.07	F	0.63	B	0.96	E	-0.07	-0.11
54. Orchard Village & Wiley Cyn	1.06	F	1.42	F	0.98	E[1]	1.27	F[1]	-0.08	-0.15
55. Orchard Village & McBean	0.90	D	1.20	F	0.91	E[1]	1.18	F[1]	-0.01	-0.02
57. Valencia & Magic Mountain	1.10	F	1.24	F	0.93	E	1.12	F	-0.17	-0.12
65. Bouquet & Soledad	0.78	C	0.99	E	0.79	C	0.99	E	0.01	0.00
66. Bouquet & Newhall Ranch	0.99	E	1.14	F	0.95	E	0.97	E	-0.04	-0.17

Intersection Level of Service Performance Criteria is LOS D, unless noted otherwise.

[1] *LOS E is the Level of Service Performance Criteria for this location (Austin-Foust Associates, Inc., Traffic Impact Analysis (October 2010),* ***Appendix 4.5****).*

Level of service ranges: 0.00–0.60 = A 0.61–0.70 = B 0.71–0.80 = C 0.81–0.90 = D 0.91–1.00 = E Above 1.00 = F

4.6 NOISE

1. SUMMARY

Development of the Mission Village site would occur over an approximate 96-month period, and would involve clearing and grading of the ground surface, grading of approximately 29.5 million cubic yards of earthen material and up to 372,000 cubic yards for the Southern California Edison (SCE) substation in a balanced cut and fill operation, and the building of the proposed improvements. These activities would involve the temporary use of heavy equipment, smaller equipment, and motor vehicles, which generate both steady state and episodic noise. This noise would primarily affect the occupants of on-site residences and other noise-sensitive uses constructed in the earlier phases of the development, as well as residents of the off-site Westridge development, resulting in potentially significant impacts that would be mitigated to a level below significant. While this construction activity noise could be audible to occupants of Travel Village when construction activities would occur on the northwestern portion of the site, the increased noise levels would not exceed the applicable thresholds of significance and, therefore, would not result in significant impacts.

Daytime pile driving in the Santa Clara Riverbed, should it occur during the construction of the proposed Commerce Center Drive Bridge, would be audible to occupants of on-site uses constructed prior to the bridge, and to the occupants of Travel Village and nearby non-residential uses, including visitors and employees of Magic Mountain Theme Park. The potential range of significant noise impacts from this activity for sensitive receptors would be approximately 4,000 feet from the pile driving site for a period of approximately 9–12 months during the later phases of the construction, assuming no attenuation by terrain, structures, or vegetation. Noise-sensitive receptors proposed on the site within this 4,000-foot range could include persons that would reside in apartments, condominiums, and single-family residences constructed prior to the bridge. Off-site sensitive receptors within this 4,000-foot range would include occupants of the eastern half of Travel Village. Although mitigation is proposed, should pile driving be necessary in connection with bridge construction, the potentially significant noise impacts attributable to pile driving would be significant and unavoidable. Pile driving noise impacts on future residents of Landmark Village, should Landmark Village be constructed before the Commerce Center Drive Bridge, would be less than significant.

Although the piles would be driven into alluvial deposits, which tend to have a dampening effect on vibrations, vibration from the pile driving would result in potentially significant impacts to surrounding inhabitants and to those non-residential uses that may employ vibration-sensitive equipment.

Because project construction activities could cause noise and vibration levels at nearby existing and future receptors to exceed the Noise Ordinance *standards, construction noise and vibration impacts are considered significant without mitigation.*

After project completion, traffic along Commerce Center Drive and Magic Mountain Parkway would cause significant noise impacts at several future on-site single-family and multi-family residences that would back onto these roadways. Lots 85, 86, and 87, planned for single-family residences, and 468 and 512, planned for apartment/condominiums, would also experience significant noise impacts. There is also potential for some multi-family residences in lots designated Mixed Use Commercial (such as Lot 512) to experience significant noise impacts from traffic along these roadways, depending upon their location and orientation within each lot. Noise levels would be reduced to less than significant through the incorporation of mitigation measures.

Traffic volumes along Westridge Parkway through the project site would be less than half of those along Magic Mountain Parkway and Commerce Center Drive (individually) and, as a result, noise levels along Westridge Parkway would not result in significant noise impacts on future on-site noise-sensitive receptors along this roadway or to residential land use located to the south near the Westridge Parkway and Valencia Boulevard intersections.

Noise from the adjacent Magic Mountain Theme Park would be audible to receptors on the eastern edge of Mission Village. The theme park is operational year-round with most activity taking place during the summer months. With a few exceptions, the park closes by 10:00 PM, but may remain open as late as 1:00 AM. Noise monitoring along the eastern edge of the Mission Village site demonstrates that noise levels from the theme park on the developed portion of the project site would be less than 60 dB(A) L_{eq} and not incompatible with the land uses proposed along the eastern portion of the site. As a result, noise impacts from activities at the theme park would be less than significant.

Periodic fireworks displays are expected to continue at the theme park. These displays occur predominantly during holidays and at Thanksgiving and Christmas. With the exception of the display on July 4th, which typically lasts 15 minutes, the displays last between 1 and 2 minutes. All displays occur before 10:00 PM. Fireworks are an impulsive noise source, which means, under Section 12.08.190 of the County's Noise Ordinance*, that it is of short duration, usually less than one second and of high intensity, with an abrupt onset and rapid decay. As a result, potential noise impacts attributable to the fireworks displays are considered less than significant.*

Post-project buildout mobile source noise levels at Travel Village from traffic along State Route (SR) 126 would exceed 70.0 dB(A) Community Noise Equivalent Level (CNEL) at locations where recreational vehicles are inhabited. Pursuant to Mitigation Measure 4.9-14 from the Newhall Ranch Specific Plan Program EIR*, the project applicant is required to construct a noise abatement barrier to reduce noise levels at Travel Village to 70 dB(A) CNEL or less. This wall will be built as part of the proposed Landmark Village project as Landmark Village traffic will contribute to Travel Village noise levels exceeding 70 dB(A) CNEL several years prior to Mission Village traffic.*

2. BACKGROUND

Section 4.9 of the Newhall Ranch Specific Plan Program EIR (Program EIR) identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with noise for the entire

Newhall Ranch Specific Plan (Specific Plan). The Program EIR concluded that Specific Plan implementation would result in significant noise impacts, but that the identified mitigation measures would reduce the impacts to below a level of significance. These mitigation measures were incorporated into a Mitigation Monitoring Plan that was adopted by the County of Los Angeles at the time the Program EIR was certified. Consequently, all subsequent project-specific development plans and tentative subdivision maps for Newhall Ranch must be consistent with the Specific Plan, adopted May 2003, the County of Los Angeles General Plan, the Santa Clarita Valley Areawide Plan, and applicable County regulations as they pertain to noise.

This project-level noise impact analysis is tiered from the previously certified Program EIR. This analysis discusses the existing noise conditions of the Mission Village site, identifies the project's potential environmental impacts and applicable mitigation measures from the Program EIR, and recommends additional noise mitigation specific to the proposed project.

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

Development of Newhall Ranch would occur on a tract-by-tract basis over an estimated 25-year period, and would involve grading of the ground surface and the building of proposed improvements. Noise generated by these construction activities would primarily affect the occupants of residences and other noise-sensitive uses constructed on the Newhall Ranch site in the earlier phases of development. Off-site residences that would be most exposed to construction noise are located along the northern border of Newhall Ranch in the southern portion of Val Verde, and along the southerly border near Westridge, and Stevenson Ranch. The Program EIR concluded that any residential areas that would have an uninterrupted line-of-sight to the construction activity could be exposed to noise levels that would exceed the County's *Noise Ordinance* standards for residential land uses during that time. This was considered to be a significant impact if left unmitigated.

The Program EIR also concluded that noise impacts would result from ongoing activities, including vehicular traffic generated by future uses, as well as human activity on the site itself. Depending on future tract map design, on-site residences and schools could be exposed to roadway and stationary noise levels that would exceed County standards, thereby potentially creating significant on-site noise impacts. At off-site locations in the local vicinity, traffic generated by Newhall Ranch would cause a significant increase in noise levels at Travel Village Recreational Vehicle Park (Travel Village) located along SR-126 and west of Castaic Junction. The analysis concluded that no other significant off-site noise impacts would occur at locations within the City of Santa Clarita or the Counties of Los Angeles or Ventura as a result of traffic generated solely by Newhall Ranch at buildout or as a result of on-site activities within Newhall Ranch.

The Program EIR also determined that noise from cumulative traffic on local roadways due to the buildout of Newhall Ranch and other developments in the Santa Clarita Valley would cause a cumulatively considerable and significant increase in noise levels at Travel Village unless mitigated.

A number of feasible mitigation measures were identified in the Program EIR that would mitigate the Specific Plan's construction and operational noise impacts. These measures include a requirement that all future subdivisions prepare an acoustical analysis assessing project and cumulative noise conditions. Based on the Program EIR and the entire record, the County's Board of Supervisors found that, with implementation of the specified mitigation measures, the significant noise impacts identified in the Program EIR would be mitigated to less than significant.[1]

4. INTRODUCTION TO NOISE AND METHODOLOGY

a. Introduction to Noise

Noise is usually defined as unwanted sound. It is an undesirable by-product of society's normal day-to-day activities. Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, and/or when it has adverse effects on health. The definition of noise as unwanted sound implies that it has an adverse effect on people and their environment.

Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). The human ear does not respond uniformly to sounds at all frequencies; for example, it is less sensitive to low and high frequencies than it is to medium frequencies that more closely correspond with human speech. In response to the sensitivity of the human ear to different frequencies, the A-weighted noise level (or scale), which corresponds more closely with people's subjective judgment of sound levels, has been developed. This A-weighted sound level, referenced in units of dB(A), is measured on a logarithmic scale such that a doubling of sound energy results in a 3.0 dB(A) increase in noise level. In general, changes in a community noise level of less than 3.0 dB(A) are not typically noticed by the human ear.[2] Changes from 3.0 to 5.0 dB(A) may be noticed by some individuals who are extremely sensitive to changes in noise. An increase greater than 5.0 dB(A) is readily noticeable, while the human ear perceives a 10.0 dB(A) increase in sound level to be a doubling of sound.

Noise sources occur in two forms: (1) point sources, such as stationary equipment or individual motor vehicles, and (2) line sources, such as a roadway with a large number of point sources (motor vehicles) operating on it. Sound generated by a point source typically diminishes (attenuates) at a rate of 6.0 dB(A)

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1 See, Mitigation Measures 4.9-1 through 4.9-17 in both the certified Newhall Ranch Program EIR (March 9, 1999) and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

2 U.S. Department of Transportation, Federal Highway Administration, *Highway Noise Fundamentals*, (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980), p. 81.

for each doubling of distance from the source to the receptor at acoustically "hard" sites and 7.5 dB at acoustically "soft" sites.[3] For example, a 60 dB(A) noise level measured at 50 feet from a point source at an acoustically hard site would be 54 dB(A) at 100 feet from the source and 48 dB(A) at 200 feet from the source. Sound generated by a line source typically attenuates (i.e., becomes less) at a rate of 3.0 dB(A) and 4.5 dB(A) per doubling of distance from the source to the receptor for hard and soft sites, respectively.[4] Sound levels can also be attenuated by man-made or natural barriers (e.g., sound walls, berms, ridges), as well as elevational differences, as illustrated in **Figure 4.6-1, Noise Attenuation by Barriers and Elevation Differences**.

Solid walls and berms may reduce noise levels by 5.0 to 10.0 dB(A) depending on their height and distance relative to the noise source and the noise receptor.[5] Sound levels may also be attenuated 3.0 to 5.0 dB(A) by a first row of houses and 1.5 dB(A) for each additional row of houses.[6] The minimum noise attenuation provided by typical building construction in California is provided in **Table 4.6-1, Outside to Inside Noise Attenuation**.

Table 4.6-1
Outside to Inside Noise Attenuation (dB(A))

Building Type	Open Windows	Closed Windows
Residences	17	25
Schools	17	25
Churches	20	30
Hospitals/Convalescent Homes	17	25
Offices	17	25
Theaters	20	30
Hotels/Motels	17	25

Source: Transportation Research Board, National Research Council, Highway Noise: A Design Guide for Highway Engineers, National Cooperative Highway Research Program Report 117.

3 U.S. Department of Transportation, Federal Highway Administration, *Highway Noise Fundamentals*, (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980), p. 97. Examples of "hard" or reflective sites include asphalt, concrete, and hard and sparsely-vegetated soils. Examples of acoustically "soft" or absorptive sites include soft, sand, plowed farmland, grass, crops, heavy ground cover, etc.

4 U.S. Department of Transportation, Federal Highway Administration, *Highway Noise Fundamentals*, (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980), p. 97.

5 U.S. Department of Transportation, Federal Highway Administration, *Highway Noise Mitigation*, (Springfield, Virginia: U.S. Department of Transportation, Federal Highway Administration, September 1980), p. 18.

6 T. M. Barry and J. A. Reagan, *FHWA Highway Traffic Noise Prediction Model*, (Washington D.C.: U.S. Department of Transportation, Federal Highway Administration, Office of Research, Office of Environmental Policy, December 1978), NTIS, FHWA-RD-77-108, p. 33.

When assessing community reaction to noise, there is an obvious need for a scale that averages varying noise exposures over time and that quantifies the result in terms of a single number descriptor. Several scales have been developed that address community noise level. Those that are applicable to this analysis are the Equivalent Noise Level (L_{eq}) and the CNEL. L_{eq} is the average A-weighted sound level measured over a given time interval. L_{eq} can be measured over any time period, but is typically measured for 1-minute, 15-minute, 1-hour, or 24-hour periods. CNEL is another average A-weighted sound level measured over a 24-hour period. However, this noise scale is adjusted to account for some individuals' increased sensitivity to noise levels during the evening and nighttime hours. A CNEL noise measurement is obtained after adding 5.0 decibels to sound levels occurring during the evening from 7:00 PM to 10:00 PM, and 10.0 decibels to sound levels occurring during the nighttime from 10:00 PM to 7:00 AM. The 5.0 and 10.0 decibel adjustments are applied to account for most peoples' increased noise sensitivity during the evening and nighttime hours. The logarithmic effect of adding these noise increase adjustments to the peak hour L_{eq} measurement results in a CNEL measurement that is within approximately 3 dB(A) (plus or minus) of the peak hour L_{eq}.[7]

b. Methodology

The primary concern regarding on-site noise impacts is the potential for proposed on-site land uses to be exposed to noise levels that exceed adopted or recommended noise thresholds (discussed later in this EIR section). The primary concern regarding off-site noise impacts is the potential for project point and mobile source noises to cause an exceedance of adopted or recommended noise thresholds at off-site locations. In essence, the analysis of point and line (mobile) source noise levels deals with the noise compatibility of proposed land uses and activities with other on- and off-site land uses and activities.

(1) Point Source Noise

The determination of future point source noise levels on the project site and in its vicinity is based on available technical reports and literature that are cited throughout this EIR section. Potential point noise sources associated with the project include project construction and day-to-day activities at the site once it is built out. These sources can generate noise either on or off the project site.

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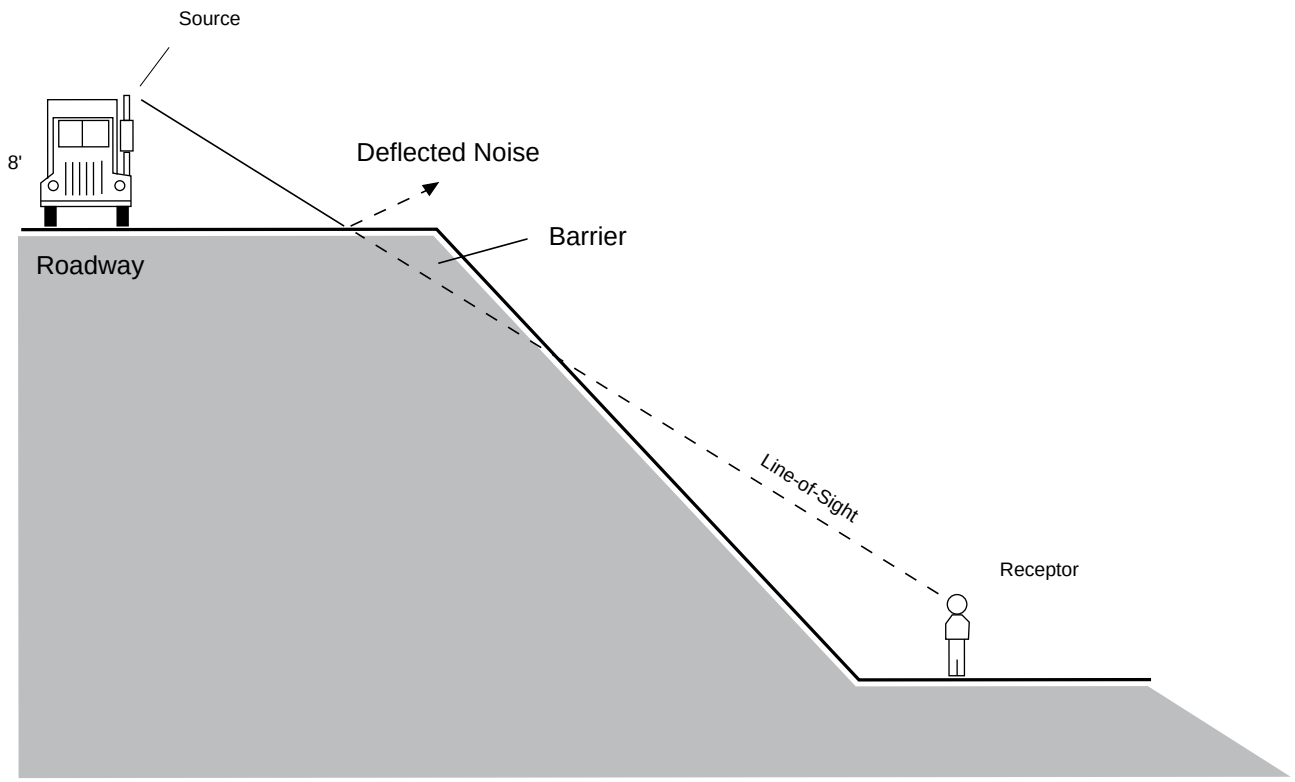
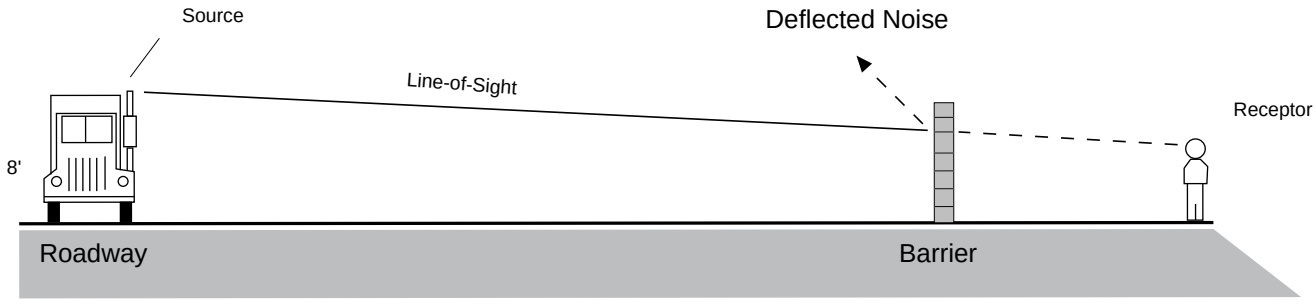
7 California Department of Transportation, *Technical Noise Supplement; A Technical Supplement to the Traffic Noise Analysis Protocol*, (Sacramento, California: October 1998), pp. N51–N54.



"Barrier Effect" Resulting from Differences in Elevation.



"Barrier Effect" Resulting from Typical Soundwall.

SOURCE: Impact Sciences, Inc. – October 2004

FIGURE **4.6-1**

Noise Attenuation by Barriers and Elevation Differences

(2) Mobile Source Noise

(a) On-Site Mobile Source Noise

Future on-site mobile-source noise levels were calculated using the Federal Highway Administration (FHWA) Traffic Noise Model, TNM Version 2.5. TNM is based on a three-dimensional grid created for the modeled area (in this case, the modeled area includes the Mission Village site and its immediate environs). In general, model inputs include future peak hour speeds, volumes, and traffic mix on future extensions of Commerce Center Drive and Magic Mountain Parkway through the site; elevations and geometrics of roadways; distances of proposed on-site noise-sensitive receptors from roadway centerlines and their estimated elevations; "hard" or "soft" site conditions that would affect noise drop off rates; any existing natural or proposed man-made barriers between the roadways and proposed noise-sensitive uses that may attenuate noise; and roadway grade corrections, if necessary.[8]

Proposed alignments for Commerce Center Drive and Magic Mountain Parkway through the site, and locations for proposed noise-sensitive receptors along these roadways were defined using x, y, and z coordinates on a "1 inch = 100 foot" project tract map. On-site traffic noise impacts were calculated utilizing future traffic volumes along Commerce Center Drive and Magic Mountain Parkway at Santa Clarita Valley buildout in order to represent and mitigate for worst-case noise conditions. The project traffic engineer provided peak hour volumes for the project, as well as peak hour vehicle mix. Peak hour speeds based on Level of Service (LOS) C for all roadways, factoring in roadway geometrics, were also provided by the project traffic engineer. The speed at which the traffic would flow under LOS C (i.e., free-flowing) conditions was input into the model. More realistic peak hour speeds during peak hour conditions, however, would not necessarily be at LOS C and would be slower than under free-flowing conditions. The slower the traffic, the lower the noise volumes; therefore, this noise impact analysis conservatively assumes worst-case conditions by assuming peak hour traffic volumes traveling under free-flow conditions.

(b) Off-Site Mobile Source Noise

Future off-site vehicular noise levels at Travel Village RV Park were calculated using the prediction method specified in the FHWA *Highway Traffic Noise Prediction Model* (FHWA-RD-77-108). In general, model inputs include future peak-hour speeds, volumes, and traffic mix on SR-126 through the modeled area[9]; elevations and geometrics of roadways; distances of proposed on-site noise-sensitive receptors from roadway centerlines and their estimated elevations; "hard" or "soft" site conditions that would

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8 TNM Version 2.5 does not account for pavement types and conditions; atypical vehicular noise conditions that do not reflect statewide averages per Calveno; "transparent" shielding such as wood fences and heavy brush or trees; reflections off nearby buildings or structures; and meteorological conditions.

9 Future roadway traffic volume data are from the May 2010 Mission Village traffic report prepared by Austin-Foust Associates, Inc. (see **Appendix 4.5**).

affect noise drop-off rates; any existing natural or proposed constructed barriers between the roadways and proposed noise-sensitive uses that may attenuate noise; and roadway grade corrections, if necessary.[10] The average vehicle noise rates (energy rates) utilized in the FHWA model have been modified by Caltrans to reflect average vehicle noise rates identified for California. The Caltrans data show that California automobile noise is 0.8 to 1.0 dB(A) higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dB(A) lower than national levels.[11]

5. PLANS AND POLICIES FOR NOISE CONTROL

Plans and policies that pertain to the noise conditions affecting and affected by the proposed project include: (1) the County of Los Angeles *Noise Ordinance*, (2) the State of California, Department of Health Services, Environmental Health Division *Guidelines for Noise and Land Use Compatibility*, and (3) the *Guidelines for Noise and Land Use Compatibility* published in the Noise Element of the *City of Santa Clarita General Plan.*

a. County of Los Angeles *Noise Ordinance*

The County of Los Angeles' *Noise Ordinance* identifies exterior noise standards, specific noise restrictions, exemptions, and variances for exterior noise sources. Several of these are applicable to the proposed project and are discussed below.

Noise standards for unincorporated Los Angeles County are those identified in **Table 4.6-2, County of Los Angeles Exterior Noise Standards**, or the ambient noise level,[12] whichever is greater when the ambient noise level is determined without the noise source operating. The *Noise Ordinance* also states that interior noise levels resulting from outside noise sources within residential units shall not exceed 50 dB(A) between 7:00 AM and 10:00 PM, and 45 dB(A) between 10:00 PM and 7:00 AM.[13] As indicated in Section 12.08.370 of the *County Code*, decibel measurements are to be made using an A-weighted scale.

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10 Sound32 does not account for pavement types and conditions; atypical vehicular noise conditions that do not reflect statewide averages per Calveno; "transparent" shielding such as wood fences and heavy brush or trees; reflections off nearby buildings or structures; and meteorological conditions.

11 Rudolf W. Hendriks, *California Vehicle Noise Emission Levels*, (Sacramento, California: California Department of Transportation, January 1987), NTIS, FHWA/CA/TL-87/03.

12 The existing background noise level at the time of measurement or prediction.

13 This requirement is consistent with the California Noise Insulation Standards of 1988 (*California Building Code* Title 24, Section 3501 et seq.), which establishes inter-dwelling (between units in a building) and exterior sound transmission control measures. It requires that interior noise levels from the exterior source be reduced to 45 decibels (dB) or less in any habitable room of a multi-residential use facility (e.g., hotels, motels, dormitories, long-term care facilities, and apartment houses and other dwellings, except detached single-family dwellings). Measurements are based on a day/night average sound level (L_{dn}) or the CNEL. Both L_{dn} and CNEL utilize averaging, not single event exposure.

Table 4.6-2
County of Los Angeles Exterior Noise Standards

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval	Exterior Noise Level dB(A)[1]
I	Noise Sensitive Area[2]	Anytime	45
II	Residential Properties	10:00 PM to 7:00 AM 7:00 AM to 10:00 PM	45 50
III	Commercial Properties	10:00 PM to 7:00 AM 7:00 AM to 10:00 PM	55 60
IV	Industrial Properties	Anytime	70

Source: County of Los Angeles Ordinance No. 11743, section 12.08.390.

1 ***Standard No. 1*** *shall be the exterior noise level which may not be exceeded for a cumulative period of more than 30 minutes in any hour. Standard No. 1 shall be the applicable noise level; or, if the ambient L_{50} exceeds the forgoing level, then the ambient L_{50} becomes the exterior noise level for Standard No. 1.*
Standard No. 2 *shall be the exterior noise level which may not be exceeded for a cumulative period of more than 15 minutes in any hour. Standard No. 2 shall be the applicable noise level from Standard 1 plus 5 dB(A); or, if the ambient L_{25} exceeds the forgoing level, then the ambient L_{25} becomes the exterior noise level for Standard No. 2.*
Standard No. 3 *shall be the exterior noise level which may not be exceeded for a cumulative period of more than 5 minutes in any hour. Standard No. 3 shall be the applicable noise level from Standard 1 plus 10 dB(A); or, if the ambient $L_{8.3}$ exceeds the forgoing level, then the ambient $L_{8.3}$ becomes the exterior noise level for Standard No. 3.*
Standard No. 4 *shall be the exterior noise level which may not be exceeded for a cumulative period of more than 1 minute in any hour. Standard No. 4 shall be the applicable noise level from Standard 1 plus 15 dB(A); or, if the ambient $L_{1.7}$ exceeds the forgoing level, then the ambient $L_{1.7}$ becomes the exterior noise level for Standard No. 4.*
Standard No. 5 *shall be the exterior noise level which may not be exceeded for any period of time. Standard No. 5 shall be the applicable noise level from Standard 1 plus 20 dB(A); or, if the ambient L_0 exceeds the forgoing level, then the ambient L_0 becomes the exterior noise level for Standard No. 5.*

2 *Not defined in the County Noise Ordinance. To be designated by the County Health Officer.*

The *Noise Ordinance* identifies specific restrictions regarding construction noise. The operation of equipment used in construction, drilling, repair, alteration, or demolition work is prohibited between weekday hours of 7:00 PM to 7:00 AM and anytime on Sundays or legal holidays if such noise would create a noise disturbance across a residential or commercial real-property line.[14] The *Noise Ordinance* further states that the contractor shall conduct construction activities in such a manner that the maximum noise levels at the affected buildings will not exceed those listed in **Table 4.6-3, County of Los Angeles Construction Equipment Maximum Noise Levels**. All mobile and stationary internal-combustion-powered equipment and machinery is also required to be equipped with suitable exhaust and air-intake silencers in proper working order.

The County exempts all vehicles of transportation (with a few exemptions) that operate in a legal manner within the public right-of-way, railway, or air space, or on private property, from the standards of the *Noise Ordinance*. The County has no adopted ordinance regulating individual motor vehicle noise levels, as these are regulated by the state.

14 *County of Los Angeles Ordinance No. 11743*, Section 12.08.440. Noise disturbance is not defined in the noise ordinance. The County Health Officer has the authority to define and determine the extent of a noise disturbance on a case-by-case basis.

Table 4.6-3
County of Los Angeles Construction Equipment Maximum Noise Levels

At Residential Structures			
	Single-Family Residential	**Multi-Family Residential**	**Semi-Residential/ Commercial[1]**
Mobile Equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment:			
Daily, except Sundays and legal holidays, 7:00 AM to 8:00 PM	75 dB(A)	80 dB(A)	85 dB(A)
Daily, 8:00 PM to 7:00 AM and all day Sunday and legal holidays	60 dB(A)	64 dB(A)	70 dB(A)
Stationary Equipment. Maximum noise levels for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment.			
Daily, except Sundays and legal holidays, 7:00 AM to 8:00 PM	60 dB(A)	65 dB(A)	70 dB(A)
Daily, 8:00 PM to 7:00 AM and all day Sunday and legal holidays	50 dB(A)	55 dB(A)	60 dB(A)
At Business Structures			
		All Structures	
Mobile Equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation of mobile equipment:			
Daily, including Sunday and legal holidays, all hours		85 dB(A)	

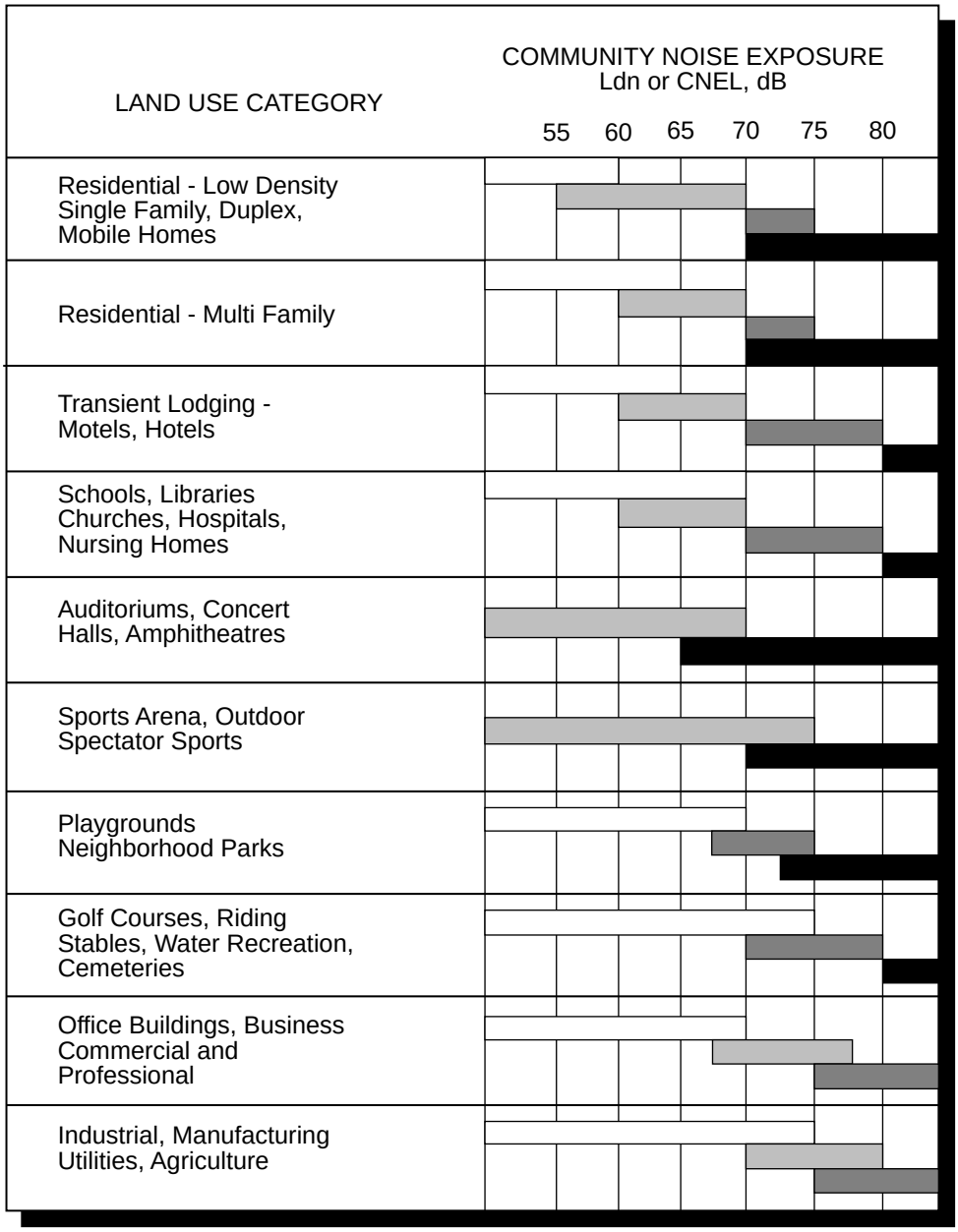
Source: County of Los Angeles Ordinance No. 11743, section 12.08.440.

[1] *Refers to residential structures within a commercial area. This standard does not apply to commercial structures.*

b. California Department of Health Services

The State of California, Department of Health Services, Environmental Health Division, has published recommended guidelines for noise and land use compatibility referred to as the *Guidelines for Noise and Land Use Compatibility* (the *State Guidelines*). The *State Guidelines*, illustrated in **Figure 4.6-2, State Land Use Compatibility Guidelines for Noise**, indicate that residential land uses and other noise-sensitive receptors generally should locate in areas where outdoor ambient noise levels do not exceed 65 to 70 dB(A) (CNEL or L_{dn}). The Department of Health Services does not mandate application of this compatibility matrix to development projects; however, each jurisdiction is required to consider the *State Guidelines* when developing its general plan noise element and when determining acceptable noise levels within its community.[15]

15 The *State Guidelines* are also published by the Governor's Office and Planning and Research in the State of California General Plan Guidelines (2003).



NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise reduction features included in the design.

CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

SOURCE: California Department of Health, Office of Noise Control, Guidelines for the Preparation and Content of Noise Elements of The General Plan, February 1976.

FIGURE **4.6-2**

State Land Use Compatibility Guidelines for Noise

According to the *State Guidelines*, an exterior noise level of 60 dB(A) CNEL is considered to be a "normally acceptable" noise level for single-family, duplex, and mobile homes involving normal, conventional construction, without any special noise insulation requirements. Exterior noise levels up to 65 dB(A) CNEL are typically considered "normally acceptable" for multi-family units and transient lodging without any special noise insulation requirements. Between these values and 70 dB(A) CNEL, exterior noise levels are typically considered "conditionally acceptable," and residential construction should only occur after a detailed analysis of the noise reduction requirements is made and needed noise attenuation features are included in the project design. Exterior noise attenuation features include, but are not limited to, setbacks to place structures outside the conditionally acceptable noise contour, orienting structures so no windows open to the noise source, and/or installing noise barriers, such as berms and/or solid walls. Within a 65 dB(A) CNEL exterior noise environment, interior noise levels will typically be reduced to acceptable levels (to at least 45 dB(A) CNEL) through conventional construction, but with closed windows and fresh air supply systems or air conditioning in order to maintain a comfortable living environment.

Under the *State Guidelines*, an exterior noise level of 70 dB(A) CNEL is typically the dividing line between an acceptable and unacceptable exterior noise environment for all noise-sensitive uses, including schools, libraries, churches, hospitals, day care centers, and nursing homes of conventional construction. Noise levels below 75 dB(A) CNEL are typically acceptable for office and commercial buildings, while levels up to 75 dB(A) CNEL are typically acceptable for industrial uses (for the purposes of this analysis, however, noise impacts will only be evaluated for the noise-sensitive uses that are proposed on the site). In unacceptable interior noise environments, additional noise insulation features, such as extra batting or resilient channels[16] in exterior walls, double-paned windows, air conditioners to enable occupants to keep their windows closed without compromising their comfort, solid wood doors, noise baffles on exterior vents, etc., are typically needed to provide acceptable interior noise levels. The best type of noise insulation is based on detailed acoustical analyses that identifies all practical noise insulation features and that confirms their effectiveness.

c. City of Santa Clarita General Plan Noise Element

The Project Study Area for Mission Village traffic overlies a portion of the City of Santa Clarita; therefore, the City's Noise Element and noise policies are discussed in this impact analysis.

The City has incorporated a modified version of the *State Guidelines* into its Noise Element (pp. N-6 and N-7) and they are used in this impact analysis as standards (measured in dB(A) CNEL) to measure noise

16 A resilient channel is a pre-formed section of sheet metal approximately 0.5 inch deep by 2.5 inches wide by 12 inches long that is installed between wallboard panels and framing to reduce sound transmission through walls. By preventing the wallboard from lying against the studs, the channel inhibits the transmission of sound through the framing.

impacts; therefore, application of these guidelines to project-related noise impacts within the City is appropriate. The guidelines in the City's Noise Element are herein referred to as the *City Guidelines* and are illustrated in **Figure 4.6-3, City of Santa Clarita Guidelines for Noise and Land Use Compatibility**. The Noise Element is herein incorporated by reference and is available for review at the City of Santa Clarita Planning and Building Services Department.

6. EXISTING CONDITIONS

a. Roadway Noise

(1) On-Site Roadway Noise

With the exception of abandoned oil wells and pockets of farmed land, the Mission Village site is undeveloped and maintains no roadways open to the public. Private paved and unpaved roadways traverse the site in order to provide access to the few cultivated fields on the site and to other portions of Newhall Ranch. These roadways carry small amounts of vehicular traffic and do not generate an appreciable amount of noise. Vehicular traffic on SR-126 and Interstate 5 (I-5) is audible on the northernmost and easternmost portions of the site, but it is not a significant or intrusive noise source.

(2) Off-Site Roadway Noise

The off-site noise-sensitive uses in the project study area include the Travel Village RV Park, which fronts SR-126 and is located to the west of the Mission Village site, and the Val Verde community located just north of the Newhall Ranch Specific Plan site along Chiquito Canyon Road. In addition, there are residential uses located along Westridge Parkway and Valencia Boulevard, which could be affected by the project.

Twenty-four hour noise measurements at Travel Village RV Park demonstrate that the existing noise level at the RV Park is approximately 68.5 dB(A) CNEL (refer to **Appendix 4.6** for noise measurement output data). Locations further from the roadway, such as the residences in the Val Verde community, would have substantially lower noise levels.

Based on noise modeling, noise levels in the area of the residential land uses along Westridge Parkway north of Valencia Parkway is estimated to be approximately 57 dB(A) CNEL, and along Valencia Boulevard east of Westridge Boulevard is estimated to be approximately 65 dB(A) CNEL. These levels do not exceed the normally unacceptable levels (i.e., 75 dB(A) CNEL for residential land uses).

b. Point Sources of Noise

(1) On-Site Sources of Noise

With the exception of the few agricultural activities on the site, there are no other sources of noise on the site. Existing on-site agricultural operations generate very little on-site noise. What noise is generated by equipment, when it is operating on the tract map site, is largely masked by highway noise. Equipment that may be operating on the northern edge of the project site may be temporarily audible at Travel Village.

(2) Off-Site Sources of Noise

Magic Mountain Theme Park to the immediate east of the project site operates year-round, with most park activities taking place during the summer months. With a few exceptions, the park closes by 10:00 PM, but may remain open as late as 1:00 AM. Maintenance activities occur at the site both after closure and before opening hours.

Audible noise along the project site boundary is from the I-5, SR-126, activities at the theme park (including routine maintenance when the park is closed), and other activities that take place in the vicinity. Existing ambient noise levels at the project site were measured at seven locations along the eastern site boundary over six weekends from May to July of 2005 using Larson Model 720 sound level meters, which satisfy the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. The sound meters were equipped with an omni-directional microphone, calibrated before the day's measurements, and set at 5 feet above ground. Weather conditions were clear with little to no wind.[17]

Existing noise levels monitored during this period reflect roadway traffic, park operations with short duration nighttime fireworks displays, park maintenance activities, and other activities occurring in the project vicinity and that contributed to the ambient noise levels. As shown in **Figure 4.6-4, On-Site Noise Contours**, the 60 dB(A) L_{eq} contour extends from 40 to 300 feet onto the Mission Village property. The 60 dB(A) CNEL contour extends from 110 to 825 feet onto the project site (this latter CNEL contour does not take existing topography east of Station 4 into account, which may diffract and reflect sound waves).

Periodic fireworks displays are permitted at the adjacent Magic Mountain Theme Park through the County of Los Angeles, and they are expected to continue at this location in the long term. These displays occur predominantly during holidays and at Thanksgiving and Christmas. With the exception of the

[17] There has been no new development in the vicinity of the project site since the noise measurements were taken in 2005 that would result in a perceptible increase in ambient noise levels.

display on July 4th, which typically lasts 15 minutes, the displays last between 1 and 2 minutes. All displays occur before 10:00 PM. Fireworks are an impulsive noise source, which means, under Section 12.08.190 of the County's *Noise Ordinance*, that it is of short duration, usually less than one second and of high intensity, with an abrupt onset and rapid decay.

Additional 24-hour noise monitoring in September 2005 was conducted at three locations along the eastern portion of the project site in order to capture the maximum L_{eq} (L_{max}) from the fireworks at the theme park. The monitoring locations are shown in **Figure 4.6-5, On-Site Noise Monitoring Locations**. Results of the monitoring indicate that maximum instantaneous on-site noise levels on the eastern portion of the project site range from 93 to 97 dB(A) L_{max} during fireworks displays. These noise levels drop off rapidly to an average hourly L_{eq} that is at least 20 decibels less than the L_{max}.

7. PROJECT IMPACTS

a. Significance Threshold Criteria

According to Appendix G of the *State CEQA Guidelines*, a project would have a significant noise impact if it would:

(a) expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

(b) expose persons to or generate excessive ground borne vibration or ground borne noise levels;

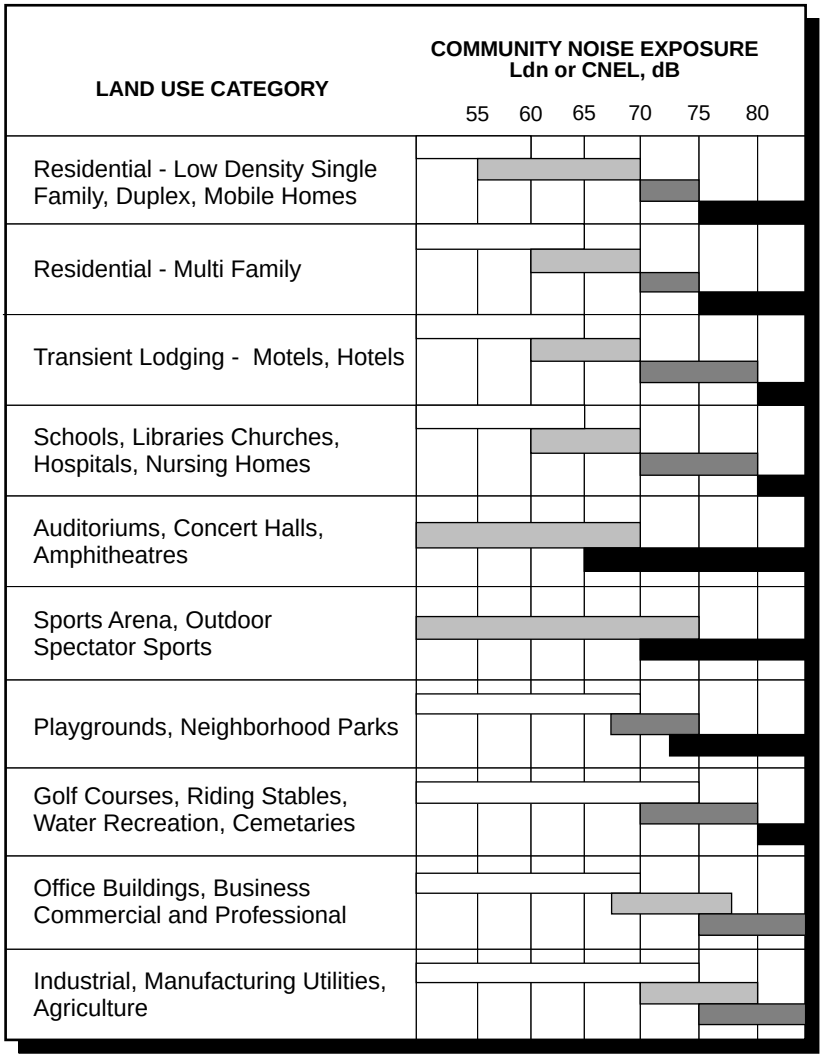
(c) result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

(d) result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;

(e) for a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels; and/or

(f) for a project within the vicinity of a private airstrip, would expose people residing or working in the project area to excessive noise levels.[18]

[18] The project site is not located within an airport land use plan, nor is it located within 2 miles of a public or public-use airport, or within the vicinity of a private airstrip. Therefore, criteria (e) and (f) do not apply to the proposed project.



NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new constuction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise reduction features included in the design.

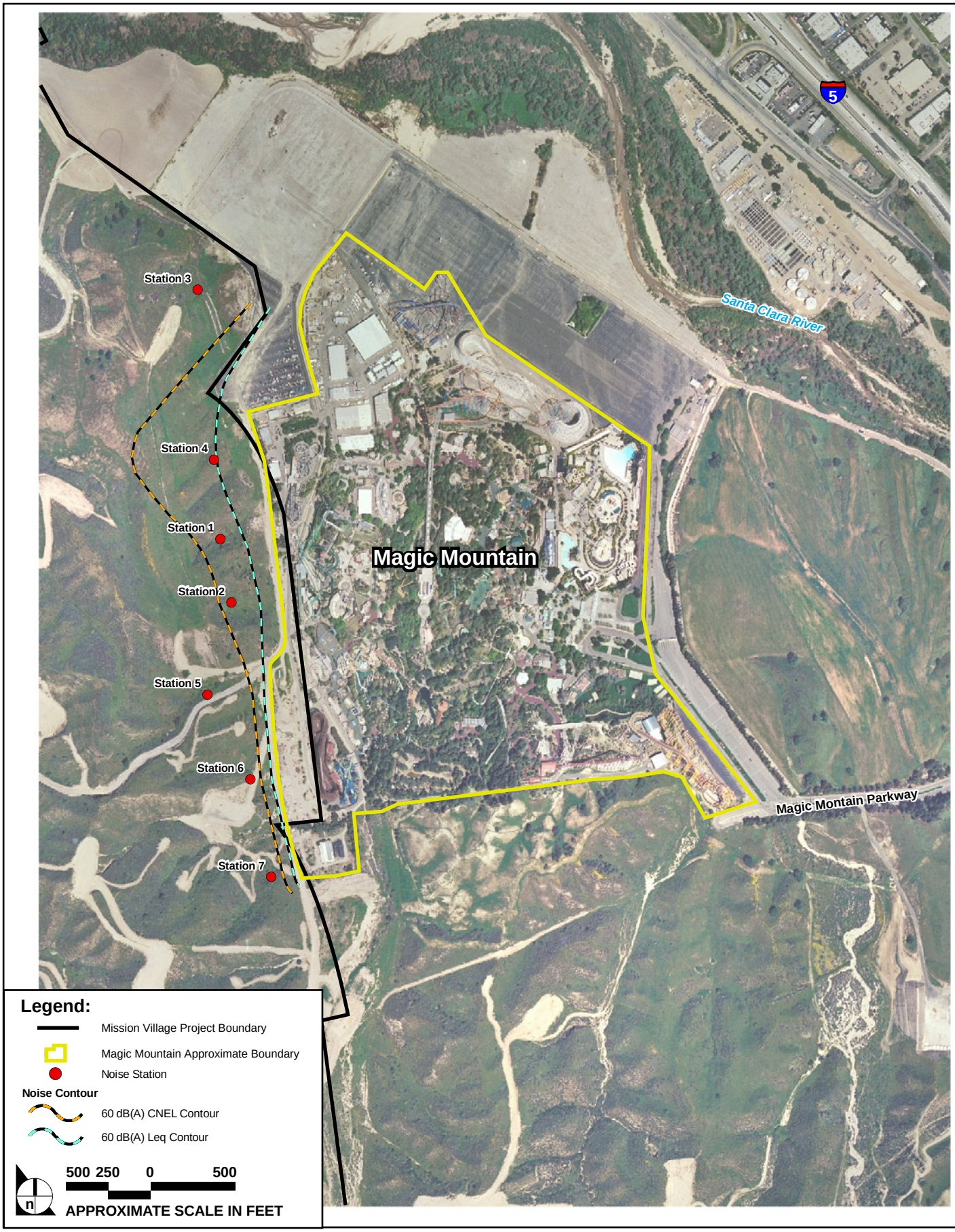
CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

SOURCE: City of Santa Clarita General Plan Noise Element (May 23, 2000) Exhibit N-2

FIGURE **4.6-3**

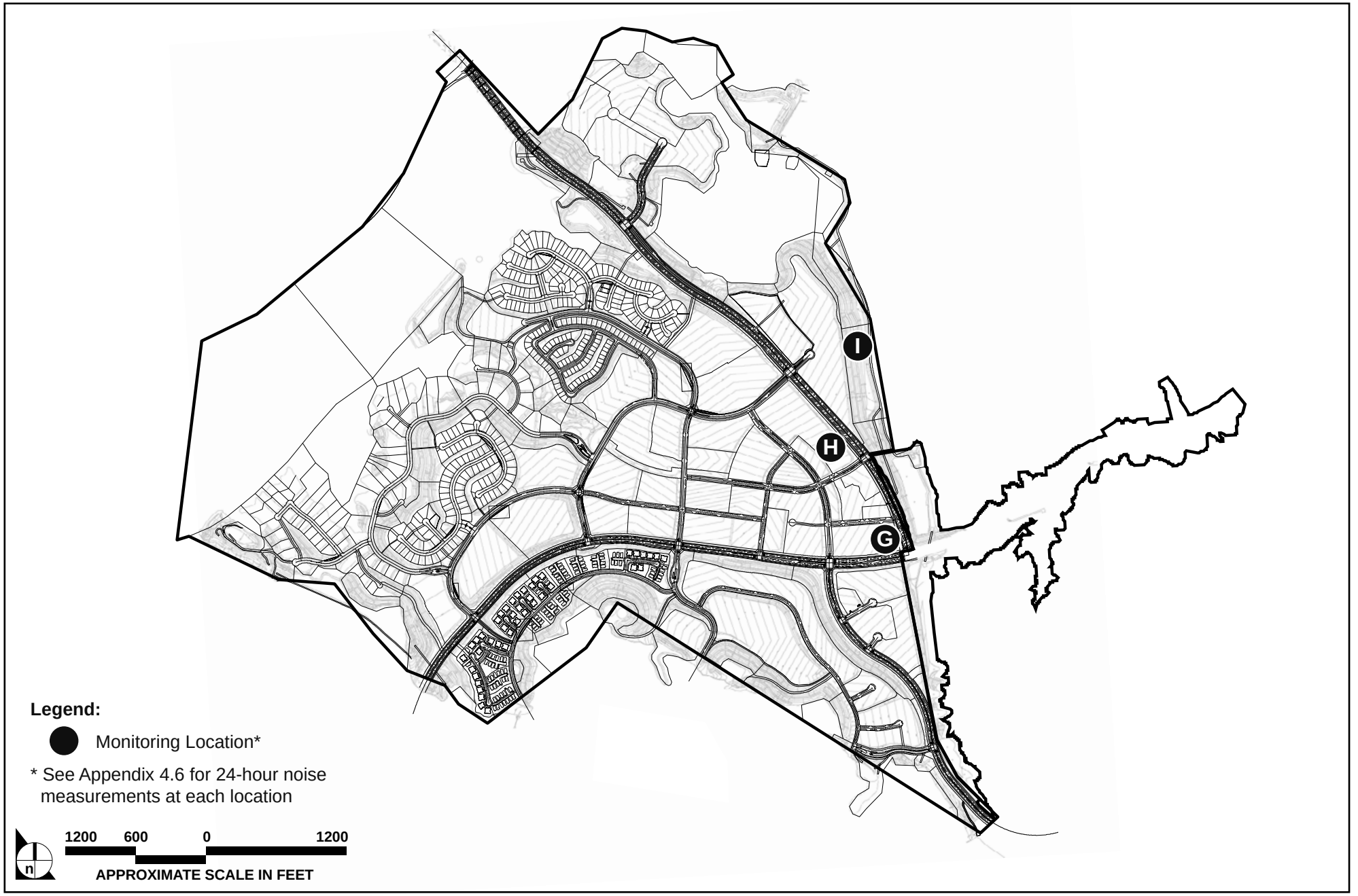
City of Santa Clarita Guidelines for Noise and Land Use Compatibility



SOURCE: AirPhoto USA – 2003, Impact Sciences, Inc. – August 2010

FIGURE **4.6-4**

On-Site Noise Contours



SOURCE: Impact Sciences, Inc. – May 2010

FIGURE **4.6-5**

On-Site Noise Monitoring Locations

(1) Construction Noise Significance Thresholds

Project construction noise is not expected to be audible on properties located within the City of Santa Clarita, but there is potential for construction noise to be audible at on- and off-site locations in unincorporated Los Angeles County. Therefore, if occupants of the proposed project or occupants of off-site uses were to be subject to project-related construction noise levels in excess of the County's *Noise Ordinance* standards for construction noise, a significant construction noise impact would occur. For mobile source equipment, the significance threshold is 75 dB(A) for single-family residences, 80 dB(A) for multi-family residences and 85 dB(A) for residences in commercial areas, every day, except Sundays and legal holidays, 7:00 AM to 8:00 PM. At all other times, the noise thresholds for these uses would be 60, 64, and 70 dB(A), respectively. For stationary source equipment, the threshold is 60 dB(A) for single-family residences, 65 dB(A) for multi-family residences and 70 dB(A) for residences in commercial areas, every day, except Sundays and legal holidays, 7:00 AM to 8:00 PM. At all other times, the noise thresholds for these uses would be 50, 55, and 60 dB(A), respectively. Because the duration of most construction activities at on-site locations is unknown, the more restrictive long-term noise levels are applied to all construction activities whether the activities are considered short- or long-term under the *Noise Ordinance*.

With respect to ground borne vibration caused by construction activities, Section 12.08.560 of the County's *Noise Ordinance* governs vibration:

> *Operating or permitting the operation of any device that creates vibration which is above the vibration perception threshold of any individual at or beyond the property boundary of the source if on private property, or at 150 feet (46 meters) from the source if on a public space or public right-of-way is prohibited. The perception threshold shall be a motion velocity of 0.01 inches/second over the range of 1 to 199 Hertz. (Ord. 11778 Section 2 [Art. 5 Section 501 (d)], 1978; Ord 11773 Section 2 [Art. 5 Section 501(s)], 1978.)*

Under Section 12.08.560, the project would result in a significant vibration impact if the vibration exceeds a motion velocity of 0.01 inch/second over the range of 1 to 199 Hertz.

(2) Operational Noise Significance Thresholds

(a) On-Site Significance Thresholds

A significant on-site noise impact would occur if on-site exterior frequent use areas[19] for noise-sensitive receptors were to be exposed to noise levels above the normally acceptable levels identified in the

[19] A frequent use area is an exterior location in which people would congregate for recreation or other purposes. Frequent use areas include backyards of single-family residences, recreation areas in condominium and apartment complexes, active or passive recreational areas in parks, play areas at schools, and specified areas of other uses, such as churches.

Guidelines for Noise and Land Use Compatibility utilized by the County (i.e., 60 dB(A) CNEL for single-family, 65 dB(A) CNEL for multi-family, and 70 dB(A) CNEL for schools and parks uses as identified in **Figure 4.6-2**). Residences located within mixed-use/commercial areas would not have an exterior frequent use area (e.g., backyards or parks); therefore, the interior standard of 45 dB(A) would apply as a threshold of significance for those uses. Finally, if occupants of the proposed project were to be subject to noise levels originating on or off the site, which are above County *Noise Ordinance* standards identified in **Table 4.6-2** and **Table 4.6-3** for the types of uses proposed, a significant on-site noise impact would occur.

(b) Off-Site Significance Thresholds

Off-site noise impacts are determined based upon consideration of the *Guidelines for Noise and Land Use Compatibility* for uses located within unincorporated Los Angeles County, *City of Santa Clarita Guidelines for Noise and Land Use Compatibility* for uses located within the City of Santa Clarita, and community responses to changes in noise levels. Changes in a noise level of less than 3 dB(A) are not typically noticed by the human ear. Changes from 3 to 5 dB(A) may be noticed by some individuals who are extremely sensitive to changes in noise. A 5 dB(A) increase is readily noticeable. Based on this information, significant off-site noise impacts would occur when project-related activities result in increased noise levels, triggering the following criteria:

- An increase of 5 dB(A) or greater in noise level occurs from project-related activities if levels remain within the same land use compatibility classification (e.g., noise levels remain within the normally acceptable range); or
- An increase of 3 dB(A) or greater in noise level occurs from project-related activities which results in a change in land use compatibility classification (e.g., noise levels change from normally acceptable to conditionally acceptable); or
- Any perceptible increase in noise levels where existing noise levels are already considered unacceptable under the *Guideline.*

The potential impacts of the proposed project relative to construction noise and operational noise are addressed separately below. To the extent feasible, construction and operation of the proposed project will be conducted in conformance with applicable noise requirements contained in Title 12 of the Los Angeles County Code.

b. Construction Noise Impacts

As discussed below, noise generated in connection with construction of the Mission Village tract map site would be attributed to either stationary or mobile construction equipment, including either source noise or transport noise.

(1) Construction Equipment Source Noise

Project development activities would primarily include site preparation (grading and excavation) and construction of internal roadways and other infrastructure, driveways, and structures. Approximately 29.5 million cubic yards of earthen material would be graded on site in a balanced cut and fill operation. These activities typically involve the use of heavy equipment, such as haul trucks, scrapers, tractors, loaders, concrete mixers, cranes, etc. Trucks would also be used to deliver equipment and building materials, and to haul away waste materials. Smaller equipment, such as jackhammers, pneumatic tools, saws, and hammers would also be used throughout the site during the construction phases. In addition, piles may be driven into the Santa Clara Riverbed during the construction of the Commerce Center Drive Bridge. This equipment would generate both steady state and episodic noise that would be heard both on and off the project site.

The U.S. Environmental Protection Agency (U.S. EPA) has compiled data on the noise-generating characteristics of specific types of construction equipment. These data are presented in **Figure 4.6-6, Noise Levels of Typical Construction Equipment**. As shown, noise levels generated by heavy equipment can range from approximately 68 dB(A) to noise levels in excess of 100 dB(A) when measured at a distance of 50 feet from the noise source. However, these noise levels would diminish rapidly with distance from the construction site at a rate of approximately 6.0 to 7.5 dB(A) per doubling of distance for hard and soft sites, respectively. For example, assuming a "hard" site, a noise level of 68 dB(A) measured at 50 feet from the noise source to the receptor would reduce to 62 dB(A) at 100 feet from the source to the receptor, and further reduce by another 6.0 dB(A) to 56 dB(A) at 200 feet from the source to the receptor.

Construction activities associated with the development of a project site typically occur in four stages. In general, the first and noisiest stage is site preparation, which usually involves earth moving, utility installation and street construction. High noise levels created during this phase would be associated with the operation of heavy-duty equipment, such as trucks, scrapers, graders, backhoes, and front-end loaders. When construction equipment is operating, noise levels can range from 73 to 96 dB(A) at a distance of 50 feet from individual pieces of equipment. During the second stage of construction, foundation forms are constructed and concrete foundations are poured. Primary noise sources include heavy concrete trucks and mixers, cranes, and pneumatic drills. At 50 feet from the source, noise levels in the 70 to 90 dB(A) range are common.

The third and fourth stages of construction consist of interior and exterior building construction, and site cleanup. Primary noise sources associated with the third stage include hammering, diesel generators, compressors, and light truck traffic. Noise levels are typically in the 60 to 80 dB(A) range at a distance of 50 feet. The final stages typically involve the use of trucks, landscape rollers, and compactors, with noise levels in the 65 to 75 dB(A) range.

Noise levels generated during the construction stages would primarily affect the occupants of on-site uses constructed in the project's earlier development stages and possibly occupants of Travel Village when construction occurs on the northernmost portion of the Mission Village project site.[20] Travel Village is located approximately 1,000 feet from the nearest proposed graded area on the project site (the southern bridge abutment). Assuming the operation of a tractor with a noise level of 95 dB(A) at 50 feet at the southern bridge abutment, the noise level at the westernmost (i.e., nearest) boundary of Travel Village would be between 67 and 70 dB(A) assuming an attenuation rate of 6.0 decibels per doubling of distance. Occupants of Travel Village located further away would experience less noise due to their greater distance from the construction operations and any intervening structures that may exist between them and the noise source. With regard to other off-site noise-sensitive uses located within the project vicinity, at its closest point, the Mission Village site is over 1 mile from the nearest residence located north of the Specific Plan site along Chiquito Canyon Road in the community of Val Verde. On-site construction noise would not likely be audible at this location because of the distance between the site and this area, traffic noise along existing roadways that would "drown" out construction noise, and intervening topography.

The *Noise Ordinance* (as presented in **Table 4.6-3**) does not include maximum permitted construction noise levels for transient occupancy (i.e., Travel Village), but does specify a maximum permitted daily construction noise level for semi-residential/commercial uses of 85 dB(A) for mobile equipment and 70 dB(A) for stationary equipment, between the hours of 7:00 AM and 8:00 PM, except on Sundays. Given that the *Noise Ordinance* maximum permitted noise levels are greater than projected construction noise levels at Travel Village (i.e., mobile equipment noise levels are estimated at between 67 and 70 dB(A) relative to a 85 dB(A) maximum permitted daily noise level), no significant construction noise impacts to Travel Village are anticipated.

With respect to on-site noise-sensitive uses constructed during the earlier phases of development, assuming that peak construction site noise is 95 dB(A) measured 50 feet from a noise source or combination of noise sources, construction activities within approximately 3,000 feet of single-family residences could exceed the 60 dB(A) stationary equipment long-term construction threshold. Construction activities within 1,600 feet of multi-family residences would have the potential to exceed the 65 dB(A) threshold. Therefore, on-site construction activities could cause the *Noise Ordinance* standards to be exceeded for an extended period of time at on-site residential uses constructed during the earlier phases of project construction. These construction noise impacts are considered potentially significant without mitigation for such on-site areas.

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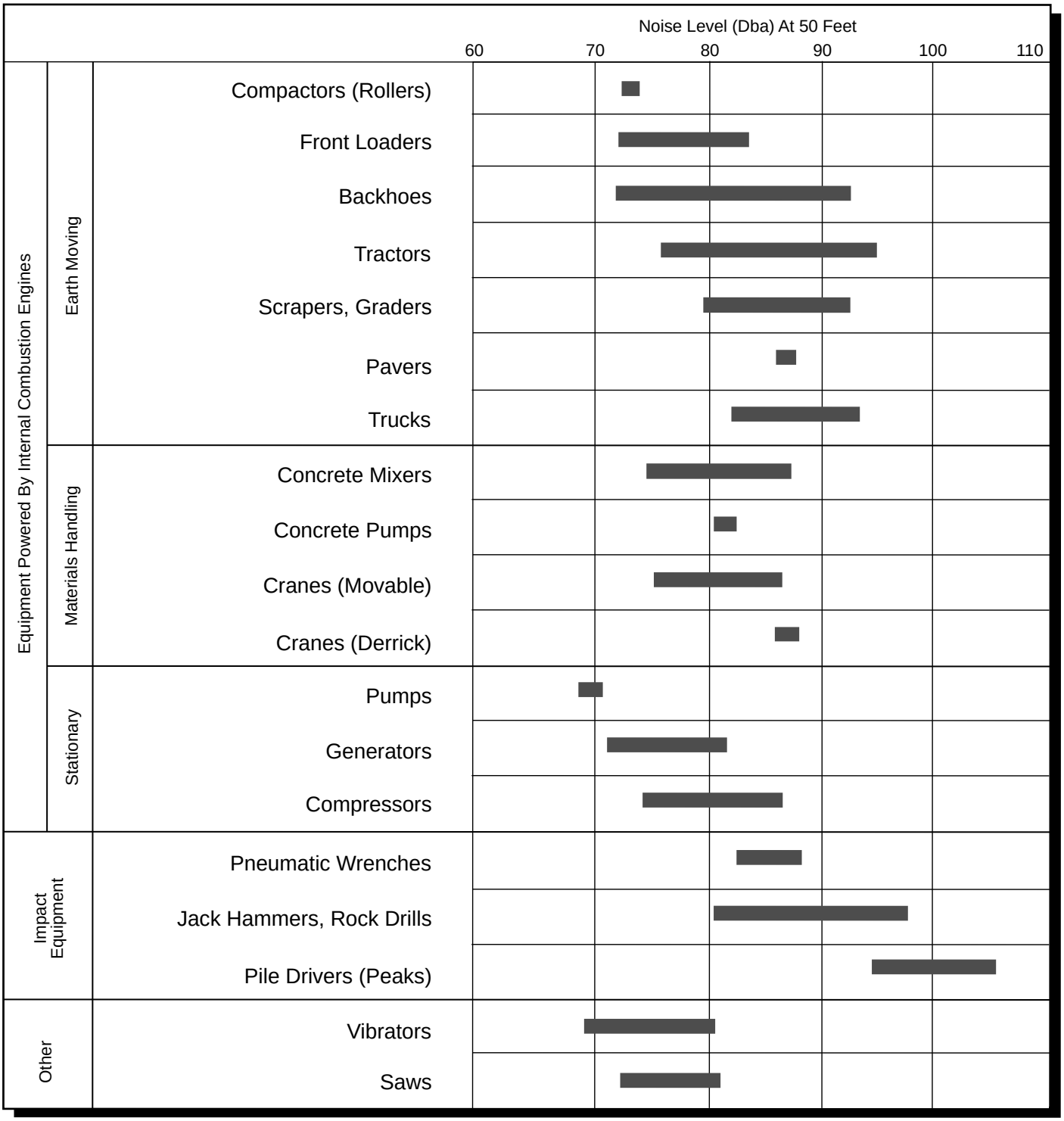
20 Construction activities along the eastern site boundary could be audible at Magic Mountain Theme Park during off-hours. Magic Mountain Theme Park is not a noise-sensitive receptor and construction noise impacts at the theme park would be less than significant.



Note: Based On Limited Available Data Samples.

SOURCE: United States Environmental Protection Agency, 1971, "Noise From Construction Equipment And Operations, Building Equipment, And Home Appliances," Ntid 300-1.

FIGURE **4.6-6**

Noise Levels of Typical Construction Equipment

On-site grading would occur within 100 feet of Tract 45433 (Westridge) and Westridge Parkway would be extended from this tract through Mission Village where it would terminate on site at its intersection with Magic Mountain Parkway. Noise from nearby grading operations and construction of the Westridge Parkway extension would be clearly audible within Westridge and nearby residents of Westridge would be periodically exposed to temporary noise levels that could exceed the County's *Noise Ordinance* limits, which would be a significant impact. Building construction noise within Mission Village would not likely be audible in more easterly portions of Westridge or in Stevenson Ranch because of the distance between the construction and these developments, and because of intervening topography.

Construction of the proposed Commerce Center Drive Bridge may involve pile driving, which is considered a stationary noise source and subject to stationary construction equipment noise source standards of the County *Noise Ordinance* (i.e., 60 and 65 dB(A) for single and multi-family residences, respectively, daily from 7:00 AM to 8:00 PM except Sundays and legal holidays). Pile driving could generate noise levels of approximately 105 dB(A) at 50 feet, as well as ground borne vibration for a period of approximately 9 to 12 months during Phase 4 of the project construction. The bridge is likely to be constructed after residences have been occupied within Mission Village; therefore, noise from the pile driving would be audible at on-site uses constructed during the earlier phases of the project. Noise levels could exceed the County's *Noise Ordinance* for as much as 4,000 feet away from the source assuming no noise attenuation due to intervening terrain or structures. As previously noted, Travel Village is located approximately 1,000 feet from the southern bridge abutment; however, the bridge itself is within 300 feet of Travel Village at its closest point. Due to the proximity of Travel Village to the pile driving activities, pile driving would be clearly audible at Travel Village and noise levels from the pile driving would exceed the County *Noise Ordinance* limitations at this location. Therefore, pile driving noise impacts, should they occur, would be significant for single and multi-family residences within a 4,000-foot radius for the duration of the pile driving unless mitigated. No other off-site noise-sensitive land uses occur within this 4,000-foot radius.

Vibration of the ground would be perceptible during pile driving. The machinery used to drive the piles generates vibrations which would travel away from the source in a radial pattern. Transmission of vibrations from a pile-driving source may be annoying to occupants and damaging to nearby structures, and/or may interfere with the operation of sensitive instruments.

Typical pile depths for bridge foundations in the type of alluvium found in the Santa Clara River are on the order of approximately 150 feet and the influence distance from the source will be up to approximately 500 feet. It is expected that, for the duration of pile driving, the vibration threshold set forth in Section 12.08.560 of County's *Noise Ordinance* would be exceeded. This section states,

> *Operating or permitting the operation of any device that creates vibration which is above the vibration perception threshold of any individual at or beyond the property boundary of the source if on private property, or at 150 feet (46 meters) from the source if on a public space or public right-of-way is prohibited. The perception threshold shall be a motion velocity of 0.01 inches/second over the range of 1 to 199 Hertz. (Ord. 11778 Section 2 [Art. 5 Section 501 (d)], 1978; Ord 11773 Section 2 [Art. 5 Section 501(s)], 1978.)*

Because the vibration would likely exceed the County's *Noise Ordinance* in the area surrounding the pile driving, a significant vibration impact would result at Travel Village if pile driving occurs within 500 feet of its boundary unless mitigated. No on-site uses are proposed within 500 feet of the southern bridge abutment; therefore, no significant pile driving vibration impacts would occur within the project site. No other existing or proposed uses occur within 500 feet of the northern bridge abutment and pile driving vibration associated with construction of the northern abutment would be less than significant.

No other sources of excessive ground-borne vibration are expected to occur as a result of the proposed project.

In order to reduce the potential impacts associated with construction activities, the County Department of Public Works, Construction Division typically limits construction activities to between the hours of 6:30 AM and 8:00 PM daily and prohibits work on Sundays and legal holidays. The County Department of Health Services has the authority to further restrict construction activities to between the hours of 7:00 AM and 7:00 PM and any time on Sundays or legal holidays if such noise would create a noise disturbance across a residential or commercial real-property line.[21] These restrictions do not, however, necessarily mitigate construction noise that would be in excess of the *Noise Ordinance*. When the noise is projected to be in excess of the *Noise Ordinance*, further mitigation is required.

(2) Construction Equipment Transport Noise

Heavy-duty construction traffic is expected to access the site via Magic Mountain Parkway from the east. After the Commerce Center Drive Bridge is constructed, construction traffic would also access the site from Commerce Center Drive. No noise-sensitive receptors exist along Magic Mountain Parkway east of the project site; therefore, construction traffic along this roadway would not result in a significant noise impact. After Commerce Center Drive is constructed and construction traffic occurs on that roadway, the construction traffic would be audible to occupants of Travel Village. Heavy-duty trucks that would be used to move construction equipment onto the project site typically have a noise level of approximately

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21 *County of Los Angeles Ordinance No. 11743*, section 12.08.440. Noise disturbance is not defined in the noise ordinance. The County Health Officer has the authority to define and determine the extent of a noise disturbance on a case-by-case basis.

93 dB(A) at 50 feet.[22] Off-site sensitive receptors along the truck routes that would have a direct line of sight to the trucks would experience temporary, instantaneous noise levels up to 93 dB(A) at 50 feet from the roadway. Receptors located further away would experience less noise due to their greater distance from the roadway and to any intervening topography and/or structures that may exist between them and the noise source. Because the main pieces of heavy equipment would be moved onto and off the project site just once for each construction phase, this noise impact would be temporary and instantaneous in nature as the trucks pass by sensitive receptors. Truck traffic noise experienced at the receptor locations would diminish rapidly as the trucks travel away from them. In short, heavy duty truck traffic associated with this project would be periodic and restricted to daytime hours, is expected to travel primarily along highways and major arterials where few noise-sensitive uses are located, is not expected to traverse through residential areas or past sensitive receptors for extended periods of time, and would generate noise levels similar in nature to existing vehicle noise along SR-126 and I-5 and other major arterials in the Santa Clarita Valley. As such, short-term construction truck traffic would not result in a substantial temporary or periodic increase in ambient noise levels along the traversed roadways, and, therefore, would not result in a significant noise impact.

Although the daily transportation of construction workers is expected to cause some increases in noise levels along roadways in the project study area, this traffic, which would be largely comprised of passenger vehicles and light pick-up trucks, would not represent a substantial percentage of daily volumes in the area and would not increase existing noise levels by more than 3 dB(A). Therefore, construction-worker traffic noise would not be audible above existing traffic noise levels and would be less than significant. (See **Section 4.5, Traffic/Access**, for additional information regarding construction worker vehicle trips.)

c. Operational Noise Impacts

As the project builds out, on- and off-site noise impacts would result from project-generated traffic, as well as from human activity on the project site itself. This would result in potential impacts to proposed on-site uses from roadway noise, potential impacts to existing off-site uses from roadway noise, and potential impacts to on-site uses from on- and off-site noise sources. Each of these potential noise impacts is discussed separately below.

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22 United States Environmental Protection Agency, *Noise From Construction Equipment and Operations, Building Equipment, and Home Appliances* (NTID 300-1), (Washington, D.C.: United States Environmental Protection Agency), 1971.

(1) Roadway Noise Impacts

(a) Impacts to On-Site Uses from Roadway Noise

As stated in **Section 4.5, Traffic/Access**, of this EIR, the proposed project is projected to generate approximately 58,452 average daily trips (ADT) when completed and fully operational. Post-project on-site traffic noise levels were calculated using TNM Version 2.5, while off-site traffic noise levels for off-site noise-sensitive receptors were calculated using the FHWA *Highway Traffic Noise Prediction Model*.[23] Roadway noise impacts on the Mission Village site were calculated using long-range traffic volumes based on project buildout and buildout of the surrounding area. Additionally, in order to assess on-site impacts, it was necessary for the analysis to assume the completion of Commerce Center Drive and Magic Mountain Parkway through the project site. Since Magic Mountain Parkway and Commerce Center Drive will carry a substantial amount of through-traffic (i.e., non-project traffic) through the project site, this scenario depicts the worst-case traffic noise conditions which would occur on the project site at 2021 buildout.

Findings of the TNM analysis for proposed project conditions are presented in **Table 4.6-4**, **On-Site Noise Levels Under Proposed Project at Santa Clarita Valley Buildout**. The modeling analyzed a range of locations along studied roadways. Specifically, multiple noise receptors were plotted on future proposed single family, condominium, apartment/condominium, and Mixed-Use Commercial lots along Commerce Center Drive and Magic Mountain Parkway within Mission Village. The noise values shown for the multi-family and Mixed Use Commercial lots represent average projected noise levels.

Although residences within lots designated for Mixed Use Commercial would not have a frequent use area to which a noise threshold from the *State Guidelines* would apply, this impact analysis employs a 65 dB(A) CNEL threshold for these residences as a worst-case scenario. With conventional construction, the interior noise environment of 45 dB(A) CNEL would be achieved under this threshold.

Table 4.6-4 demonstrates that several sensitive land uses proposed along or in close proximity to these roadways would and could be exposed to traffic noise levels in excess of the *State Guidelines* (i.e., traffic noise levels would exceed 60 dB(A) CNEL for single-family residences, and 65 dB(A) for multi-family residences). Therefore, the proposed project would result in potentially significant noise impacts to the identified on-site sensitive uses absent mitigation.

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23 As previously discussed, the FHWA *Highway Noise Prediction Model* calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in the FHWA model have been modified by the California Department of Transportation (Caltrans) to reflect average vehicle noise rates identified for California.

The elementary school site, which does not abut either Commerce Center Drive or Magic Mountain Parkway, is not within a 70 dB(A) CNEL or greater contour. Noise levels at the school site would be well within normally acceptable noise levels.

Table 4.6-4
On-Site Noise Levels Under Proposed Project
at Santa Clarita Valley Buildout

Lot No.[1]	Proposed Land Use	TOS (CNEL)[2]	Predominant Vehicular Noise Source	Predicted CNEL	Exceeds TOS By (dB)
6	Single-Family Residential	60	Commerce Center Drive	50	
8	Single-Family Residential	60	Commerce Center Drive	51	
10	Single-Family Residential	60	Commerce Center Drive	52	
12	Single-Family Residential	60	Commerce Center Drive	53	
14	Single-Family Residential	60	Commerce Center Drive	53	
16	Single-Family Residential	60	Commerce Center Drive	46	
18	Single-Family Residential	60	Commerce Center Drive	48	
19	Single-Family Residential	60	Commerce Center Drive	48	
75	Single-Family Residential	60	Commerce Center Drive	53	
77	Single-Family Residential	60	Commerce Center Drive	55	
79	Single-Family Residential	60	Commerce Center Drive	55	
81	Single-Family Residential	60	Commerce Center Drive	54	
83	Single-Family Residential	60	Commerce Center Drive	59	
86	Single-Family Residential	60	Commerce Center Drive	62*	2
88	Single-Family Residential	60	Commerce Center Drive	51	
114	Single-Family Residential	60	Commerce Center Drive	50	
115	Single-Family Residential	60	Commerce Center Drive	54	
116	Single-Family Residential	60	Commerce Center Drive	59	
117	Single-Family Residential	60	Commerce Center Drive	53	
161	Condominium	65	Commerce Center Drive	64	
162	Condominium	65	Commerce Center Drive	65	
361	Condominium	65	Magic Mountain Pkwy	62	
380	Condominium	65	Magic Mountain Pkwy	55	
384	Condominium	65	Magic Mountain Pkwy	60	
397	Condominium	65	Magic Mountain Pkwy	59	
398	Condominium	65	Magic Mountain Pkwy	61	
399	Condominium	65	Magic Mountain Pkwy	61	
400	Condominium	65	Magic Mountain Pkwy	64	
401	Condominium	65	Magic Mountain Pkwy	63	
403	Condominium	65	Magic Mountain Pkwy	63	
434	Condominium	65	Commerce Center Drive	60	
468	Apartment/Condominium	65	Commerce Center Drive	52	

Lot No.[1]	Proposed Land Use	TOS (CNEL)[2]	Predominant Vehicular Noise Source	Predicted CNEL	Exceeds TOS By (dB)
468	Condominium	65	Commerce Center Drive	65	
468	Apartment/Condominium	65	Commerce Center Drive	67*	2
469	Park	70	Commerce Center Drive	68	
480	Mixed-Use Commercial/Fire Station	65	Magic Mountain Pkwy	63	
508	Mixed-Use Commercial	65	Magic Mountain Pkwy Commerce Center Drive	66*	1
508	Mixed-Use Commercial	65	Magic Mountain Pkwy	67*	2
511	Condominium	65	Commerce Center Drive	64	
512	Apartment/Condominium	65	Commerce Center Drive	66*	1
513	Apartment/Condominium	65	Magic Mountain Pkwy	65	
514	Apartment/Condominium	65	Magic Mountain Pkwy	64	
514	Apartment/Condominium	65	Magic Mountain Pkwy	63	
519	Apartment/Condominium	65	Commerce Center Drive	63	
520	Apartment/Condominium	65	Commerce Center Drive	63	
528	Condominium	65	Commerce Center Drive	64	
528	Condominium	65	Commerce Center Drive	65	

*Source: Impact Sciences, Inc. Noise calculations are presented in **Appendix 4.6** of this EIR.*
TOS – threshold of significance
[1] *The single family lots shown in this table are representative of nearby lots with similar distances to the roadway centerline, elevation, and terrain. For instance, Lots 85 and 87 are geographically and geometrically similar to Lot 86 and would experience similar noise impacts to Lot 86.*
[2] *The traffic noise threshold of significance for Mixed-Use Commercial is 65 dB(A) CNEL because there is potential for multi-family uses to occur within this category. If there is no multi-family land uses in the mixed use commercial land use then the threshold is 70 dB(A) (CNEL*
* *Noise level would exceed the normally acceptable levels unless mitigated.*

(b) Impacts to Off-Site Uses from Roadway Noise

Travel Village RV Park and residential uses located along Westridge Parkway and Valencia Boulevard are the only off-site noise-sensitive uses located within the Project traffic impact analysis study area[24] that could potentially be significantly impacted by project-generated traffic noise. Potential noise increases at Travel Village and residential use along Westridge Parkway and Valencia Boulevard due to future on-site activities and the addition of project-related traffic were modeled both with and without the project's traffic volumes to determine if the project would cause a significant noise impact at these locations.

[24] The geographic limits of the Project Study Area are defined in the *Mission Village Traffic Impact Analysis* (August 2010) provided in **Appendix 4.5** of this EIR.

(1) Travel Village RV Park

The impact of Mission Village traffic on the existing Travel Village RV Park is represented by the difference between noise generated by the traffic volumes on SR-126 west of Commerce Center under existing conditions and at project buildout. Approximately 3,000 project trips[25] would pass by the RV Park at project buildout. The addition of the project's 3,000 trips to this roadway segment would increase the existing noise level at the RV Park from 68.5 dB(A) CNEL to 69.4 dB(A) CNEL, which would be a 0.9 decibel increase and is considered to be less than significant.

Without the proposed project, the Year 2021 noise level at Travel Village would be 72.0 dB(A) CNEL at 120 feet from the highway centerline. Adding the project's 3,000 trips to this segment of SR-126 would increase the noise level at this location to 72.3 dB(A) CNEL, which represents a 0.3-decibel increase. Because noise levels at the RV park would be in excess of normally acceptable noise levels under the *State Guidelines* without the project, the 0.3-decibel project-related noise increase at the RV Park would contribute to a significant impact. Because the noise level at the RV park would be greater than 70 dB(A) CNEL by 2021, the project is required to mitigate the noise impact on the RV Park under Mitigation Measure 4.9-14 of the Newhall Ranch Specific Plan Program EIR.

(2) Westridge Parkway and Valencia Boulevard Residential Uses

Approximately 6,000 project trips would pass by the existing residential uses along Westridge Parkway north of Valencia Boulevard at project buildout. The addition of the project's 6,000 trips to this roadway segment would increase the existing noise levels at these residential locations from 56.9 dB(A) CNEL to 60.9 dB(A) CNEL, and Year 2021 noise levels from 56.3 dB(A) CNEL to 60.7 dB(A). These noise level increases under both scenarios would be less than 5 dB(A) and would not result in existing land uses being exposed to levels above what is considered unacceptable under the *State Guidelines*. Therefore, potential noise impacts are considered to be less than significant.

Approximately 5,000 project trips would pass by the existing residential uses along Valencia Boulevard east of Westridge Parkway at project buildout. The addition of the project's 5,000 trips to this roadway segment would increase the existing noise levels at these locations from 64.9 dB(A) CNEL to 66.6 dB(A) CNEL, and would increase Year 2021 from 66.6 dB(A) CNEL to 67.3 dB(A) CNEL. The noise level increases under both scenarios would be less than 3 dB(A) and would not result in existing land uses being exposed to levels above what is considered unacceptable under the *State Guidelines*. Therefore, potential noise impacts are considered to be less than significant.

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25 *Mission Village Traffic Impact Analysis* (August 2010) provided in **Appendix 4.5** of this EIR.

(3) Ventura County

With respect to noise impacts along roadway segments in Ventura County, the Mission Village project would generate approximately 187 ADTs that would travel to and from Ventura County on SR-126 between the County line and the City of Fillmore, with 14 of those ADT continuing travel south from Fillmore on SR-23 to the City of Moorpark.[26] West of the City of Fillmore, project traffic would be primarily distributed further along SR-126 and along State Route 23 (SR-23).[27] The Program EIR examined two noise-sensitive locations within 100 feet of these roadways in Ventura County: the Santa Clara School (the Little Red School House) along SR-126, and single-family homes north of Casey Road in Moorpark along SR-23. While there are other sensitive locations along these roadways, these two locations are worst-case representations of *all* noise-sensitive receptors located in close proximity to these highway segments. The Program EIR indicates that the 1,038 ADTs generated by the entire Newhall Ranch project that would travel to Ventura County would increase future noise levels along SR-126 between Newhall Ranch and Fillmore by 0.9 dB(A) CNEL (and less along SR-23), which is less than the threshold of significance of 3.0 dB(A) and, therefore, the entire Newhall Ranch project would not result in a perceptible increase in traffic noise. Given that Mission Village traffic volumes on SR-126 and SR-23 would be considerably less than those generated by the entire Newhall Ranch project along these roadways, the noise impact of Mission Village traffic also would be less than significant. Nonetheless, Mission Village is required to mitigate noise impacts on specific sensitive receptors in Ventura County under Mitigation Measures 4.9-15 and 4.9-16 of the Program EIR.

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26 The Specific Plan Program EIR determined, based on application of the *Ventura County Traffic Model*, that the Newhall Ranch Specific Plan, at full buildout, would generate approximately 1,038 ADTs on SR-126 entering Ventura County. (See, Draft Additional Analysis to the Newhall Ranch Specific Plan and Water Reclamation Plant Final EIR, Appendix 2.1, *Newhall Ranch Supplemental Traffic Analysis, Ventura County Impact Analysis* (February 2001) (*Supplemental Ventura Analysis*), pp. 12, 19.) Approximately 835 of these ADT would continue westward on SR-126 past Sycamore Road and the Santa Clara School (Little Red School House). (*Supplemental Ventura Analysis*, p. 12.) The Program EIR also determined that 78 of the 1,038 total ADT would turn south on SR-23, and pass north of the intersection with Casey Road to the City of Moorpark. (*Supplemental Ventura Analysis*, p. 12.)

Specific to Mission Village, the project would generate approximately 58,452 ADTs, which represents approximately 18 percent of the 334,000 total ADTs that would be generated with buildout of the Specific Plan. (See, *Supplemental Ventura Analysis,* p. 23.) Therefore, of the 1,038 Specific Plan ADTs to be generated on SR-126, 18 percent, or 187 ADTs, would be attributable to the Mission Village project. Of the 835 Specific Plan ADT traveling past the Little Red School House, 18 percent, or 150 ADT, would be attributable to Mission Village, and, of the 78 Specific Plan ADT traveling south on SR-23 to Moorpark, 18 percent, or 14 ADT, would be attributable to Mission Village.

27 Any project-related contribution of traffic to other roadways in Ventura County would be extremely limited and would not have the potential to result in a significant traffic noise impact.

(2) Other Noise Source Impacts

(a) Impacts to On- and Off-Site Uses from On-Site Noise Sources

Future residents of Mission Village would generate and be exposed to a variety of noise sources common to residential communities, including people talking, doors slamming, parking lot cleaning, air conditioning units, lawn care equipment, stereos, domestic animals, etc. These noise sources contribute to the ambient noise levels experienced in all similarly developed areas and typically do not exceed the noise standards for the types of land uses proposed. Furthermore, given the distance between Travel Village and the proposed on-site uses (approximately 1,500 feet), project-related noise from Mission Village would not exceed ambient traffic noise levels at Travel Village and, therefore, would not be audible at that location.

Future residents in proximity to the proposed mixed-use/commercial, school, park and other recreational uses would detect short-term and instantaneous noise associated with human activity, such as people talking, children playing, school bells, car doors slamming, auto alarms, tires squealing, etc. These noise levels could be considered an annoyance if they were to occur during nighttime/early morning hours (i.e., between 10:00 PM and 7:00 AM); however, most of these activities are not expected to occur at these hours, and would not typically exceed the County *Noise Ordinance* standards identified in **Table 4.6-2**. As a result, these noise sources would not result in a significant impact at locations on or off the Mission Village site.

Other point source noises from the mixed-use/commercial uses proposed on the site and the school would be from air conditioning units, delivery trucks, garbage trucks, and parking areas in close proximity to residential uses. Loading dock activities at the mixed-use/commercial uses would also occur briefly and intermittently throughout most days, including during early morning hours. In addition, noise would be generated through the use of parking lot vacuums and other facility-cleaning activities. Section 12.08.460 of the County *Noise Ordinance* prohibits the loading, unloading, opening, closing, or other handling of boxes, crates, containers, building materials, garbage cans or similar objects between the hours of 10:00 PM and 6:00 AM in such a manner as to cause a noise disturbance; however, parking lot and facility cleaning can occur during the late night or early morning hours when parking lots are empty. The Mission Village project has been designed in such a way that lots designated for a noise-sensitive use would not directly abut a commercial use or other uses that could be considered a noise nuisance; nonetheless, nighttime activities at non-residential uses could be considered an annoyance, or even significant impacts if they exceed the County *Noise Ordinance* standards identified in **Table 4.6-2** and are not mitigated.

Point sources of noise from the community center could be generated from ball fields used during evening hours by the school and/or intramural events that could last for more than several hours. Noises typical of such uses would be from parking lots, participants, observers, etc. No loudspeakers or competitive sports events would occur within the community center. Proposed land uses surrounding the community center include the elementary school to the north; multifamily to the east, south, and west; and a park to the west. Noise levels from activities at the community center would not exceed the County *Noise Ordinance* and would not result in a significant impact.

(b) Impacts to On-Site Uses from Off-Site Noise Sources

As previously discussed, the 60 dB(A) L_{eq} contour from the Magic Mountain Theme Park extends from 40 to 300 feet onto the Mission Village property line, and the 60 dB(A) CNEL contour extends from 110 to 825 feet onto the project site. The CNEL contour does not take existing topography east of Station 4 into account, which may diffract and reflect sound waves. Future site grading would also affect the configuration of this contour; however, it is not expected that activities to the east of the site that contribute to these noise levels would result in a significant noise impact on noise-sensitive receptors proposed on the eastern edge of Mission Village. Noise from Magic Mountain Theme Park would be audible to receptors on the eastern edge of Mission Village during park operations; however, the sound levels would remain less than 65 dB(A) CNEL, which is the lowest threshold of significance for the land uses proposed on the eastern portion of the project site (i.e., apartments, park, and mixed use commercial). Given the thresholds identified above, noise impacts from activities at the theme park generally would be less than significant. However, periodic fireworks displays permitted at the park by the County of Los Angeles are expected to continue in the long term. As indicated above, maximum on-site noise levels on the eastern portion of the project site range from 93 to 97 dB(A) L_{max} during fireworks displays. These noise levels are instantaneous and decay rapidly such that the L_{eq} for the hour in which the fireworks occurs is more than 20 decibels less than that L_{max} (see monitored noise levels in **Appendix 4.6** of this EIR).

No applicable threshold of significance exists for the impact that the impulsive noise that the permitted fireworks displays would have on the project site. For some future residents along the eastern edge of the project, regular and visible short-term fireworks displays may be desirable. Noise from fireworks may be considered a nuisance by other residents, particularly if the displays are not visible from their residences. Mitigation is, therefore, suggested in this EIR section to ensure that future occupants of the project are aware that fireworks displays periodically occur at Magic Mountain Theme Park and that they may be audible on the eastern portion of the site. No other off-site sources of noise are audible at the Mission Village site.

8. MITIGATION MEASURES

Although the proposed Mission Village project may result in potentially significant noise impacts absent mitigation, the County has already imposed mitigation measures required to be implemented as part of the Newhall Ranch Specific Plan that would reduce some of the identified impacts. These mitigation measures, as they relate to noise, are found in the previously certified Program EIR (March 8, 1999) and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003) and are reproduced below. In addition, this EIR identifies recommended mitigation measures specific to the Mission Village project site. The project applicant has committed to implementing the applicable mitigation measures from the Newhall Ranch Specific Plan and will implement the additional mitigation measures recommended for the proposed Mission Village project to ensure that future development of the project site would not result in potentially significant noise impacts, and would not adversely affect adjacent properties.

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as they Relate to the Mission Village Project

The following mitigation measures (SP 4.9-1 through 4.9-17) were adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). The applicable mitigation measures would be implemented to mitigate the potentially significant noise impacts associated with the proposed Mission Village project.

(1) Construction Mitigation Measures

SP 4.9-1 All construction activity occurring on the Newhall Ranch Specific Plan site shall adhere to the requirements of the "County of Los Angeles Construction Equipment Noise Standards," County of Los Angeles Ordinance No. 11743, §12.08.440 as identified in [Specific Plan Program EIR] Table 4.9-3.

SP 4.9-2 Limit all construction activities near occupied residences to between the hours of 6:30 AM and 8:00 PM, and exclude all Sundays and legal holidays pursuant to County Department of Public Works, Construction Division standards.

SP 4.9-3 When construction operations occur adjacent to occupied residential areas, implement appropriate additional noise reduction measures that include changing the location of stationary construction equipment, shutting off idling equipment, notifying adjacent residences in advance of construction work, and installing temporary acoustic barriers around stationary construction noise sources.

SP 4.9-4 Locate construction staging areas on site to maximize the distance between staging areas and occupied residential areas.

(2) Operational Mitigation Measures

SP 4.9-5 Where new single-family residential buildings are to be constructed within an exterior noise contour of 60 dB(A) CNEL or greater, or where any multi-family buildings are to be constructed within an exterior noise contour of 65 dB(A) CNEL or greater, an acoustic analysis shall be completed prior to approval of building permits. The acoustical analysis shall show that the building is designed so that interior noise levels resulting from outside sources will be no greater than 45 dB(A) CNEL. *(The noise impacts analysis presented in this EIR* ***Section 4.6****, and the information contained in* ***Appendix 4.6****, provide the acoustical analysis required by this mitigation measure.)*

SP 4.9-6 For single-family residential lots located within the 60 dB(A) CNEL or greater noise contour, an acoustic analysis shall be submitted prior to tentative approval of the subdivision. The acoustic analysis shall show that exterior noise in outdoor living areas (e.g., back yards, patios, etc.) will be reduced to 60 dB(A) CNEL or less. *(The noise impacts analysis presented in this EIR* ***Section 4.6****, and the information contained in* ***Appendix 4.6****, provide the acoustical analysis required by this mitigation measure.)*

SP 4.9-7 For multi-family residential lots located within the 65 dB(A) CNEL or greater noise contour, an acoustic analysis shall be submitted prior to tentative approval of the subdivision. The acoustic analysis shall show that exterior noise in outdoor living areas (e.g., back yards, patios, etc.) will be reduced to 65 dB(A) CNEL or less. (*The noise impacts analysis presented in this EIR* ***Section 4.6****, and the information contained in* ***Appendix 4.6****, provide the acoustical analysis required by this mitigation measure.*)

SP 4.9-8 For school sites located within the 70 dB(A) CNEL or greater noise contour, an acoustic analysis shall be submitted prior to tentative approval of the subdivision. The acoustic analysis shall show that noise at exterior play areas will be reduced to 70 dB(A) CNEL or less. *(The noise impacts analysis presented in this EIR* ***Section 4.6****, and the information contained in* ***Appendix 4.6****, provide the acoustical analysis required by this mitigation measure.)*

SP 4.9-9 All residential air conditioning equipment installed within the Newhall Ranch Specific Plan site shall adhere to the requirements of the County of Los Angeles Residential Air Conditioning and Refrigeration Noise Standards, County of Los Angeles Ordinance No. 11743, §12.08.530.

SP 4.9-10 All stationary and point sources of noise occurring on the Newhall Ranch Specific Plan site shall adhere to the requirements of the County of Los Angeles Ordinance No. 11743, §12.08.390 as identified in [Specific Plan Program EIR] Table 4.9-2, County of Los Angeles Exterior Noise Standards for Stationary and Point Noise Sources.

SP 4.9-11 Loading, unloading, opening, closing, or other handling of boxes, crates, containers, building materials, garbage cans or similar objects between the hours of 10:00 PM and 6:00 AM in such a manner as to cause a noise disturbance is prohibited in accordance with the County of Los Angeles Ordinance No. 11743, §12.08.460.

SP 4.9-12 Loading zones and trash receptacles in commercial and Business Park areas shall be located away from adjacent residential areas, or provide attenuation so that noise levels at residential uses do not exceed the standards identified in §12.08.460 of the Ordinance No. 11743.

SP 4.9-13 Where residential lots are located with direct lines of sight to the Magic Mountain Theme Park, an acoustic analysis shall be submitted to show that exterior noise on the residential lots generated by activities at the park do not exceed the standards identified in §12.08.390 of the Ordinance No. 11743 as identified in Table 4.9-2, County of Los Angeles Exterior Noise Standards for Stationary and Point Noise Sources. *(The noise impacts analysis presented in this EIR* ***Section 4.6****, and the information contained in* ***Appendix 4.6****, provide the acoustical analysis required by this mitigation measure.)*

SP 4.9-14 After the time that occupancy of uses on the Newhall Ranch Specific Plan site occurs, AND when noise levels at Travel Village reach 70 dB(A) CNEL at locations where recreational vehicles are inhabited, the applicant shall construct a noise abatement barrier to reduce noise levels at Travel Village to 70 dB(A) CNEL or less. *(The noise impacts analysis presented in this EIR* ***Section 4.6*** *determined that Year 2013 roadway noise levels at Travel Village would exceed 70 dB(A) CNEL with project buildout. However, the noise impacts analysis presented in the Landmark Village EIR Section 4.8 determined that, with buildout of the Landmark Village project, roadway noise levels at Travel Village would exceed 70 dB(A) CNEL in the year 2010, approximately three years before the Mission Village project will trigger such levels. Therefore, it is expected that the requirements of this mitigation measure will be triggered with development of the Landmark Village project. This mitigation measure may or may not be applicable depending upon approval of other Newhall Ranch Specific Plan subdivisions in process.*

SP 4.9-15 Despite the absence of a significant impact, applicants for all building permits of Residential, Mixed-Use, Commercial, and Business Park land uses (Project) shall pay to the Santa Clara Elementary School District, prior to issuance of building permits, the Project's pro rata share of the cost of a sound wall to be located between SR-126 and the Little Red School House. The Project's pro rata share shall be determined by multiplying the estimated cost of the sound wall by the ratio of the project's estimated contribution of average daily trips on SR-126 (ADT) at the Little Red School House (numerator) to the total projected cumulative ADT increase at that location (denominator).[28] The total projected cumulative ADT increase shall be determined by subtracting the existing trips on SR-126[29] from the projected cumulative trips as shown in Table 1 of Topical Response 5 – Traffic Impacts to State and Local Roads in Ventura County after adding the total Newhall Ranch ADT traveling west of the City of Fillmore. *(The applicant will pay its pro-rata fee prior to the issuance of building permits in accordance with this mitigation measure.)*

SP 4.9-16 Despite the absence of a significant impact, the applicant for all building permits of Residential, Mixed-Use, Commercial and Business Park land uses (Project) shall participate on a fair-share basis in noise attenuation programs developed and implemented by the City of Moorpark to attenuate vehicular noise on SR-23 just north of Casey Road for the existing single-family homes which front SR-23. The mitigation criteria shall be to reduce noise levels to satisfy State noise compatibility standards. The Project's pro rata share shall be determined by multiplying the estimated cost of attenuation by the ratio of the project's estimated contribution of average daily trips on SR-23 (ADT) north of the intersection of SR-23 and Casey Road (numerator) to the total

28 Cost of Sound Wall X (Project ADT on SR-126 @ LRSH*/Total Projected Cumulative ADT Increase on SR-126 @ LRSH*) * LRSH = Little Red School House.

29 25,165 ADT using linear extrapolation from Table 1 of Topical Response 5 – Traffic Impacts to State and Local Roads in Ventura County.

projected cumulative ADT increase at that location (denominator).[30] The total projected cumulative ADT increase shall be determined by subtracting the existing trips on SR-23 north of Casey Road[31] from the projected cumulative trips as shown in Topical Response 5 – Traffic Impacts of the Program EIR to State and Local Roads in Ventura County after adding the total Newhall Ranch ADT traveling south of the City of Fillmore. *(The applicant will pay its pro-rata fee prior to the issuance of building permits in accordance with this mitigation measure.)*

SP 4.9-17 Prior to the approval of any subdivision map which permits construction within the Specific Plan area, the applicant for that map shall prepare an acoustical analysis assessing project and cumulative development (including an existing plus project analysis, and an existing plus cumulative development analysis including the project). The acoustical analysis shall be based upon state noise land use compatibility criteria and shall be approved by the Los Angeles County Department of Health Services. *(The noise impacts analysis presented in this EIR* ***Section 4.6****, and the information contained in* ***Appendix 4.6****, provide the acoustical analysis required by this mitigation measure.)*

In order to mitigate any future impacts resulting from the project's contribution to significant cumulative noise impacts to development in existence as of the adoption of the Newhall Ranch Specific Plan and caused by vehicular traffic on off-site roadways, the applicant for building permits of Residential, Mixed-Use, Commercial, Visitor Serving and Business Park land uses shall, prior to issuance of building permits, pay a fee to Los Angeles County, Ventura County, the City of Fillmore or the City of Santa Clarita. The amount of the fee shall be the project's fair-share under any jurisdiction-wide or Santa Clarita Valley-wide noise programs adopted by any of the above jurisdictions. *(The proposed Mission Village project would contribute to a significant cumulative noise impact to the Travel Village Recreational Vehicle Park; however, the project would not contribute to significant cumulative noise impacts to other development in existence as of the adoption of the Newhall Ranch Specific Plan and caused by vehicular traffic on off-site roadways. Mitigation Measure SP 4.9-14 requires that the project applicant construct a noise abatement barrier to reduce noise levels at Travel Village to 70 dB(A) CNEL or less. Because the noise abatement barrier would mitigate the identified significant impact, no further mitigation is required. In addition, the mitigation measure is not applicable because neither Los Angeles County nor the City of Santa Clarita has adopted a countywide or citywide noise program.)*

b. Additional Mitigation Measures Recommended by this EIR

The following project-specific mitigation measures are recommended to mitigate the potentially significant noise impacts that are projected to occur with implementation of the Mission Village project. These mitigation measures are in addition to those adopted in the previously certified *Newhall Ranch* Program EIR. To distinguish between these and the mitigation measures required of Newhall Ranch, measures specific to the Mission Village project are preceded by "MV" (e.g., "MV 4.6-1"):

30 Cost of mitigation x (Project ADT on SR-23 north of Casey Road/Total Projected cumulative ADT Increase on SR-23 north of Casey Road).

31 ADT using linear extrapolation from Table 1 of Topical Response 5 – Traffic Impacts to State and Local Roads in Ventura County.

(1) Construction Mitigation Measures

MV 4.6-1 The project applicant, or its designee, shall not undertake construction activities that can generate noise levels in excess of the County's *Noise Ordinance* on Sundays or legal holidays.

MV 4.6-2 When construction operations occur in close proximity to on- or off-site occupied residences, and if it is determined by County staff during routine construction site inspections that the construction equipment could generate a noise level at the residences that would be in excess of the *Noise Ordinance*, the project applicant, or its designee, shall implement appropriate additional noise reduction measures. These measures shall include, among other things, changing the location of stationary construction equipment, shutting off idling equipment, notifying residents in advance of construction work, and installing temporary acoustic barriers around stationary construction noise sources.

MV 4.6-3 To the extent feasible, the project developer shall utilize cast-in-drilled-hole piles in lieu of pile driving if residential units are constructed within 4,000 feet of the Commerce Center Drive Bridge prior to any pile-driving activity.

Pile drilling is an alternate method of pile installation where a hole is drilled into the ground up to the required elevations and concrete is then cast into it. The estimated noise level of pile drilling at 50 feet is 80 to 95 dB(A) L_{eq} compared to 90 to 105 dB(A) L_{eq} of conventional pile driving.[32] Therefore, pile drilling generally produces noise levels approximately 10 to 15 decibels lower than pile driving.

MV 4.6-4 If pile driving is necessary for the Commerce Center Drive Bridge construction, the project applicant shall, to the extent feasible, reduce the level of vibration impact by:

- identifying all uses in the vicinity that may be adversely affected by the vibrations, including Travel Village, residences built in earlier phases of Mission Village, non-residential land uses that may use vibration-sensitive equipment, etc.; and
- installing seismographs at the aforementioned sensitive locations to ensure that Section 12.08.560 of the County's *Noise Ordinance* is not exceeded, and/or that the pile driving would not cause structural damage or adversely affect vibration-sensitive equipment; and
- adjusting vibration amplitudes of the pile driving on the conditions of the affected structures, the sensitivity of equipment, and/or human tolerance.

(2) Operational Mitigation Measures

MV 4.6-5 To mitigate the noise impacts on Lots 85, 86, and 87 (Area A2) (single-family residential) that back onto Commerce Center Drive from traffic on the proposed Commerce Center Drive extension through the site, the project applicant shall, prior to occupancy, construct

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32 U.S. Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, December 1971.

a 5-foot solid wall along the rear lot lines of these lots. The wall may be constructed of 3/8 or 5/8-inch Plexiglas or other material of similar acoustic performance, and shall be continuous with no breaks or gaps.

MV 4.6-6 To mitigate the noise impacts on Lot 468 (Area D1) (apartment/condominium) from traffic on the proposed Commerce Center Drive extension through the site, the project applicant shall, prior to occupancy, construct a 5-foot berm/solid wall along the property line that abuts Commerce Center Drive. Alternatively, the project applicant shall place planned frequent use areas in the interior of the lot and separated from the roadway by structures.

MV 4.6-7 To mitigate the noise impacts on Lot 508 (Mixed Use Commercial) from traffic on the proposed Commerce Center Drive extension through the site, the project applicant shall place planned frequent use areas for the residential component, if any, in the interior of the lot and separated from the roadway by structures. Alternatively, if residential uses are proposed, the project applicant shall construct a 5-foot berm/solid wall along the property line that abuts Commerce Center Drive.

MV 4.6-8 To mitigate the noise impacts on Lot 512 (Mixed Use Residential/Commercial) from traffic on the proposed Magic Mountian Parkway extension through the site, the project applicant shall place planned frequent use areas for the residential component in the interior of the lot and separated from the roadway by structures. Alternatively, the project applicant shall construct a 5-foot berm/solid wall along the property line that abuts Commerce Center Drive.

With implementation of **Mitigation Measure MV 4.6-5**, noise impacts on Lots 85, 86, and 87 would be reduced to 60 dB(A) CNEL or less, and with implementation of **Mitigation Measure MV 4.6-6** noise impacts on Lot 468 would be reduced to 65 dB(A) CNEL or less with the 5-foot wall in place, and less than significant. Because sound walls for commercial uses are not practical or desirable, noise levels on some of the lots designated for Mixed-Use Residential/Commercial (such as Lot 512) would exceed 65 dB(A) CNEL, which is the maximum acceptable exterior noise level for frequent use areas at multi-family residences. Therefore, the following mitigation measure is recommended to reduce on-site operational noise impacts on multi-family residences that could occur in Mixed-Use lots to less than significant.

MV 4.6-9 When the final plans for the Mixed-use Residential/Commercial lots are complete showing the locations and orientations of the residences within the lots are complete, acoustic analyses shall be conducted by a qualified acoustic consultant to ensure that interior noise levels of any residences within the commercial lots can be feasibly reduced to 45 dB(A).

MV 4.6-10 All residences located within Mixed-Use Residential/Commercial areas and within 200 feet of the centerlines of Commerce Center Drive and/or Magic Mountain Parkway shall incorporate the following roadway noise-reducing measures into the exterior wall that faces onto those roadways:

(a) All windows, both fixed and operable, shall consist of either double-strength glass or double-paned glass. All windows facing sound waves generated from the mobile source noise shall be manufactured and installed to specifications that prevent any sound from window vibration caused by the noise source.

(b) Doors shall be solid core and shall be acoustically designed with gasketed stops and integral drop seals.

(c) If necessitated by the architectural design of a structure, special insulation or design features shall be installed to meet the required interior ambient noise level.

The specifications in this measure shall be refined when the final plans showing the locations and orientations of the residences within the lots along Commerce Center Drive and Magic Mountain Parkway are completed. Interior noise levels of all residences within lots designated for Mix Use shall not exceed of 45 dB(A) CNEL.

MV 4.6-11 Air conditioning units shall be installed to serve all living areas of all residences located with direct lines of sight to Commerce Center Drive and/or Magic Mountain Parkway so that windows may remain closed without compromising the comfort of the occupants.

The following measures are recommended to reduce potentially significant noise impacts elsewhere on the project site to a less than significant level:

MV 4.6-12 If residential lots abut portions of commercial lots where delivery truck/garbage truck activities would occur, a method of noise attenuation shall be specified by a qualified acoustic consultant that reduces noise to a level within normally acceptable levels identified in the applicable compatibility guidelines.

MV 4.6-13 All HVAC units within commercial lots adjacent to residential uses shall be enclosed so that noise levels from the units are no greater than 60 dB(A) at the property line when in proximity to single-family residences, and no greater than 65 dB(A) at the property line when in proximity to multi-family residences (apartments and condominiums).

MV 4.6-14 Balconies with direct lines of sight to Commerce Center Drive and/or Magic Mountain Parkway shall be discouraged from exposure to exterior noise levels greater than the 60 dB(A) CNEL standard for single-family residences or the 65 dB(A) CNEL standard for multi-family residences through architectural or site design. Alternatively, balconies shall be enclosed by solid noise barriers, such as 3/8-inch glass or 5/8-inch Plexiglas to a height specified by a qualified noise consultant that results in noise levels within normally acceptable levels identified in the applicable compatibility guidelines.

MV 4.6-15 Prior to all home sales and rentals within Mission Village, the project applicant, or its designee, shall inform prospective buyers and renters that fireworks displays may

periodically occur at Magic Mountain Theme Park and that instantaneous noise levels at the eastern boundary of Mission Village could exceed 90 dB(A) for the duration of the displays. The disclosure statement shall include information on the current permits to conduct fireworks displays on the theme park, including dates of the fireworks, estimated times, and durations.

9. CUMULATIVE IMPACTS

Cumulative noise impacts would occur as a result of increased traffic on SR-126 due to the proposed project and other developments in the Santa Clarita Valley. As previously discussed, the noise impact at Travel Village without the project would be 72.0 dB(A) CNEL at 120 feet from the highway centerline. With buildout of the Mission Village project and long-range (2035) cumulative traffic, the noise level would be 74.2 dB(A) CNEL. Because existing noise levels at Travel Village RV Park would already exceed the *State Guidelines* for transient lodging (i.e., 70 dB(A)), this impact would be significant and would be mitigated through Mitigation Measure 4.9-14 of the Newhall Ranch Specific Plan Program EIR.

Residential uses along Westridge Parkway north of Valencia Boulevard would experience a decrease in noise from existing 56.9 dB(A) CNEL to 55.6 dB(A) CNEL under long-range (2035) cumulative conditions. This reduction in noise would be due to development of the Entrada project and the redistribution of traffic as a result of additional roadways constructed in connection with that project. When the project traffic is added to the cumulative conditions, the noise level would increase to 60.4 dB(A) for an increase of 3.5 dB(A) over existing conditions, and 4.8 dB(A) CNEL over without project conditions. Noise level increases would be less than 5 dB(A) and would not result in existing land uses being exposed to levels above what is considered to be unacceptable under the *State Guidelines*. Potential cumulative impacts are considered to be less than significant.

Approximately 5,000 project ADT would pass by the residential uses along Valencia Boulevard east of Westridge Parkway at long-range (2035) cumulative buildout conditions. The addition of the project's 5,000 trips to this roadway segment would increase the existing noise levels at these locations from 64.9 dB(A) CNEL to 67.3 dB(A) CNEL under cumulative conditions. When the project traffic is added to the cumulative conditions, the noise level would increase to 67.8 dB(A) for an increase of 3.5 db(A) over existing conditions. Noise level increases would be less than 5 dB(A) and would not result in existing land uses being exposed to levels above what is considered to be unacceptable under the *State Guidelines*. Potential cumulative impacts are considered to be less than significant. When the project is added, the cumulative noise levels would increase to 60.4 dB(A) or an increase of 2.9 dB(A) over existing conditions. This noise level increases would be less than 5 dB(A) and would not result in existing land uses being exposed to levels above what is considered to unacceptable under the *State Guidelines*. Potential cumulative impacts are considered to be less than significant.

Although the Mission Village project would not cause significant cumulative noise impacts in Ventura County, Mission Village is required to mitigate noise impacts on specific sensitive receptors in Ventura County under Specific Plan Mitigation Measures 4.9-15 and 4.9-16 through payment of its fair share towards specified noise attenuation measures and programs. Assuming that all future development projects that generate traffic along roadways adjacent to these receptors are required by Ventura County to implement similar mitigation measures, cumulative traffic noise impacts at these receptors would be reduced to less than significant.

10. CUMULATIVE MITIGATION MEASURES

Mitigation for cumulative noise impacts on Travel Village is provided in the Newhall Ranch Specific Plan Program EIR under Mitigation Measure 4.9-14**.** Additionally, the project's incremental contribution to cumulative traffic noise impacts in Ventura County would be mitigated through implementation of the previously adopted Mitigation Measures 4.9-15 and 4.9-16 from the Program EIR. No other cumulative mitigation measures are required.

11. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project Impacts

Mitigation measures recommended to reduce construction-related noise impacts would reduce the magnitude of those impacts; however, should pile driving be required to construct the Commerce Center Drive Bridge, and should the project applicant not find it feasible to complete the pile driving prior to occupancy of on-site noise-sensitive uses within 4,000 feet of the pile driving, an unavoidable significant construction noise impact would occur. Additionally, although mitigation is proposed to reduce pile driving noise impacts at off-site noise-sensitive uses, should pile driving be required to construct the Commerce Center Drive Bridge, noise impacts from the pile driving would be significant and unavoidable at the Travel Village RV Park and all other off-site noise-sensitive uses located within 4,000 feet of the pile driving for the duration of the pile driving activities.

Vibration impacts within 500 feet of the pile driving may not be fully mitigable to or below the threshold of significance and would result in an unavoidable significant vibration impact to surrounding inhabitants and to those non-residential uses that may employ vibration-sensitive equipment for the duration of the pile driving.

b. Cumulative Impacts

The proposed project would not result in significant and unavoidable cumulative noise impacts.

4.7 AIR QUALITY

1. SUMMARY

Implementation of the Mission Village project would generate both construction and operational air pollutant emissions. Construction-related emissions would be generated by on-site stationary sources, on- and off-road heavy-duty construction vehicles, and construction worker vehicles. Operation-related emissions would be generated by on-site and off-site stationary sources and by mobile sources. During project construction, emissions of volatile organic compounds (VOC), oxides of nitrogen (NO_X), respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) would exceed the thresholds of significance recommended by the South Coast Air Quality Management District (SCAQMD). The analysis of localized significance threshold (LST) impacts suggests that PM_{10} emissions would exceed the limitations in SCAQMD Rule 403 and that the nitrogen dioxide (NO_2) concentrations would exceed the LST thresholds. At project buildout, operational emissions of VOC, NO_X, PM_{10}, and $PM_{2.5}$ would exceed SCAQMD thresholds, primarily due to emissions from mobile sources and use of consumer products.

Population growth attributed to the project is consistent with the approved Newhall Ranch Specific Plan and is within growth forecasts contained in the 2004 Regional Transportation Plan (2004 RTP) prepared by the Southern California Association of Governments (SCAG). The 2004 RTP forms the basis for the land use and transportation control portions of the 2007 Air Quality Management Plan (2007 AQMP). Because the project is within the growth forecasts for the region, it would, consequently, be consistent with the 2007 AQMP, indicating that it would not jeopardize attainment of state and federal ambient air quality standards in the Santa Clarita Valley or throughout the South Coast Air Basin (SoCAB).

A health risk assessment was prepared to evaluate the potential effects of project-related exposures to diesel particulate matter emitted by construction equipment. The assessment determined that the maximum anticipated cancer risks associated with the construction of the proposed project are 3.4, 1.2, and 0.3 in 1 million at maximally impacted residential, workplace, and student receptors, respectively. These cancer risk levels are below the threshold of significance of 10 in 1 million. The assessment also determined that the potential chronic health hazard impacts would be well below the adopted significance threshold. Therefore, potential health impacts associated with the construction of the proposed project are less than significant.

Mitigation measures would be implemented that would reduce construction-related and operational-related emissions to the maximum extent feasible. However, no feasible mitigation exists that would reduce the project's construction-related emissions of VOC, NO_X, PM_{10}, or $PM_{2.5}$ to below the SCAQMD's recommended thresholds of significance. Additionally, no feasible mitigation exists to reduce the project's operational emissions of VOC, NO_X, PM_{10}, or $PM_{2.5}$ to less than significant levels. Therefore, the project's construction-related and operation-related emissions would be considered significant and unavoidable.

The relevant SCAQMD's criteria were used to assess cumulative air quality impacts. Based on this analysis, cumulative air quality impacts would be significant given the cumulative project thresholds of significance found in the SCAQMD's California Environmental Quality Act (CEQA) Air Quality Handbook,[1] *and the fact that the project-specific impacts, even with all feasible mitigation, would represent a cumulatively considerable contribution to poor air quality in the SoCAB.*

All source materials cited and summarized in this section are incorporated by reference. Copies of these documents are available for public inspection and review at the County of Los Angeles (County) Department of Regional Planning, 320 South Temple Street, Los Angeles, California.

2. BACKGROUND

a. Relationship of Project to Newhall Ranch Specific Plan Program EIR

Section 4.7 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with local and regional air quality for the entire Newhall Ranch Specific Plan, including the water reclamation plant (WRP). The Newhall Ranch Mitigation Program was adopted by the County of Los Angeles in its Findings and in the revised Mitigation Monitoring Plans for both the Specific Plan and WRP. The Newhall Ranch Specific Plan Program EIR concluded that Specific Plan implementation would result in significant unavoidable construction and operational air quality impacts and, as a result, the county adopted a Statement of Overriding Considerations relative to these air quality impacts. The Newhall Ranch Specific Plan Program EIR indicates that subsequent project-specific development plans and tentative subdivision maps must employ all feasible operational emission reduction measures contained in SCAQMD's *CEQA Air Quality Handbook* and must be consistent with both the *Newhall Ranch Specific Plan*, adopted May 2003, and the *County of Los Angeles General Plan* and *Santa Clarita Valley Areawide Plan*.

This project-level EIR is tiered from the previously certified Newhall Ranch Specific Plan Program EIR. **Section 4.7** assesses, at the project level, the existing conditions for the Mission Village site, the project's impacts on local and regional air quality, and the applicable mitigation measures from the Newhall Ranch Specific Plan Program EIR, as well as additional mitigation measures recommended by this EIR for the Mission Village project.

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1 The *CEQA Air Quality Handbook* is in the process of being revised. As of September 2010, the SCAQMD has revised portions of the handbook, revised the air quality significance thresholds, and added a new procedure referred to as "localized significance thresholds."

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

The Newhall Ranch Specific Plan's construction and operational emissions were considered significant and unavoidable. The recommended mitigation measures for the Specific Plan were found to reduce the magnitude of its construction and operational emissions to some extent; however, no feasible mitigation existed which would have reduced these emissions below the SCAQMD's recommended thresholds of significance.

While the Specific Plan's air emissions would be unavoidably significant, it is important to understand that Newhall Ranch is designed to reduce vehicle miles traveled (VMT) when compared to more conventional, or non-village, designs that do not provide employment opportunities and other services to minimize VMT. Consequently, air emissions would be reduced as well. The Specific Plan is also consistent with SCAQMD's 2003 Air Quality Management Plan (2003 AQMP), and, based on SCAQMD methods of analysis, its emissions should not jeopardize attainment of state and federal ambient air quality standards in the Santa Clarita Valley and the region.

The adopted air quality mitigation measures for Newhall Ranch would help to reduce VMT (and related air emissions) associated with the on-site employment-generating uses. However, the total reduction in VMT (and related air emissions) afforded by these measures would still not reduce project-related construction and operational emissions to less than significant level. Therefore, the Specific Plan's significant cumulative air quality impact remains significant and unavoidable.

4. INTRODUCTION TO AIR QUALITY

a. Air Quality and Air Pollution

The air quality of a region is measured by the level of air pollution occurring in the ambient or outdoor air. Air pollution, which is caused by the presence of air pollutants, results in the degradation of ambient air quality. Air pollutants are foreign or natural substances in the air that may result in adverse effects to humans, animals, vegetation, and/or materials.

b. Urban Smog and its Causes

Urban environments are susceptible to specific types of air pollutants, collectively referred to as smog. Smog is a general term based on the words smoke and fog that is used to describe dense, visible air pollution. Although some air pollutants are colorless, smog is commonly used to describe the general concentrations of pollutants in the air. Smog is formed when combustion emissions and gaseous

emissions, such as VOCs and NO_x, undergo photochemical reactions in sunlight to form ozone (O_3). Ozone is a gas that, in the upper atmosphere, helps to shield the earth from harmful radiation. However, in the lower atmosphere where people live, ozone poses health risks and damages crops, rubber, and other materials. Particulates, such as soil and dust materials, and vehicle exhaust particulates often mix with ozone, NO_x, and other compounds and create a brownish haze in the air. "Smog episode" warnings are issued when an occurrence of high concentrations of ozone is predicted that could endanger or cause harm to the public.[2]

The topography and climate of a region plays an important role in its potential for high smog levels. Warm, sunny urban areas where the movement of air is hindered by mountains or other topographical features have the potential for high smog levels. In Southern California, during the summer months, a warm air mass frequently descends over the lower, cool, moist marine air layer. The warm upper layer forms a cap over the marine layer and inhibits the air pollutants generated near the ground from dispersing upward. Light summer winds and the surrounding mountains further limit the horizontal disbursement of the pollutants. Concentrating volumes of pollutants in this manner allows the summer sunlight to generate high levels of smog. In the winter, cool ground temperatures and very light winds cause extremely low inversions and air stagnation that trap carbon monoxide (CO) and NO_x during the late night and early morning hours. On days when no inversions occur, or when winds average 25 miles per hour (mph) or more, smog levels are usually minimized.

The air pollutants emitted from urban areas in Southern California are generated by both stationary and mobile sources. Stationary sources are categorized as point sources and area sources. Point sources have specific points of origin where pollutants are emitted into the atmosphere such as factory smokestacks. Point sources are usually associated with manufacturing and industrial uses and include sources that produce electricity or process heat, such as refinery boilers or combustion equipment, but may also include commercial establishments, like gasoline stations, dry cleaners or charbroilers in restaurants. Area sources are sources of pollution where the emissions are spread over a wide area, such as consumer products, fireplaces, road dust, and farming operations. Examples of area sources include residential water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products, such as cleaners and solvents. Mobile sources include passenger vehicles, trucks, motorcycles, buses, and other on- and off-road vehicles. Mobile sources typically account for the vast majority of the CO and NO_x pollution in urban environments.

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2 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993), p. G1s-7.

5. PLANS AND POLICIES FOR AIR QUALITY CONTROL

Air quality is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education, and a variety of programs. Air quality in California is addressed at the federal, state, and local level where the state has been divided into regional air basins. An air basin is a land area with generally similar meteorological and geographic conditions throughout. The proposed project is located in the SoCAB. The agencies primarily responsible for improving the air quality within the SoCAB are discussed below along with their individual responsibilities.

a. United States Environmental Protection Agency

The United States Environmental Protection Agency (U.S. EPA) is responsible for enforcing the Clean Air Act (CAA) and establishing the National Ambient Air Quality Standards (NAAQS). The U.S. EPA has regulatory and enforcement jurisdiction over stationary and mobile sources, emission sources beyond state waters (outer continental shelf), and those that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking.

The CAA was originally adopted in 1970, but was amended most recently in 1990 with regulations that better protect the public's health and create more efficient methods of lowering pollutant emissions. The major areas of improvement resulting from the amendments include air basin designations (previously discussed), automobile/heavy-duty engine emissions, and toxic air pollutants. The amendments established more stringent standards for hydrocarbons, NO_X, and CO emissions in order to reduce O_3 and CO levels in heavily populated areas. Fuels became more strictly regulated, requiring new fuels to be less volatile, contain less sulfur (regarding diesel fuels), and have higher levels of oxygenates (oxygen-containing substances) to improve fuel combustion.

The 1990 Clean Air Act Amendments (CAAA) lists 189 hazardous air pollutants (HAPs), which are carcinogenic, mutagenic, and/or reproductive toxicants, to be reduced. The air toxics program under the CAA involves locating all major (greater than 10 tons per year [tpy]) and area emission sources in order to implement Maximum Achievable Control Technology (MACT) to reduce HAP emissions and their associated health impacts.

States with air basins that are not in attainment of the NAAQS are required to submit a State Implementation Plan (SIP) that describes how the air basin will achieve the NAAQS by dates specified in the CAAA. SIPs are not single documents, but are a compilation of state regulations, air quality management/attainment plans, programs, and air district rules that are continuously revised to meet CAAA requirements. Local air districts and other agencies prepare air quality management/attainment

plans and submit them to the state for review and approval. Once a plan is approved, the state forwards the plan to the U.S. EPA as a SIP revision. The U.S. EPA reviews the plan to determine if it conforms to the CAAA and would achieve the air basin's air quality goals. Upon a satisfactory review, approval of the plan is published in the *Federal Register*.

In general, air quality management/attainment plans contain a discussion of ambient air data and trends; a baseline emissions inventory; future-year projections of emissions, which account for growth projections and already adopted control measures; a comprehensive control strategy of additional measures needed to reach attainment; attainment demonstration, which generally involves complex modeling; and contingency measures. Plans may also include interim milestones for progress toward attainment.

b. California Air Resources Board

The California Air Resources Board (CARB), a branch of the California Environmental Protection Agency (CalEPA), oversees air quality planning and control throughout California. CARB is primarily responsible for ensuring implementation of the California Clean Air Act (CCAA), responding to the federal CAA requirements, establishes the California Ambient Air Quality Standards (CAAQS), and for regulating emissions from motor vehicles and consumer products within the state. While motor vehicle emission standards are under the jurisdiction of the U.S. EPA, the federal CAA allows CARB to establish more stringent emission standards for vehicles sold in California, if granted a waiver from the U.S. EPA. CARB has jurisdiction over other emission sources, such as consumer products and certain off-road equipment.

The CCAA established a legal mandate to achieve the CAAQS by the earliest practicable date. These standards apply to the same criteria pollutants as the NAAQS, and also include sulfate, visibility, hydrogen sulfide, and vinyl chloride. The CAAQS are generally more stringent than the federal standards and, in the case of PM_{10} and sulfur dioxide (SO_2), far more stringent.

Under the CCAA, air basins that are not in attainment of the CAAQS are required to submit an air quality management plan with specific emission reduction strategies and milestones for implementing emission controls to meet the standards as quickly and practicably as possible. Control strategies include indirect and area source control programs, best available retrofit control technology for existing sources, a program to mitigate emissions from new and modified permitted stationary sources (no net increase), transportation control measures, and substantial use of low-emission vehicles (e.g., natural gas-powered or hybrid vehicles). The CCAA also requires control measures to be ranked by priority and cost-effectiveness. The air quality management plans must achieve a reduction in emissions of 5 percent

or more per year, or 15 percent or more in a three-year period for pollutants causing severe nonattainment.

In the early 1980s, CARB established one of the nation's first comprehensive state air toxics programs. The Toxic Air Contaminant Identification and Control Act (AB 1807-1983), codified in *Health and Safety Code* Section 36950, et seq., created California's program to reduce the health risks from toxic air contaminants (TACs). An additional state law, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588-1987), codified in *Health and Safety Code* Section 44300, et seq., supplements the original legislation by requiring a statewide air toxics inventory and notification of local residents of significant risk from nearby sources of air toxics. A 1992 amendment to the law (SB 1731; *Health and Safety Code* Section 44390, et seq.) requires that the risk be reduced from these significant sources.

c. South Coast Air Quality Management District

The management of air quality in the SoCAB is the responsibility of SCAQMD. This responsibility was given to SCAQMD by the Legislature's adoption of the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Lewis-Presley Air Quality Act, SCAQMD is responsible for bringing air quality in the areas under its jurisdiction into conformity with federal and state air quality standards. The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county SoCAB (Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The project site is located within the SoCAB, which is bound by the Pacific Ocean to the west, the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east, and San Diego and Imperial County to the south (see **Figure 4.7-1, South Coast Air Basin**).

Specifically, the SCAQMD is responsible for monitoring ambient air pollutant levels throughout the SoCAB and for developing and implementing attainment strategies to ensure that future emissions will be within federal and state standards. The SCAQMD primarily regulates emissions from stationary sources, such as manufacturing and power generation. Mobile sources, such as buses, automotive vehicles, trains, and airplanes, are largely out of the SCAQMD's jurisdiction and are up to CARB and the U.S. EPA to regulate. In order to achieve air quality standards, the SCAQMD adopts an AQMP that serves as a guideline to bring pollutant concentrations into attainment with federal and state standards. The SCAQMD determines if certain rules and control measures are appropriate for their specific region according to technical feasibility, cost effectiveness, and the severity of nonattainment. Once the SCAQMD has adopted the proper rules, control measures, and permit programs, it is responsible for ensuring compliance with those rules, control measures, and programs.

(1) SCAQMD Air Quality Management Plans

The SCAQMD is required to prepare AQMPs describing how air quality will be improved in the SoCAB. The CCAA requires that these plans be updated triennially in order to incorporate the most recent available technical information. In addition, the U.S. EPA requires that transportation conformity budgets be established based on the most recent planning assumptions. Plan updates are necessary to ensure continued progress toward attainment of the NAAQS and to avoid a transportation conformity lapse and associated federal funding losses. A multi-level partnership of governmental agencies at the federal, state, regional, and local levels implement the programs contained in these plans. Agencies involved include the U.S. EPA, CARB, local governments, the SCAG, and the SCAQMD.

Since 1979, the SCAQMD has prepared a number of AQMPs. The SCAQMD adopted its *2003 Air Quality Management Plan* (2003 AQMP) on August 1, 2003. The purpose of the 2003 AQMP for the SoCAB (and those portions of the SSAB under the SCAQMD's jurisdiction) was to set forth a comprehensive program that will lead these areas into compliance with all federal and state air quality planning requirements. Specifically, the 2003 AQMP was designed to satisfy the CCAA tri-annual update requirements and fulfill the SCAQMD's commitment to update transportation emission budgets based on the latest approved motor vehicle emissions model and planning assumptions at the time.[3] In 2009, the U.S. EPA approved in part the *2003 State Strategy* and *2003 South Coast Plan for One-Hour Ozone and Nitrogen Dioxide* as SIP revisions. The portions that were disapproved were not required by the federal CAA; therefore, the disapprovals do not trigger sanctions clocks or the U.S. EPA's obligation to promulgate a Federal Implementation Plan.

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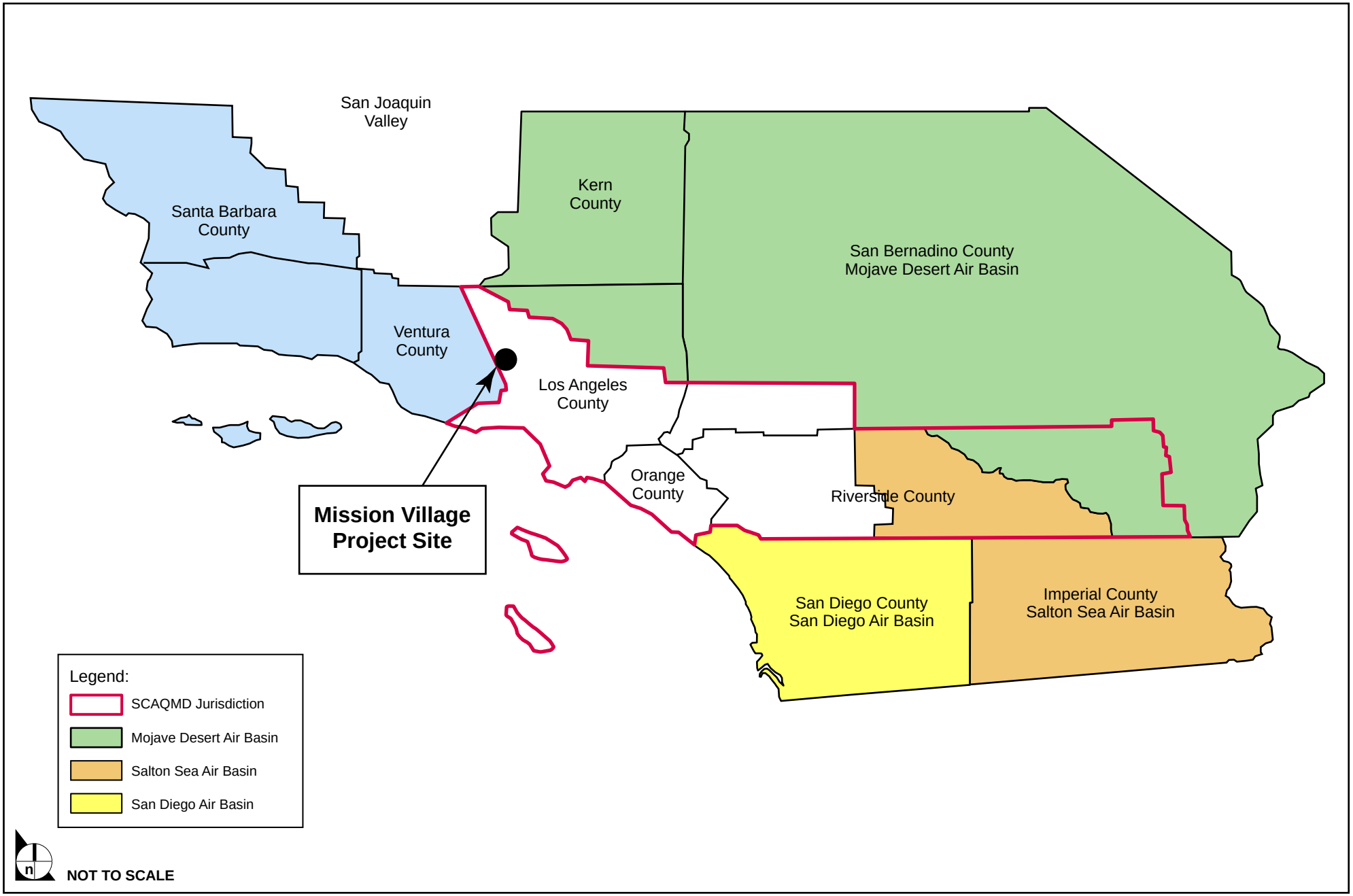
3 South Coast Air Quality Management District, "2003 Air Quality Management Plan," http://www.aqmd.gov/aqmp/AQMD03AQMP.htm. 2003. p. 1-1.



SOURCE: Impact Sciences, Inc. – May 2010

FIGURE **4.7-1**

South Coast Air Basin

32-99A•05/10

More recently, the SCAQMD adopted the *Final 2007 Air Quality Management Plan*[4] (2007 AQMP) on June 1, 2007. CARB approved the 2007 AQMP as the comprehensive SIP component for the SoCAB on September 27, 2007. The purpose of the 2007 AQMP for the SoCAB (and those portions of the Salton Sea Air Basin under the SCAQMD's jurisdiction) was to set forth a comprehensive program that will lead these areas into compliance with federal and state air quality planning requirements for ozone and $PM_{2.5}$. In addition, as part of the 2007 AQMP, the SCAQMD requested U.S. EPA's approval of a "bump-up" to the "extreme" nonattainment classification of ozone for the SoCAB, which would extend the attainment date from 2021 to 2024 and allow for the attainment demonstration to rely on emission reductions from measures that anticipate the development of new technologies or improvement of existing control technologies. The U.S. EPA has not issued a proposed or final rule regarding the 2007 AQMP. However, in August 2009, the U.S. EPA issued a proposed rule granting the reclassification request. The U.S. EPA issued a final ruling granting the reclassification request on April 15, 2010.

The 2007 AQMP was based on assumptions provided by both CARB and SCAG in the new EMFAC2007 motor vehicle emissions factor model and the most recent demographics information, respectively. The 2007 AQMP focuses on attainment strategies for the ozone and $PM_{2.5}$ standards through stricter control of sulfur oxides and directly emitted $PM_{2.5}$, NO_X, and VOCs. Although $PM_{2.5}$ plans for nonattainment areas were due in April 2008, the SCAQMD has integrated $PM_{2.5}$ and ozone reduction control measures and strategies in the 2007 AQMP. The need to commence $PM_{2.5}$ control strategies before April 2008 was due to the attainment date for $PM_{2.5}$ (2015) being much earlier than that for ozone (2021 for the current designation of severe-17 or 2024 for the extreme designation). Control measures and strategies for $PM_{2.5}$ will also help control ozone generation in the region because $PM_{2.5}$ and ozone share similar precursors (e.g., NO_X). In addition, the AQMP focuses on reducing VOC emissions, which have not been reduced at the same rate as NO_X emissions in the past. Hence, the SoCAB has not achieved the reductions in O_3 as were expected in previous plans.

(2) SCAQMD Rules and Regulations

The SCAQMD is responsible for limiting the amount of emissions that can be generated throughout the SoCAB. Specific rules and regulations have been adopted by the SCAQMD that limits the emissions that can be generated by various uses and/or activities, and that identify specific pollution reduction measures which must be implemented in association with various uses and activities. These rules not only regulate the emissions of the federal and state criteria pollutants, but also TACs and acutely hazardous materials. The rules are subject to ongoing refinement by SCAQMD.

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4 South Coast Air Quality Management District, "2007 Air Quality Management Plan," http://www.aqmd.gov/aqmp/07aqmp/index.html. 2007.

In particular, stationary emissions sources subject to these rules are regulated through SCAQMD's permitting process. Through this permitting process, SCAQMD monitors the amount of stationary emissions being generated and uses this information in developing AQMPs. The proposed project would be subject to SCAQMD rules and regulations to reduce specific emissions and to mitigate potential air quality impacts. Rules apply on a case-by-case basis. Rules 403 and 1113 typically apply to all development projects. Rule 1403 typically applies to redevelopment projects where demolition of pre-1978 structures is involved. Additional details regarding these rules and other potentially applicable rules are presented below.

- **Rule 403 (Fugitive Dust).** This rule requires fugitive dust sources to implement Best Available Control Measures for all sources and all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust (see also Rule 1186).

- **Rule 445 (Wood Burning Devices) –** This rule generally prohibits the installation of wood burning device into any new development.

- **Rule 1113 (Architectural Coatings).** This rule requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

- **Rule 1121 (Control of Nitrogen Oxides from Residential Type, Natural Gas-Fired Water Heaters).** This rule prescribes NO_X emission limits for natural gas-fired water heaters with heat input rates less than 75,000 Btu per hour. It applies to manufacturers, distributors, retailers, and installers of natural gas-fired water heaters. In lieu of meeting these NO_X limits, this rule allows emission mitigation fees to be collected from water heater manufacturers to fund stationary and mobile source emission reduction projects targeted at offsetting NO_X emissions from water heaters that do not meet Rule 1121 emission standards.

- **Rule 1146.2 (Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters).** This rule requires manufacturers, distributors, retailers, refurbishers, installers and operators of new and existing units to reduce NO_X emissions from natural gas-fired water heaters, boilers, and process heaters as defined in this rule.

- **Rule 1186 (PM_{10} Emissions from Paved and Unpaved Roads, and Livestock Operations).** This rule applies to owners and operators of paved and unpaved roads and livestock operations. The rule is intended to reduce PM_{10} emissions by requiring the clean-up of material deposited onto paved roads, use of certified street sweeping equipment, and treatment of high-use unpaved roads (see also Rule 403).

- **Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities).** This rule requires owners and operators of any demolition or renovation activity and the associated disturbance of asbestos-containing materials (ACM), any asbestos storage facility, or any active waste disposal site to implement work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of ACM.

(3) SCAQMD's CEQA Air Quality Handbook

In 1993, the SCAQMD prepared its *CEQA Air Quality Handbook* to assist local government agencies and consultants in preparing environmental documents for projects subject to CEQA. Minor revisions to the handbook were made in November 1993. The SCAQMD is in the process of developing an *Air Quality Analysis Guidance Handbook* to replace the *CEQA Air Quality Handbook*.[5] The existing handbook describes the criteria that SCAQMD uses when reviewing and commenting on the adequacy of environmental documents. The SCAQMD recommends thresholds of significance in order to determine if a project will have a significant adverse environmental impact. Other important contents are methodologies for predicting project emissions and mitigation measures that can avoid or reduce air quality impacts. Although the SCAQMD has adopted the *CEQA Air Quality Handbook*, it does not, nor does it intend to, supersede a local jurisdiction's discretionary authority under CEQA.[6]

The SCAQMD offers further guidance to jurisdictions in its *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*.[7] This guidance document provides suggested policies that local governments can use to prevent or reduce potential air pollution impacts and protect public health in their general plans or through local planning. The objective of the document is to facilitate collaboration between the local governments and the SCAQMD.

While the *Air Quality Analysis Guidance Handbook* is being developed, supplemental information has been adopted by the SCAQMD. These include revisions to the air quality significance thresholds and a new procedure referred to as "localized significance thresholds," which has been added as a significance threshold under the *Final Localized Significance Threshold Methodology*.[8] Additional changes include the SCAQMD recommendation that lead agencies not use the screening tables in the *CEQA Air Quality Handbook's* Chapter 6 because the tables were derived using an obsolete version of CARB's mobile source emission factor inventory and are also based on outdated trip generation rates from a prior edition of the Institute of Transportation Engineer's Trip Generation Handbook.[9] The SCAQMD has also recommended that lead agencies not use the on-road mobile source emission factors in Table A9-5-J1 through A9-5-L as they are obsolete, and instead recommends using on-road mobile source emission factors approved by

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5 South Coast Air Quality Management District, "Air Quality Analysis Guidance Handbook," http://www.aqmd.gov/CEQA/hdbk.html. 2009.

6 South Coast Air Quality Management District, "Frequently Asked CEQA Questions," http://www.aqmd.gov/ceqa/faq.html. 2007.

7 South Coast Air Quality Management District, *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, (2005).

8 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, (Revised 2008).

9 South Coast Air Quality Management District, "CEQA Air Quality Handbook (1993)," http://www.aqmd.gov/ceqa/oldhdbk.html. 2007.

the CARB.[10] The outdated and obsolete information were not used in this analysis. The applicable portions of the *CEQA Air Quality Handbook*, the *Air Quality Analysis Guidance Handbook* supplemental information, and other adopted and revised methodologies were used in preparing the air quality analysis in this section.

(4) Santa Clarita Subregional Analysis

In November 2004, the SCAQMD prepared a subregional analysis for the Santa Clarita Valley. The purpose of a subregional analysis is to identify disproportionate air quality impacts in a specific geographic area, and if found, to address and mitigate these impacts. With regard to future development in the Santa Clarita Valley, the analysis concluded that:

- When simultaneous 25-year buildout of all recorded, pending and approved land parcels in the city and county portions of the valley is assumed, the simulated annual PM_{10} impact is projected to increase up to 5 $\mu g/m^3$;
- The maximum regional annual average PM_{10} impact is projected to occur near Newhall Ranch;
- Future development would not cause violations of the federal annual average PM_{10} standard, but could cause possible violations of the state standard; and
- The overwhelming contribution of pollution transport to the Santa Clarita Valley comes from the San Fernando Valley and metropolitan Los Angeles. The major daytime wind vectors are from the south and upwind emission source areas. Additionally, field studies have confirmed the prevalent transport route through the Newhall Pass by tracing the northward movement of inert tracer gases released in the Metropolitan Los Angeles areas. As an example, Santa Clarita is a relatively small contributor to the total emissions of the key pollutants in both Los Angeles County and the Basin as a whole. The report indicates that across the board, the emissions are typically less than 3 percent of the county total and 2 percent of the Basin total.

d. Southern California Association of Governments

SCAG is a council of governments for the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. As a regional planning agency, SCAG serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG also serves as the regional clearinghouse for projects requiring environmental documentation under federal and state law. In this role, SCAG reviews projects to analyze their impacts on SCAG's regional planning efforts.

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[10] South Coast Air Quality Management District, "EMFAC 2007 (v2.3) Emission Factors (On-Road)," http://www.aqmd.gov/CEQA/handbook/onroad/onroad.html. 2008.

Although SCAG is not an air quality management agency, it is responsible for several air quality planning issues. Specifically, as the designated Metropolitan Planning Organization (MPO) for the Southern California region, it is responsible, pursuant to Section 176(c) of the 1990 amendments to the CAA, for providing current population, employment, travel, and congestion projections for regional air quality planning efforts. It is required to quantify and document the demographic and employment factors influencing expected transportation demand, including land use forecasts. Pursuant to California *Health and Safety Code* Section 40460(b), SCAG is also responsible for preparing and approving the portions of the SoCAB's air quality management plans relating to demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies. SCAG's method of accomplishing these requirements is through the preparation of demographic projections published in the *2001 Regional Transportation Plan*,[11] which was used by the SCAQMD in the preparation of its 2003 AQMP.[12] SCAG also prepared the *2004 Regional Transportation Plan*[13] and *2006 Regional Transportation Improvement Program,*[14] which form the basis for the transportation components of the 2007 AQMP and are utilized in the preparation of air quality forecasts and consistency analysis that is included in the 2007 AQMP.

e. Local Governments

Local governments, such as the County of Los Angeles, share the responsibility to implement or facilitate some of the control measures of the AQMP. These governments have the authority to reduce air pollution through local policies and land use decision-making authority. Specifically, local governments are responsible for the mitigation of emissions resulting from land use decisions and for the implementation of transportation control measures as outlined in the AQMP.[15] The AQMP assigns local governments certain responsibilities to assist the SoCAB in meeting air quality goals and policies. In general, the first step towards assigning a local government's responsibility is accomplished by identifying the air quality goals, policies and implementation measures in its general plan. The County of Los Angeles has done this through the Conservation and Open Space Element in its proposed *One Valley One Vision General Plan*.

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11 The 2001 RTP, which was used as the basis for the 2003 AQMP, is incorporated by reference. As noted above, the 2001 RTP was revised and replaced by SCAG in 2004.

12 South Coast Air Quality Management District, "2003 Air Quality Management Plan," http://www.aqmd.gov/aqmp/AQMD03AQMP.htm. 2003. p. 3-9. The 2003 AQMP specifically states, "Demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industries), developed by SCAG for their 2001 RTP, were used to estimate future emissions."

13 Southern California Association of Governments, "Regional Transportation Plan," http://www.scag.ca.gov/rtp2004/2004/FinalPlan.htm. 2004.

14 Southern California Association of Governments, "Regional Transportation Improvement Program," http://www.scag.ca.gov/RTIP/rtip2006/adopted.htm. 2006.

15 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) p. 2-2.

Through capital improvement programs, local governments can fund infrastructure that contributes to improved air quality by requiring such improvements as bus turnouts, energy-efficient streetlights and synchronized traffic signals.[16] In accordance with the CEQA requirements and the CEQA review process, local governments assess air quality impacts, require mitigation of potential air quality impacts by conditioning discretionary permits, and monitor and enforce implementation of such mitigation.[17]

4. EXISTING CONDITIONS

a. Regional Climate

Southern California lies in a semi-permanent high-pressure zone of the Eastern Pacific region. Summertime weather is dominated by the movement and intensity of a semi-permanent high-pressure system that is normally centered several hundred miles southwest of California. In the spring, summer, and fall, the climate is heavily influenced by marine air; light winds in the region allow marine air to regulate temperatures and airflow during these periods. In the winter, low-pressure weather systems originating in the northern Pacific Ocean bring clouds, wind, and rain into Southern California. Santa Ana winds, caused by high pressure in the high plateau region located northeast of California, intermittently occur during winter and fall.

The climate of the SoCAB is semi-arid, and characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. Annual average temperatures throughout the region vary from the low to middle 60 degrees Fahrenheit (°F). However, due to decreased marine influence, the eastern portion of the Basin shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the Basin, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the Basin have recorded maximum temperatures above 100°F.

In general, more than 90 percent of the Basin's rainfall occurs from November through April (see **Table 4.7-1**, **Average Monthly Temperatures and Precipitation for Newhall, California, 1989–1997**). Annual average rainfall varies from approximately 9 inches in Riverside to 14 inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thundershowers near the coast and slightly heavier shower activity in the eastern portion of the region and near the mountains. Rainy days comprise 5 to 10 percent of all days in the Basin, with the frequency being higher near the coast. The influence of rainfall on the contaminant levels in the Basin is minimal. Although some washout of pollution would be expected with winter rains, air

16 Ibid.

17 Ibid.

masses that bring precipitation of consequence are very unstable and provide excellent dispersion that masks wash-out effects. Summer thunderstorm activity affects pollution only to a limited degree. If the inversion is not broken by a major weather system, high contaminant levels can persist even in areas of light showers. However, heavy clouds associated with summer storms minimize O_3 production because of reduced sunshine and cooler temperatures.

Table 4.7-1
Average Monthly Temperatures and Precipitation for Newhall, California, 1989–1997

Month	Average Daily Temperatures (°F)		Average Monthly Precipitation (inches)
	Maximum	Minimum	
January	62	40	5.67
February	65	43	5.20
March	70	44	3.94
April	77	48	0.27
May	79	51	0.21
June	88	56	0.11
July	92	60	0.02
August	92	59	0.00
September	89	57	0.06
October	79	51	0.46
November	70	45	0.39
December	62	40	1.85
Annual	77	50	18.19 (total)

Source: California Climate Data Archive, National Weather Service Cooperative Network, Newhall, California, Station 046165.
Note: Data above reflects the most recent data available from this station.

Due to the generally clear weather, about 75 percent of available sunshine is received in the SoCAB. Clouds absorb the remaining 25 percent. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year there are approximately 10 hours of possible sunshine, and approximately 14 hours on the longest day of the year. The percentage of cloud cover during daylight hours varies from 47 percent at Los Angeles International Airport (LAX) to 35 percent at Sanberg, a mountain location. The number of clear days also increases with distance from the coast: 145 days at LAX and 186 days at Burbank. The Basin typically receives much less sunshine during the first six months of the year than the last six months. This difference is attributed to the greater frequency of deep marine layers and the subsequent increase in stratus clouds during the spring and to the fact that the rainy season begins late in the year (November) and continues through early spring.

The vertical dispersion of air pollutants in the SoCAB is frequently restricted by the presence of a persistent temperature inversion in the atmospheric layers near the earth's surface. Normally, the temperature of the atmosphere decreases with altitude. However, when the temperature of the atmosphere increases with altitude, the phenomenon is termed an inversion. An inversion condition can exist at the surface or at any height above the ground. The bottom of the inversion, known as the mixing height, is the height of the base of the inversion.

In the SoCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm, high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing that effectively acts as an impervious lid to pollutants over the entire SoCAB. The mixing height for this inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NO_x and CO from vehicles, as the pool of cool air drifts seaward. Winter is, therefore, a period of high levels of primary pollutants along the coastline.

In general, inversions in the SoCAB are lower before sunrise than during the daylight hours. As the day progresses, the mixing height normally increases as the warming of the ground heats the surface air layer. As this heating continues, the temperature of the surface layer approaches the temperature of the base of the inversion layer. When these temperatures become equal, the inversion layer's lower edge begins to erode and, if enough warming occurs, the layer breaks up. The surface layers are gradually mixed upward, diluting the previously trapped pollutants. The breakup of inversion layers frequently occurs during mid to late afternoon on hot summer days. Winter inversions usually break up by mid morning.

b. Regional Air Quality

Air quality is determined primarily by the type and amount of contaminants emitted into the atmosphere, the size and topography of the air basin, and the meteorological conditions. The Basin has low mixing heights and light winds, which are conducive to the accumulation of air pollutants. Pollutants that impact air quality are generally divided into two categories: criteria pollutants (pollutants that are widely emitted) and TACs (pollutants associated with specific processes and have the potential to cause cancer or have adverse human health effects).

(1) Criteria Pollutants

Each of the criteria air pollutants, inclusive of volatile organic compounds that are relevant to this project and that are of concern in the SoCAB is briefly described below.

- **Ozone (O_3)**. Ozone is a gas that is formed when VOCs and NO_X, both byproducts of internal combustion engine exhaust and other sources, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.

- **Volatile Organic Compounds (VOCs)**. VOCs are compounds comprised primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Adverse effects on human health are not caused directly by VOCs, but rather by reactions of VOCs to form secondary air pollutants, including ozone. VOCs are also referred to as reactive organic compounds (ROCs) or reactive organic gases (ROGs). VOCs themselves are not criteria pollutants; however, they contribute to the formation of O_3.

- **Nitrogen Dioxide (NO_2)**. A reddish-brown, highly reactive gas that is formed in the ambient air through the oxidation of nitric oxide (NO). NO_2 is also a byproduct of fuel combustion. The principle form of NO_X produced by combustion is NO, but NO reacts quickly to form NO_2, creating the mixture of NO and NO_2 referred to as NO_X. NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_X is only potentially irritating. NO_2 absorbs blue light, the result of which is a brownish-red cast to the atmosphere and reduced visibility.

- **Carbon Monoxide (CO)**. CO is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during winter mornings, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone, and motor vehicles operating at slow speeds are the primary source of CO in the basin, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

- **Sulfur Dioxide (SO_2)**. SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high-sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When sulfur dioxide oxidizes in the atmosphere, it forms sulfates (SO_4).

- **Respirable Particulate Matter (PM_{10}).** PM_{10} consists of extremely small, suspended particles or droplets 10 microns or smaller in diameter. Some sources of PM_{10}, like pollen and windstorms, are naturally occurring. However, in populated areas, most PM_{10} is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.

- **Fine Particulate Matter ($PM_{2.5}$)**. $PM_{2.5}$ refers to particulate matter that is 2.5 microns or smaller in size. The sources of $PM_{2.5}$ include fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel-powered vehicles such as buses and trucks. These fine particles are also formed in the atmosphere when gases such as sulfur dioxide, NO_X, and VOCs are transformed in the air by chemical reactions.

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of criteria pollutants in order to protect public health. The federal and state standards are discussed below.

(a) National Ambient Air Quality Standards

The federal CAA requires the U.S. EPA to set ambient (outdoor) air quality standards for the nation for widely emitted pollutants that are considered harmful to public health and the environment. These pollutants are referred to by the U.S. EPA as "criteria pollutants," and they include: CO, NO_2, O_3, SO_2, PM_{10}, $PM_{2.5}$, and lead.

The U.S. EPA Office of Air Quality Planning and Standards has set primary and secondary NAAQS for these pollutants. Primary standards are considered the maximum levels of ambient (outdoor) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. Secondary standards were set to protect against decreased visibility, damage to animals, crops, vegetation, and buildings. The secondary standards are generally the same as the primary standards, with the exception of CO and SO_2. There is no secondary standard for CO and the secondary standard for SO_2 is less restrictive than is the primary standard.

(b) California Ambient Air Quality Standards

California Health and Safety Code (Section 39606) authorizes CARB to set state ambient air quality standards to protect public health, safety, and welfare. The CAAQS are for the federal criteria pollutants, as well as for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. In general, California standards are more restrictive than national standards.

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to national and state standards. It is SCAQMD's responsibility to ensure that state and federal ambient air quality standards are met and maintained in the Basin. Health-based air quality standards established by California and the federal government applies to O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead (Pb). These standards were established to protect exposed sensitive receptors from adverse health effect with a margin of safety. California standards are more stringent than the federal standards, and in the case of PM_{10} and SO_2, California standards are much more stringent. California has also established standards for sulfates, visibility reducing particles, hydrogen sulfide, and vinyl chloride.

The state and national ambient air quality standards for each of the monitored pollutants and their effects on health are summarized in **Table 4.7-2, Ambient Air Quality Standards**.

Table 4.7-2
Ambient Air Quality Standards

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects
	State Standard	Federal Primary Standard	
Ozone[1]	0.070 ppm, 8-hr avg. 0.09 ppm, 1-hr. avg.	0.075 ppm, 8-hr avg. (3-year average of annual 4th-highest daily maximum)	(a) Pulmonary function decrements and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage
Carbon Monoxide	9.0 ppm, 8-hr avg. 20 ppm, 1-hr avg.	9 ppm, 8-hr avg. (not to be exceeded more than once per year) 35 ppm, 1-hr avg. (not to be exceeded more than once per year)	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses
Nitrogen Dioxide[2]	0.18 ppm, 1-hr avg. 0.030 ppm, annual arithmetic mean	0.100 ppm, 1-hr avg. (3-year average of the 98th percentile of the daily maximum 1-hour average) 0.053 ppm, annual arithmetic mean	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration
Sulfur Dioxide[3]	0.04 ppm, 24-hr avg. 0.25 ppm, 1-hr. avg.	0.075 ppm, 1-hr avg. (3-year average of the 99th percentile)	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in person with asthma
Respirable Particulate Matter (PM_{10})	50 μg/m^3, 24-hr avg. 20 μg/m^3, annual arithmetic mean	150 μg/m^3, 24-hr avg. (not to be exceeded more than once per year on average over three years)	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly
Fine Particulate Matter ($PM_{2.5}$)	12 μg/m^3, annual arithmetic mean	15 μg/m^3, annual arithmetic mean (3-year average of 98th percentile) 35 μg/m^3, 24-hr avg. (3-year average of 98th percentile)	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects
	State Standard	Federal Primary Standard	
Lead[4,5]	1.5 μg/m^3, 30-day avg.	1.5 μg/m^3, calendar quarterly average 0.15 μg/m^3, rolling 3-month average	(a) Increased body burden; and (b) Impairment of blood formation and nerve conduction
Sulfates	25 μg/m^3, 24-hr avg.	None	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; and (f) Property damage
Visibility-Reducing Particles	Reduction of visual range to less than 10 miles at relative humidity less than 70%, 8-hour avg. (10:00 AM–6:00 PM)	None	Visibility impairment on days when relative humidity is less than 70 percent
Hydrogen Sulfide	0.03 ppm, 1-hr avg.	None	Odor annoyance
Vinyl Chloride[4]	0.01 ppm, 24-hr avg.	None	Known carcinogen

μg/m^3 = micrograms per cubic meter.
ppm = parts per million by volume.
Source: South Coast Air Quality Management District, Final Program Environmental Impact Report for the 2007 Air Quality Management Plan, *(2007) Table 3.1-1, p. 3.1-3.*

[1] *On March 12, 2008, the U.S. EPA revised the federal ozone standard from 0.08 ppm to 0.075 ppm. The standard became effective on May 27, 2008.*

[2] *On January 25, 2010, the U.S. EPA promulgated a new 1-hour NO_2 standard. The new 1-hour standard is 0.100 parts per million (188 micrograms per cubic meter) and became effective on April 12, 2010.*

[3] *On June 3, 2010, the U.S. EPA issued a new 1-hour SO_2 standard. The new 1-hour standard is 0.075 parts per million (196 μg/m^3). The U.S. EPA also revoked the existing 24-hour and annual standards citing a lack of evidence of specific health impacts from long-term exposures. The new 1-hour standard became effective 60 days after publication in the Federal Register.*

[4] *CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.*

[5] *On October 15, 2008, the U.S. EPA revised the federal lead standard to include a concentration of 0.15 μg/m^3 based on a 3-month rolling average.*

The status of the Los Angeles County portion of the SoCAB with respect to attainment of the NAAQS and CAAQS is summarized in **Table 4.7-3, Ambient Air Quality Standard Designations – South Coast Air Basin (Los Angeles County),** below.

Table 4.7-3
Ambient Air Quality Standard Designations
South Coast Air Basin (Los Angeles County)

Pollutant	Designation/Classification	
	NAAQS	CAAQS
Ozone (O_3)	Nonattainment/Extreme	Nonattainment/Severe
Carbon Monoxide (CO)	Attainment/Maintenance	Attainment
Nitrogen Dioxide (NO_2)	Attainment/Maintenance	Nonattainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Respirable Particulate Matter (PM_{10})	Nonattainment/Serious	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment
Lead (Pb)	Attainment	Nonattainment
Sulfates (SO_4)	No standard	Attainment
Hydrogen Sulfide (H_2S)	No standard	Unclassified
Vinyl Chloride	No standard	Unclassified
Visibility-Reducing Particles	No standard	Unclassified

Sources:
U.S. Environmental Protection Agency, "Region 9: Air Programs, Air Quality Maps," http://www.epa.gov/region9/air/maps/maps_top.html. 2010.
California Air Resources Board, "Area Designations Maps/State and National," http://www.arb.ca.gov/desig/adm/adm.htm. 2010.

(c) Ambient Air Quality Summary

The SCAQMD operates a network of ambient air quality monitoring stations to monitor pollutant concentrations in the SoCAB and publishes annual monitoring data on its website. **Table 4.7-4, South Coast Air Basin (Los Angeles County) Maximum Ambient Pollutant Concentrations**, presents the maximum ambient pollutant concentrations measured in the Los Angeles County portion of the SoCAB from 2006 through 2008. As shown, the monitors located in Los Angeles County have registered values above the state and federal standards for ozone, the state standards for PM_{10}, and the federal standards for $PM_{2.5}$.

Table 4.7-4
South Coast Air Basin (Los Angeles County) Maximum Ambient Pollutant Concentrations

Pollutant	Standards[1]	Year 2006	2007	2008
CARBON MONOXIDE (CO)				
Maximum 1-hour concentration monitored (ppm)		8	8	6
Maximum 8-hour concentration monitored (ppm)		6.4	5.1	4.3
Number of days exceeding state 8-hour standard	9.0 ppm	0	0	0
Number of days exceeding federal 8-hour standard	9 ppm	0	0	0
OZONE (O_3)				
Maximum 1-hour concentration monitored (ppm)		0.180	0.158	0.160
Maximum 8-hour concentration monitored (ppm)		0.128	0.116	0.131
Number of days exceeding state 1-hour standard	0.090 ppm	62	31	54
Number of days exceeding state 8-hour standard	0.070 ppm	64	64	81
Number of days exceeding federal 8-hour standard	0.075 ppm	60	44	60
NITROGEN DIOXIDE (NO_2)				
Maximum 1-hour concentration monitored (ppm)		0.14	0.12	0.13
Annual average concentration monitored (ppm)		0.031	0.032	0.030
Number of days exceeding state 1-hour standard	0.18 ppm	0	0	0
SULFUR DIOXIDE (SO_2)				
Maximum 24-hour concentration monitored (ppm)		0.010	0.011	0.012
Number of samples exceeding 24-hour state standard	0.04 ppm	0	0	0
Number of samples exceeding federal 24-hour standard	0.14 ppm	0	0	0
PARTICULATE MATTER (PM_{10})				
Maximum 24-hour concentration monitored ($\mu g/m^3$)		117	131	98
Annual average concentration monitored ($\mu g/m^3$)		45.0	41.7	35.8
Number of samples exceeding state standard	50 $\mu g/m^3$	19	17	13
Number of samples exceeding federal standard	150 $\mu g/m^3$	0	0	0
PARTICULATE MATTER ($PM_{2.5}$)				
Maximum 24-hour concentration monitored ($\mu g/m^3$)		72.2	68.9	78.3
Annual average concentration monitored ($\mu g/m^3$)		16.7	16.8	15.7
Number of samples exceeding federal standard	35 $\mu g/m^3$	11	20	10

Sources:
California Air Resource Board, "Air Quality Data Statistics," http://www.arb.ca.gov/adam/welcome.html. (2010).
South Coast Air Quality Management District, "Historical Data By Year," http://www.aqmd.gov/smog/historicaldata.htm. (2010).

(d) Criteria Pollutant Emissions Inventory

As part of its air quality planning efforts, the SCAQMD compiles emissions inventories for sources within the SoCAB. **Table 4.7-5, South Coast Air Basin (Los Angeles County) Average Emissions by Source Category in 2008**, presents the average daily emissions in the Los Angeles County portion of the SoCAB in 2008, the most recent year for which data is available. The emissions inventory for anthropogenic (i.e., man-made) sources is consists primarily of stationary sources and mobile sources.

Stationary sources (including area sources) are grouped under the following categories: fuel combustion; waste disposal; cleaning and surface coatings; petroleum production and marketing; industrial processes; solvent evaporation and other miscellaneous processes. Mobile sources are divided into two source categories: on-road and other mobile sources. On-road mobile sources include light-duty passenger vehicles; light-, medium-, and heavy-duty trucks; motorcycles; urban buses; school buses; and motor homes. Other mobile sources include off-road recreational vehicles, off-road equipment, trains, ships, commercial boats, aircraft, and farm equipment.

The SCAQMD emissions inventory includes emissions in the Basin of VOC, CO, NO_X, SO_X (sulfur oxide), PM_{10}, and $PM_{2.5}$. Since ozone is formed by photochemical reactions involving the precursor emissions of VOCs and NO_X, it is not inventoried.

Table 4.7-5
South Coast Air Basin (Los Angeles County)
Average Emissions by Major Source Category in 2008

Source Category	Emissions (Tons per Day)					
	VOCs	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Stationary Sources	61.0	34.7	36.6	14.4	13.4	9.7
Area Sources	81.5	44.0	15.3	0.4	103.8	26.2
On-Road Vehicles	126.6	1,241.3	268.6	1.2	14.8	10.8
Other Mobile	82.6	560.0	178.0	18.3	10.9	9.7
Total	**351.8**	**1,888.0**	**498.5**	**34.3**	**142.9**	**56.5**

Source: California Air Resource Board, "Almanac Emission Projection Data (Published in 2009): 2008 Estimated Annual Average Emissions, Los Angeles County, South Coast Air Basin," http://www.arb.ca.gov/app/emsinv/emssumcat.php. (2010).

As shown in **Table 4.7-5**, mobile sources are the major contributors to CO (95 percent), NO_X (90 percent), SO_X (57 percent), and VOCs (59 percent) emissions in the SoCAB. Stationary and area sources are the major contributors to PM_{10} and $PM_{2.5}$ emissions (82 and 64 percent, respectively).

(2) Toxic Air Contaminants

A toxic air contaminant (TAC) is defined by California Health and Safety Code:[18]

> *"Toxic air contaminant" means an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412(b)) is a toxic air contaminant.*

18 California Air Resources Board, "California Air Pollution Control Laws: Health and Safety Code - Section 39655," http://www.arb.ca.gov/bluebook/bb00/toc00.htm.

TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. TACs are different from the "criteria" pollutants previously discussed in that no ambient air quality standards have been established for them (with the exception of lead and vinyl chloride, for which there are state standards). This is largely due to the fact that there are hundreds of air toxics and their effects on health tend to be local rather than regional.

(a) Cancer Risk

One of the primary health risks of concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is a particular public health concern because it is currently believed by many scientists that there is no "safe" level of exposure to carcinogens. In other words, any exposure to a carcinogen poses some risk of causing cancer. Health statistics show that one in four people will contract cancer over their lifetime, or 250,000 in a million, from all causes, including diet, genetic factors, and lifestyle choices. Approximately 2 percent of cancer deaths in the United States may be due to TACs.[19]

As part of the SCAQMD's environmental justice initiatives adopted in late 1997, the SCAQMD conducted the Multiple Air Toxics Exposure Study III (MATES III) between April 2004 and March 2006, which was a follow-up to previous MATES I and II air toxics studies conducted in the SoCAB. The MATES III Final Report was issued in September 2008.[20]

The MATES III study, based on actual monitored data throughout the SoCAB, consisted of several elements. These included a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize carcinogenic risk across the SoCAB from exposure to toxic air contaminants. The MATES III study applied a 2-kilometer (1.24-mile) grid over the SoCAB and reported carcinogenic risk within each grid space (covering an area of 4 square kilometers or 1.54 square miles). The study concluded that the average of the modeled air toxics concentrations measured at each of the monitoring stations in the SoCAB equates to a background cancer risk of approximately 1,200 in 1,000,000 primarily due to diesel exhaust. The MATES III study also found lower ambient concentrations of most of the measured air toxics, as compared to the levels measured in the previous MATES II study conducted during 1998 and 1999. Specifically, benzene and 1,3-butadiene, pollutants generated mainly

19 Doll, R and Peto, R. "The causes of cancer: quantitative estimates of avoidable risks of cancer in the United States today." Journal of the National Cancer Institute. 1981; 66:1191-1308.

20 South Coast Air Quality Management District, *Multiple Air Toxics Exposure Study in the South Coast Air Basin*, (2008).

from vehicles, were down 50 percent and 73 percent, respectively.[21] The reductions were attributed to air quality control regulations and improved emission control technologies.

(b) Noncancer Health Risks

For exposures to compounds that do pose a health risk, but not a cancer risk, it is believed that there is a threshold level of exposure to the compound below which it will not pose a health risk. The CalEPA and California Office of Environmental Health Hazard Assessment (OEHHA) have developed reference exposure levels (REL) for non-carcinogenic toxic air contaminants that are health-conservative estimates of the levels of exposure at or below which health effects are not expected. Comparing the estimated level of exposure to the REL assesses the non-cancer health risk due to exposure to a toxic air contaminant. The comparison is expressed as the ratio of the estimated exposure level to the REL, referred to as the hazard index.[22] OEHHA develops RELs for acute (i.e., short-term) and chronic (i.e., long-term) exposures. Compounds may have an acute REL, a chronic REL, or both.

(c) Toxic Air Contaminants Inventory

The following information has been obtained primarily from the SCAQMD's MATES III. TACs typically emitted in the SoCAB include the contaminants listed in **Table 4.7-6, 2005 Annual Average Day Toxic Emissions for the South Coast Air Basin**.

Table 4.7-6
2005 Annual Average Day Toxic Emissions for the South Coast Air Basin[1]

Pollutant	Emissions (pounds per day)				
	On-Road	Off-Road	Point	Area	Total
Acetaldehyde[2]	4,857.0	8,622.4	125.8	505.1	14,110.3
Acetone[3]	4,020.5	7,189.1	552.4	28,904.9	40,666.9
Benzene	13,244.8	7,808.3	906.5	609.3	22,568.9
Butadiene [1,3]	2,723.1	1,755.6	537.1	108.7	5,124.5
Carbon tetrachloride	0.0	0.0	11.2	0.0	11.2
Chloroform	0.0	0.0	206.9	0.0	206.9
Dichloromethane [1,1]	0.0	0.0	0.5	0.0	0.5
Dioxane [1,4]	0.0	0.0	0.8	0.7	1.5
Ethylene dibromide	0.0	0.0	2.2	0.0	2.2
Ethylene dichloride	0.0	0.0	67.2	0.0	67.2
Ethylene oxide	0.0	0.0	16.1	52.6	68.7
Formaldehyde[2]	12,596.6	19,889.0	1,488.8	1,302.0	35,276.4
Methyl Ethyl Ketone[2]	745.6	1,366.0	1,244.3	6,466.7	9,822.6

21 South Coast Air Quality Management District, *Multiple Air Toxics Exposure Study in the South Coast Air Basin*, (2008) p. 2-7.

22 Office of Environmental Health Hazard Assessment, *Air Toxic Hot Spots Program Risk Assessment Guidelines*, *Part III*, *Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels*, (2000) p. 9.

Pollutant	Emissions (pounds per day)				
	On-Road	Off-Road	Point	Area	Total
Methylene chloride	0.0	0.0	325.1	13,548.3	13,873.4
Methyl tertiary butyl ether (MTBE)	0.0	4.4	89.6	0.0	93.9
Naphthalene	573.4	376.8	16.6	568.1	1,534.9
p-Dichlorobenzene	0.0	0.0	115.4	5,553.9	5,669.3
Perchloroethylene	0.0	0.0	940.4	9,685.3	10,625.7
Propylene oxide	0.0	0.0	2.2	0.1	2.3
Styrene	681.7	326.3	1,332.5	76.5	2,417.0
Toluene	37,707.9	15,369.2	8,724.3	21,029.4	82,830.8
Trichloroethylene	0.0	0.0	587.1	633.0	1,220.1
Vinyl chloride	0.0	0.0	51.1	0.0	51.1
Arsenic	0.2	3.9	13.4	24.8	42.3
Cadmium	1.5	2.1	3.2	7.2	14.0
Chromium	21.1	9.2	49.2	77.3	156.8
Diesel particulate	22,164.5	37,406.2	489.5	618.3	60,678.5
Elemental carbon[4]	10,498.2	9,337.4	4,850.4	14,197.3	38,883.3
Hexavalent chromium	1.1	0.6	0.6	0.5	2.8
Lead	2.4	4.8	13.7	180.9	201.8
Nickel	15.3	5.8	44.2	23.4	88.7
Organic carbon	19,972.7	18,073.3	371.0	69,230.1	107,647.1
Selenium	0.5	0.5	41.4	2.2	44.6
Silicon[3,4]	838.7	136.5	1,211.9	218,527.2	220,714.3

Source: South Coast Air Quality Management District, Multiple Air Toxics Exposure Study III*, (2008) p. 3-8. This document is available for review at http://www.aqmd.gov/prdas/matesIII/matesIII.html.*

[1] *Please refer to Chapter 3, Development of the Toxics Emissions Inventory, of MATES III for a discussion on how each portion of the inventory was developed.*

[2] *Primarily emitted emissions. These materials are also formed in the atmosphere as a result of photochemical reactions.*

[3] *Acetone and silicon are not toxic compounds. Their emissions are included in this table because they were measured in the sampling program and were subsequently modeled for the purpose of model evaluation.*

[4] *Includes elemental carbon from all sources (including diesel particulate).*

c. Local Climate

The Santa Clarita Valley, with the Sierra Pelona Mountains on the north, and the Santa Susana and San Gabriel Mountains to the south, east, and west, is in a transitional microclimatic zone located between two climatic types, termed "valley marginal" and "high desert." The valley is situated far enough from the ocean to escape coastal damp air and fog, and also far enough from the high desert to escape extremely hot summers and harsh winters. As a result, summers are dry and warm, with daytime temperatures ranging from 70 to 100°F. Winters are temperate, semi-moist, and sunny, with daytime temperatures ranging from 40 to 65°F. Rainfall averages 13 to 24 inches a year, with the rainy season running primarily from October to April.

The topography surrounding the Santa Clarita Valley has resulted in two separate wind flow patterns through the southern and northern parts of the valley. Diurnal winds in the southern part of the Valley flow northerly from the San Fernando Valley through the Newhall Pass. These daytime wind flows are oftentimes enhanced by localized up-valley or mountain pass winds, and are most dominant during summer, which is the peak smog season. Diurnal winds in the northern part of the Valley flow easterly from Ventura County through the Santa Clara River Valley. During the night, mountain, desert, and valley air cools and flows southerly and westerly back towards the ocean, producing a gentle "drainage wind." On most days, these two flow patterns meet and form a convergence zone, usually in the northern half of the Valley, during which wind speeds accelerate. See **Figure 4.7-2, Dominant Wind Patterns in the Basin**.

During the spring and the early part of summer, the diurnal wind patterns disperse air pollutants through and out of the Santa Clarita Valley. However, this dispersion is less pronounced during the late summer and winter months because of lighter wind speeds, except during an occasional winter storm or during strong Santa Ana wind conditions when winds flow southerly and southwesterly from the desert of the Great Basin through canyons to the northeast and Tejon Pass to the north. The Santa Ana winds are usually warm, always very dry, and often carry great amounts of dust. The winds are particularly strong in mountain passes and at the mouths of canyons. On the average, Santa Ana winds occur 5 to 10 times per year and can last up to several days per occurrence.

In 2004, the SCAQMD provided an expanded air quality analysis of the Santa Clarita Valley subregion. The Santa Clarita Subregional Analysis indicated that the Santa Clarita Valley "is a relatively small contributor to the total emissions of the key pollutants" in both Los Angeles county and the SoCAB. Emissions occurring in the Santa Clarita Valley typically comprise less than 3 percent of the county and 2 percent of the SoCAB, based on 2002 emissions inventory data.[23] While the Santa Clarita Valley contributes a small amount of pollutants to the region, it experiences disproportionately high concentrations of ozone and particulate matter. The subregional analysis stated, "The overwhelming contribution of pollution transport to the Santa Clarita Valley comes from the San Fernando Valley and metropolitan Los Angeles."[24] This is evidenced by meteorological monitoring data for the Santa Clarita Valley that show the primary daytime wind vectors are from the southern and upwind emission source areas. The subregional analysis also indicated that, "in general, average transport, which is characterized by a moderate-to-strong sea breeze through the Newhall Pass, occurs two-thirds of all days" and that "in contrast, Santa Clarita is mostly impacted from local emissions under calm winds and weak offshore flow

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23 South Coast Air Quality Management District, *Santa Clarita Valley Subregional Analysis*, (2004) p. 3-1.

24 Ibid., p. 2-3.

which occurs less than 10 percent of all days."[25] Therefore, the disproportionate impact of air pollutants in the Santa Clarita Valley is caused by the regional and local climate, as described above. The SCAQMD's *Santa Clarita Subregional Analysis* is provided in **Appendix 4.7**.

d. Local Ambient Air Quality

(1) Source Receptor Area 13

The SCAQMD has divided the SoCAB into source receptor areas (SRAs) in which air quality monitoring stations are operated. The proposed project is located within SRA 13, which encompasses the Santa Clarita Valley west to the Ventura County line.[26] The air quality monitoring station for SRA 13 is located at 12th Street and Placerita Canyon Road in the City of Santa Clarita (CARB Station No. 70090)[27] and presently monitors pollutant concentrations of O_3, CO, NO_2, and PM_{10}.[28] The nearest station in the SoCAB that monitors $PM_{2.5}$ is located at 18330 Gault Street in Reseda (SRA 6, CARB Station No. 70074), while the nearest station in the SoCAB that monitors SO_2 is located at 228 West Palm Avenue in Burbank (SRA 7, CARB Station No. 70069).

Table 4.7-7, Ambient Pollutant Concentrations, Santa Clarita/Placerita Monitoring Station and Nearest Monitoring Stations, lists the measured ambient pollutant concentrations and the violations of state and federal standards that have occurred at the monitoring station from 2006 through 2008. As shown, the monitoring station registered values above state and federal standards for O_3 and $PM_{2.5}$, and values above the state standard for PM_{10}. Concentrations of CO, NO_2, SO_X, lead, and sulfate have not been exceeded anywhere within the SoCAB for several years. Values for lead and sulfate are not presented in the table below since ambient concentrations are well below the state standards.

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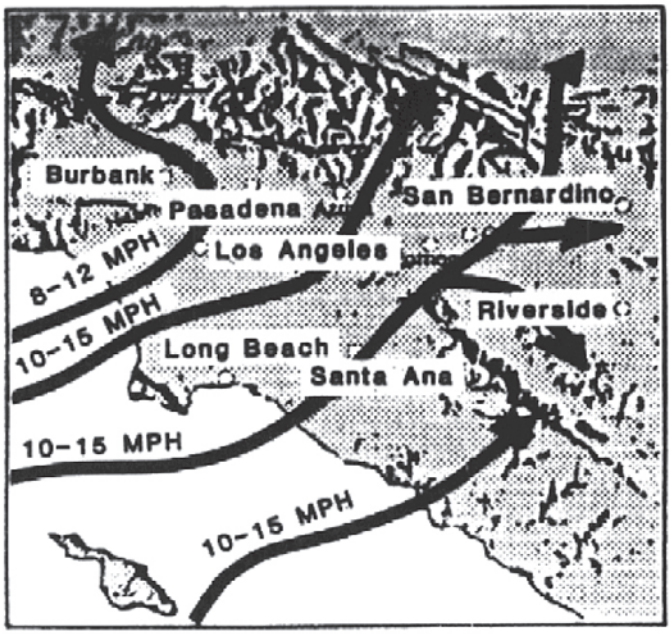
25 Ibid., p. 2-3.

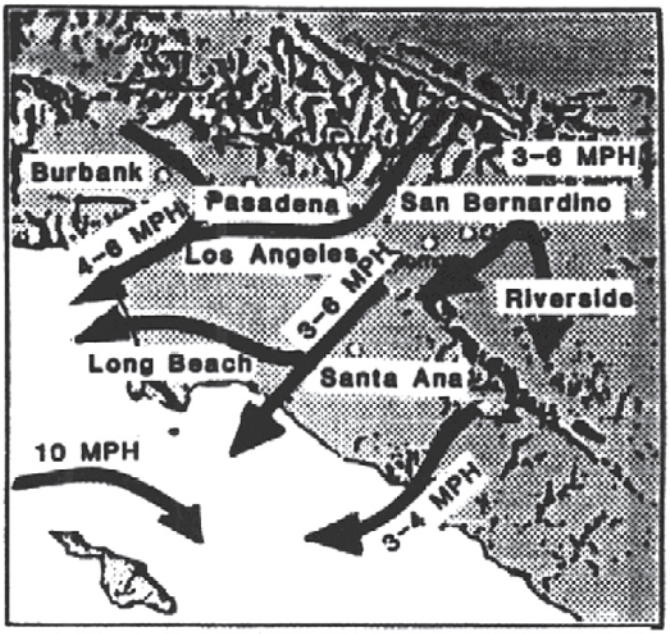
26 The proposed project is located on the border of SRA 13 and SRA 15, which covers the San Gabriel Mountains area. However, ambient air quality conditions are not monitored in SRA 15. Therefore, the air pollutant concentrations identified at the Santa Clarita/Placerita Monitoring Station are considered representative of the project area.

27 The specific address is 22224 Placerita Canyon Road in Santa Clarita.

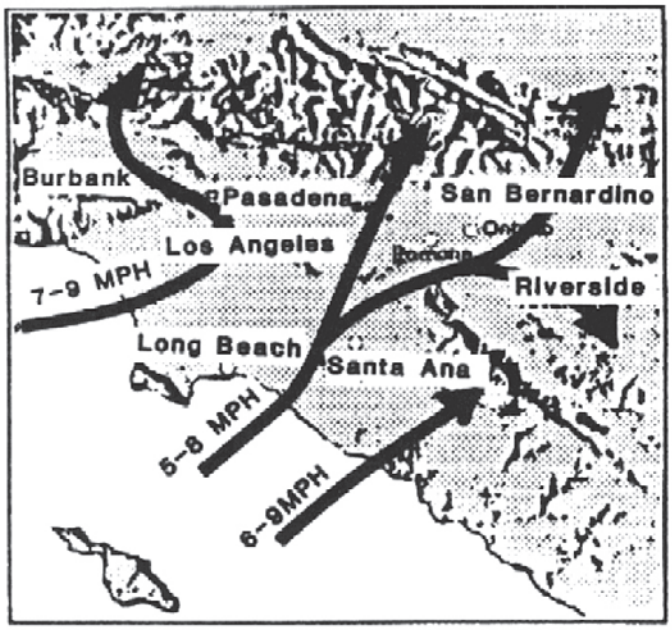
28 Prior to 1992, this station also monitored SO_2 pollutant concentrations for the Santa Clarita Valley.



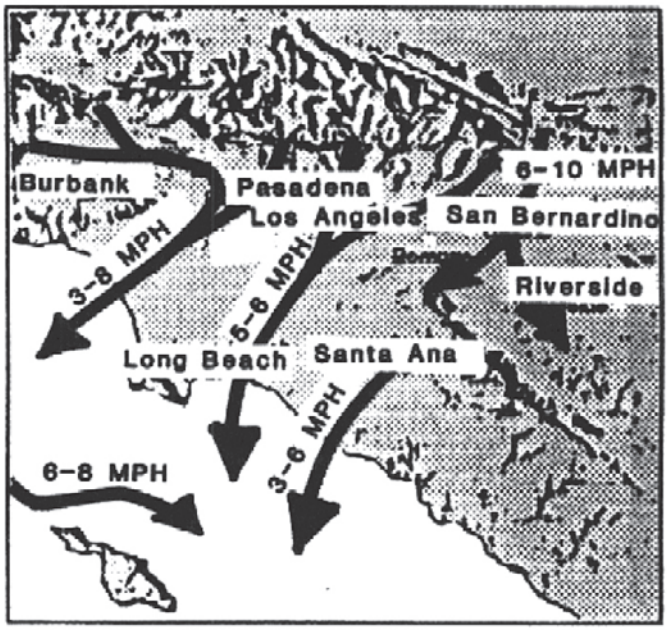
Typical Summer Daytime Ocean Winds
(noon to 7:00 pm)



Typical Summer Night Drainage Winds
(midnight to 5:00 am)



Typical Winter Daytime Ocean Winds
(noon to 7:00 pm)



Typical Winter Night Drainage Winds
(midnight to 5:00 am)

NOT TO SCALE

SOURCE: South Coast Air Quality Management District, CEQA Air Quality Handbook

FIGURE **4.7-2**

Dominant Wind Patterns in the Basin

Table 4.7-7
Ambient Pollutant Concentrations, Santa Clarita/Placerita Monitoring Station and Nearest Monitoring Stations

Pollutant	Standards[1, 2]	Year		
		2006	2007	2008
OZONE (O_3)				
Maximum 1-hour concentration monitored (ppm)		0.160	0.135	0.160
Maximum 8-hour concentration monitored (ppm)		0.120	0.110	0.131
Number of days exceeding state 1-hour standard	0.090 ppm	62	31	54
Number of days exceeding state 8-hour standard	0.070 ppm	64	64	81
Number of days exceeding federal 8-hour standard[3]	0.075 ppm	40	16	60
CARBON MONOXIDE (CO)				
Maximum 1-hour concentration monitored (ppm)		2	2	2
Maximum 8-hour concentration monitored (ppm)		1.3	1.2	1.1
Number of days exceeding state 8-hour standard	9.0 ppm	0	0	0
Number of days exceeding federal 8-hour standard	9 ppm	0	0	0
NITROGEN DIOXIDE (NO_2)				
Maximum 1-hour concentration monitored (ppm)		0.08	0.08	0.07
Annual average concentration monitored (ppm)		0.018	0.020	0.016
Number of days exceeding state 1-hour standard[4]	0.18 ppm	0	0	0
PARTICULATE MATTER (PM_{10})				
Maximum 24-hour concentration monitored ($\mu g/m^3$)		53	131	91
Annual average concentration monitored ($\mu g/m^3$)		23.4	29.9	25.8
Number of samples exceeding state standard	50 $\mu g/m^3$	1	5	2
Number of samples exceeding federal standard	150 $\mu g/m^3$	0	0	0
PARTICULATE MATTER ($PM_{2.5}$)				
Maximum 24-hour concentration monitored ($\mu g/m^3$)		44.1	43.3	50.5
Annual average concentration monitored ($\mu g/m^3$)		12.9	13.1	11.9
Number of samples exceeding federal standard[5]	35 $\mu g/m^3$	1	1	2
SULFUR DIOXIDE (SO_2)				
Maximum 24-hour concentration monitored (ppm)		0.004	0.003	0.003
Number of samples exceeding 24-hour state standard	0.04 ppm	0	0	0
Number of samples exceeding federal 24-hour standard	0.14 ppm	0	0	0

Sources:
California Air Resource Board, "Air Quality Data Statistics," http://www.arb.ca.gov/adam/welcome.html. 2010.
South Coast Air Quality Management District, "Historical Data By Year," http://www.aqmd.gov/smog/historicaldata.htm. 2010.

1 *Parts by volume per million of air (ppm), micrograms per cubic meter of air ($\mu g/m^3$), or annual arithmetic mean (aam).*

2 *Federal and state standards are for the same time period as the maximum concentration measurement unless otherwise indicated.*

3 *The U.S. EPA revised the federal 8-hour O_3 standard from 0.08 ppm to 0.075 ppm, effective May 27, 2008. The statistics are based on the standard in effect at the time.*

4 *CARB revised the state 1-hour NO_2 standard from 0.25 ppm to 0.18 ppm, effective March 20, 2008. The statistics are based on the standard in effect at the time.*

5 *The U.S. EPA revised the federal 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ in 2006. The statistics are based on the standard in effect at the time.*

(2) Local Vicinity Emissions

The vicinity of the project site is characterized by the Santa Clara River, Travel Village Recreational Vehicle (RV) Park, and State Route (SR) 126 to the north; Six Flags Magic Mountain Theme Park to the east; Westridge to the southeast; Stevenson Ranch to the south; undeveloped land within Newhall Ranch to the southwest; and Castaic Creek and the proposed Landmark Village project to the northwest. Elsewhere in the vicinity and within Newhall Ranch are oil and natural gas production operations. Emissions sources include stationary activities, such as space heating, cooking, and water heating; and mobile activities—primarily automobile and truck traffic along SR-126. No stationary sources of toxic air contaminants occur within 0.25 mile of the Mission Village site.[29]

(3) Site-Specific Emissions

Aside from the scattered agricultural operations on the project site and abandoned oil wells, the project site is undeveloped. The agricultural operations generate fugitive dust from the cultivated soil and dirt roads, and emissions from the farm equipment when it is utilized on the site. All oil wells were abandoned pursuant to requirements of the California Department of Oil and Gas.

5. PROPOSED PROJECT IMPROVEMENTS

The project applicant proposes residential, commercial, and recreational uses on the site, all of which would include sidewalks, bike lanes, trails, and trees that would shade buildings. The project is required to implement, as applicable and feasible, those mitigation measures for air quality impacts that were required in the certified *Newhall Ranch Specific Plan Program EIR* (May 2003). Implementation of these measures would directly and indirectly reduce the project's air emissions.

The project site is located within 5 miles of existing job centers (e.g., Valencia Commerce Center, Valencia Industrial Center, Corporate Center, Valencia Gateway, Centre Point Business Park, Rye Canyon Business Park, Valencia Market Place, and Town Center) that provide employment opportunities to Santa Clarita Valley residents. The project includes land uses that would generate employment opportunities itself. The proximity of project residences to these job centers would reduce the need for residents to commute to more distant employment centers in the San Fernando Valley, Ventura County, or beyond. The project also includes land uses that provide residents with a range of services, including access to parks, a school, and retail shopping areas. Project residences would be linked to these various employment, shopping,

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29 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993), p. 5-1, Fig. 5-1; p. 5-7. According to the *CEQA Air Quality Handbook*, 1/4-mile is the distance which the SCAQMD uses in evaluating impacts on sensitive receptors, which include long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, child care centers, and athletic facilities.

and recreation areas within the site through a network of streets, community trails, and paseos within the project site and within the remainder of Newhall Ranch Specific Plan area as it is built out.

The Mission Village project would facilitate the use of public transit by providing areas designated for bus stops along the Commerce Center Drive and Magic Mountain Parkway extensions through the site. The project study area is served by the Santa Clarita Transit system, which is operated by the City of Santa Clarita and largely serves the Santa Clarita Valley. Santa Clarita Transit currently operates two fixed-route transit lines, Routes 3 and 7, in the project vicinity Major destinations for Route 3 are Seco Canyon, Bouquet Seniors Apartments, and Best Buy Shopping Center. Major destinations for Route 7 are the Northpark and the Northbridge areas. Both routes serve the Tamarack loop, the Valencia Town Center area, Kaiser Medical Center/Borax, and Six Flags Magic Mountain Theme Park.[30]

Metrolink, operated by the Southern California Regional Rail Authority (SCRRA), provides commuter rail service between the Antelope Valley and Downtown Los Angeles, and also links Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego counties with convenient transfer service between the bus and rail systems. The closest Metrolink station to the project site is located along Soledad Canyon Road east of Bouquet Canyon Road. An eventual Metrolink extension along the SR-126 corridor to Ventura County is part of the long-range transit plans prepared by Ventura County, the City of Santa Clarita, and SCAG. Land within Newhall Ranch is set aside for the Metrolink right-of-way, and a park-and-ride and/or train station. Using data from 2007 (most recent data available), average weekday ridership on the Antelope Valley Line of the Metrolink, which serves the Santa Clarita Valley, was 7,302 people,[31] with approximately 18 percent boarding at the Santa Clarita station on Soledad Canyon Road.[32]

6. PROJECT IMPACTS

The analysis of potential local and regional air quality impacts associated with construction and operation of the proposed project, including the significance criteria applicable to assessing such impacts, is presented below.

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30 City of Santa Clarita, "Santa Clarita Transit," http://www.santa-clarita.com/cityhall/field/transit/routes &schedules.asp. 2010. .

31 Metrolink, "Antelope Valley Line 2007 Demographics Fact Sheet," http://www.metrolinktrains.com/about/?id=6. 2010. The Antelope Valley Line has 12 stations that run from Lancaster to Glendale.

32 Ibid.

a. Significant Thresholds Criteria

Based on the thresholds of significance identified in Appendix G of the *State CEQA Guidelines* (2006), the proposed project would result in a significant impact to air quality if it would:

(a) conflict with or obstruct implementation of the applicable air quality plan,

(b) violate any air quality standard or contribute substantially to an existing or projected air quality violation,

(c) result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors),

(d) expose sensitive receptors to substantial pollutant concentrations, and/or

(e) create objectionable odors affecting a substantial number of people.

The County of Los Angeles typically refers to the thresholds recommended by the SCAQMD in its *CEQA Air Quality Handbook*. The following discusses the thresholds utilized in this analysis for both construction and operational emissions generated by the proposed project, as well as the threshold for cumulative impacts.

(1) Construction Emission Thresholds

Impacts related to construction emissions associated with the proposed project would be considered significant if the proposed project exceeds the limits specified in **Table 4.7-8, SCAQMD Daily Construction Emission Thresholds**:

Table 4.7-8
SCAQMD Daily Construction Emission Thresholds

Significance Threshold	Pollutant (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction	75	100	550	150	150	55

Source: South Coast Air Quality Management District, Air Quality Significance Thresholds, *(2009).*

(2) Localized Significance Thresholds

The SCAQMD recommends the evaluation of localized air quality impacts to sensitive receptors in the immediate vicinity of the project site. The thresholds are based on the difference between the maximum

monitored ambient pollutant concentrations and the CAAQS or NAAQS. Therefore, the thresholds depend upon the concentrations of pollutants monitored locally with respect to a project site. For pollutants that already exceed the CAAQS or NAAQS (e.g., PM_{10} and $PM_{2.5}$), the thresholds are based on standards established by the SCAQMD in the *Final Localized Significance Threshold Methodology*. This evaluation requires that anticipated ambient air concentrations, determined using a computer-based air quality dispersion model, be compared to localized significance thresholds for PM_{10}, $PM_{2.5}$, NO_2, and CO.[33] The significance threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust) and Rule 1303 (New Source Review Requirements), while the thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of the project that would not cause or contribute to an exceedance of the relevant ambient air quality standards. The significance thresholds for $PM_{2.5}$ are intended to constrain emissions so as to aid in the progress toward attainment of the ambient air quality standards.[34] The applicable thresholds are shown below in **Table 4.7-9**, **Localized Significance Thresholds for Proposed Project in Source Receptor Area 13.**

Table 4.7-9
Localized Significance Thresholds for Proposed Project in Source Receptor Area 13

	Pollutant (concentration)							
	NO_2		CO		CO		PM_{10}	$PM_{2.5}$
	1-hour		1-hour		8-hours		24-hours	24-hours
	µg/m³	ppm	µg/m³	ppm	µg/m³	ppm	µg/m³	µg/m³
CAAQS/NAAQS[1]	188	0.100	23,000	20	10,000	9.0	10.4	10.4
Peak Background[2]	115	0.061	2,300	2	1,444	1.3	NA	NA
LSTs[3]	73	0.039	20,700	18	8,556	7.7	10.4	10.4

NA = not applicable

Source: South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008), Appendix C.

1 *California has not adopted a 24-hour standard for $PM_{2.5}$; the 24-hour $PM_{2.5}$ standard shown is the national standard. The U.S. EPA adopted a 1-hour standard for NO_2 that is lower than the California standard; therefore, the national standard is used for NO_2. All other standards are the California standards*

2 *The peak background concentration for NO_2 is based on the 3-year average of the 98th-percentile of the annual distribution of daily maximum 1-hour concentrations for 2006 through 2008. All other peak background concentrations are based on the maximum 1-hour concentrations between 2006 and 2008.*

2 *LSTs for NO_2 and CO are the differences between the more stringent of the CAAQS or NAAQS and the peak background concentration.*

33 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, (2008).

34 South Coast Air Quality Management District, *Final Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds*, (2006).

(3) Operational Emission Thresholds

Impacts related to operational emissions associated with the proposed project would be considered significant if the project's operational emissions exceed the limits specified in **Table 4.7-10, SCAQMD Daily Operation Emission Thresholds**. The SCAQMD established the operational emission thresholds, in part, based on Section 182(e) of the federal CAA, which identifies 10 tons per year of VOCs and NO_X as the significance level for stationary sources of emissions in extreme nonattainment areas for O_3. As discussed earlier, VOC and NO_X undergo photochemical reactions in sunlight to form O_3, and, at the time these thresholds were established, the SoCAB was the only extreme nonattainment area for O_3 in the United States. This emission threshold has been converted to a pound per day threshold for the operational phase of a project. Thresholds for other emissions have been identified based on regulatory limits adopted by the SCAQMD. Because the thresholds are converted from a federal CAA threshold, the SCAQMD has determined that these thresholds are based on scientific and factual data.[35]

Table 4.7-10
SCAQMD Daily Operation Emission Thresholds

Significance Threshold	Pollutant (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Operation	55	55	550	150	150	55

Source: South Coast Air Quality Management District, Air Quality Significance Thresholds*, (2009).*

(4) Additional Indicators of Potential Air Quality Impacts

The SCAQMD recommends that projects meeting any of the following criteria also be considered to have significant air quality impacts:[36]

- Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation.
- Project could result in population increases within an area which would be in excess of that projected by SCAG in the AQMP, or increase the population in an area where SCAG has not projected that growth for the project's buildout year.
- Project could generate vehicle trips that cause a CO hotspot or project could be occupied by sensitive receptors that are exposed to a CO hotspot.

35 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) p. 6-1.

36 Ibid., pp. 6-2–6-3.

- Project will have the potential to create, or be subjected to, an objectionable odor that could impact sensitive receptors.
- Project will have hazardous materials on site and could result in an accidental release of toxic air emissions or acutely hazardous materials posing a threat to public health and safety.
- Project could emit a TAC regulated by SCAQMD rules or that is on a federal or state air toxic list.
- Project could be occupied by sensitive receptors within 0.25 mile of an existing facility that emits air toxics identified in SCAQMD Rule 1401.
- Project could emit carcinogenic or TACs that individually or cumulatively exceed the maximum individual cancer risk of 10 in 1 million.

The following discussion reviews the project's potential impacts relative to each of the recommended significance criteria identified above.

(5) Cumulative Significance Thresholds

In large part, the SCAQMD 2007 AQMP was prepared to accommodate growth, to meet state and federal air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. According to the SCAQMD's *CEQA Air Quality Handbook*, projects that are within the emission thresholds identified above should be considered less than significant on a cumulative basis unless there is other pertinent information to the contrary.[37]

If a project is not within the emission thresholds above, the SCAQMD's *CEQA Air Quality Handbook* identifies three possible methods to determine the cumulative significance of land use projects.[38] The SCAQMD's methods are based on performance standards and emission reduction targets necessary to attain the federal and state air quality standards identified in the 2007 AQMP. However, one method is no longer recommended or supported by the SCAQMD, and another method is not applicable as the SCAQMD repealed the underlying regulation (Regulation XV) after the *CEQA Air Quality Handbook* was published.[39] Therefore, the only viable SCAQMD method for determining cumulative impacts is based on whether the rate of growth in average daily trips exceeds the rate of growth in population.

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37 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) p. 9–12.

38 Communication with Dr. Steve Smith, Program Supervisor, South Coast Air Quality Management District, November 20, 2003.

39 The two methods that are no longer recommended and supported by the SCAQMD are: (1) demonstrating a 1 percent per year reduction in project emissions of VOC, NO_X, CO, SO_X, and PM_{10} and (2) demonstrating a 1.5 average vehicle ridership, or average vehicle occupancy for a transportation project.

b. Construction-Related Impacts

(1) Construction Emissions

As mentioned above, construction-related emissions can be designated as on site or off site. On-site emissions generated during construction primarily consist of exhaust emissions (VOCs, NO_X, CO, SO_X, PM_{10}, $PM_{2.5}$) from heavy-duty diesel powered construction equipment operation, fugitive dust (PM_{10} and $PM_{2.5}$) from disturbed soil, and evaporative VOC emissions from asphalt paving and architectural coatings (i.e., painting). Off-site emissions during the construction phase normally consist of exhaust emissions from worker commute trips and on-road haul and vendor trucks.

Development of the proposed project would require site preparation and grading; pavement and asphalt installation (including infrastructure improvements); and construction of the proposed residential, commercial, institutional, and recreational uses. During project buildout, emissions would be generated by on-site stationary (portable) sources, heavy-duty construction vehicles, on-road trucks, and construction worker vehicles. In addition, fugitive dust would be generated during grading operations.

Complete project buildout is assumed to take place approximately seven years from receipt of all necessary project approvals; however, development would be based on market conditions. Therefore, because development would be based on market conditions and because of the normal day-to-day variability in construction activities, it is difficult, if not impossible, to precisely quantify the daily emissions associated with construction. The URBEMIS2007 Environmental Management Software was used to estimate the emissions associated with construction of the proposed project. URBEMIS2007 is a land use and transportation based computer model designed to estimate regional air emissions from new land use development projects. The model accounts for certain meteorological conditions that characterize specific air basins in California. The model was developed by CARB and is approved for use by the SCAQMD. Construction emissions were estimated based on a seven-year construction schedule with grading activities commencing first, followed by infrastructure improvements and building construction. Reasonably conservative assumptions were used where specific information was not available. The data and assumptions used to calculate the emissions for each subphase of construction are provided below.

(a) Grading

Site grading would require on-site cut and fill activities. The project applicant estimated that the total amount of soil for cut and fill would be 41,000,000 cubic yards (cy). The project applicant also estimated that approximately 20 acres of unpaved surfaces would be disturbed per day. This estimated in based on the terrain characteristics and the number of construction equipment that would be in operation on a

given day. Construction equipment used on the site include crawler tractors, excavators, graders, off-highway trucks, rubber tired dozers, scrapers, backhoes, and water trucks. Grading is expected to last for approximately 885 days. A second grading phase would occur for grade control and bank stabilization. This second phase would require the same type of equipment, although fewer in number, and would last for approximately 40 days.

The emission calculations assume the use of standard construction practices, such as compliance with SCAQMD Rule 403 (Fugitive Dust), to minimize the generation of fugitive dust. Compliance with Rule 403 is mandatory for all construction projects. In the URBEMIS2007 model, the emission calculations take into account compliance with Rule 403 by incorporating the following measures:

- Watering of exposed surfaces and unpaved roads three times daily, which is estimated to reduce fugitive dust emissions from this source (PM_{10} and $PM_{2.5}$) by 61 percent, per guidance from the SCAQMD.
- Use of soil stabilization measures during equipment loading and unloading, which is estimated to reduce fugitive dust emissions from this source (PM_{10} and $PM_{2.5}$) by 69 percent, per guidance from the SCAQMD.
- Limiting the speed of travel on unpaved roads to 15 mph, which is estimated to reduce fugitive dust emissions from this source (both PM_{10} and $PM_{2.5}$) by 44 percent, per guidance from the SCAQMD.
- Use of soil stabilization measures on inactive areas, which is estimated to reduce fugitive dust emissions from this source (PM_{10} and $PM_{2.5}$) by 84 percent, per guidance from the SCAQMD.

The last two measures listed above are generally required for projects of this size. Rule 403 contains other best available control measures to minimize fugitive dust emissions; however, they are not accounted for in the URBEMIS2007 model.

Emissions associated with grading of the utility corridor were included as part of the proposed project. Approximately 8 acres of unpaved surfaces would be disturbed per day. Construction equipment used would include crawler tractors, excavators, off-highway trucks, rubber tired loaders, and water trucks. Grading is expected to last for approximately 261 days. Standard construction practices, including fugitive dust control measures, would be required, as previously described.

(b) Infrastructure Improvements

Infrastructure improvements include the construction of sewer and water lines, storm drains, and roadways. Construction of the sewer lines would commence approximately nine months after site grading has begun and would last for approximately 681 days. Construction of the water lines and storm drains would follow lasting for approximately 374 days and 340 days, respectively. Construction

equipment used would include cranes, excavators, backhoes, and water trucks. Roadway construction would result in approximately 184.8 acres of streets and would commence after the other infrastructure improvements have been generally completed and last approximately 230 days. Roadway construction equipment would include graders, pavers, rollers, scrapers, and water trucks.

(c) Building Construction

Building construction is anticipated to commence in the fourth quarter of 2013 and last until 2018. Because development would be based on future market conditions, it is not possible to program the URBEMIS2007 model with specific building construction timeframes. The model was set up assuming that construction of the various land uses (e.g., residential, commercial, and recreational) would occur evenly throughout the period. Building construction equipment includes cranes, forklifts, generators, backhoes, and welders. In addition to building construction, emissions would be generated from architectural coating and the paving of parking lots and walkways. These emissions would occur simultaneously but would not commence until several months after the start of building construction. It should be noted that building construction, architectural coating, and paving would occur simultaneously with grading and infrastructure improvements occurring elsewhere on the project site.

(d) Construction Emissions Summary

Based on the above information, the estimated construction emissions are provided below in **Table 4.7-11**, **Estimated Unmitigated Construction Emissions**. The emission factors for each type of construction equipment were obtained from CARB's EMFAC2007 model and OFFROAD2007 model, both of which are incorporated as part of the URBEMIS2007 model. The EMFAC2007 model generates emissions factors for on-road mobile sources (e.g., passenger vehicles and on-road trucks) and the OFFROAD2007 model generates emission factors for off-road sources (e.g., construction equipment). Other emission factors, such as for fugitive dust emissions, are based on SCAQMD-approved factors, which are also incorporated into the URBEMIS2007 model. The majority of the construction equipment and activities are assumed to operate during the workday between 6 and 10 hours per day. The numbers of worker and vendor trips are based on URBEMIS2007 default values. As shown in **Table 4.7-11**, the project's construction-related emissions would exceed the applicable SCAQMD thresholds for VOCs, NOx, PM_{10}, and $PM_{2.5}$ during multiple construction years. Both CO and SOx emissions would not exceed the thresholds during any year. It is expected that the project's construction-related activities will either emit the other criteria pollutants (i.e., sulfates, hydrogen sulfide, lead, vinyl chloride, and visibility reducing particles) in nominal quantities (i.e., sulfates), not at all (i.e., hydrogen sulfide, lead, and vinyl chloride), or will be accounted for by the pollutants actually estimated in this analysis (i.e., visibility reducing particles). For example, visibility reducing particles are associated with particulate matter

emissions, which are included in the construction emissions estimate. Sulfates in the atmosphere are associated with SO_x emissions, which are included in the construction emissions estimate. Hydrogen sulfide, lead, and vinyl chloride are not expected to be emitted as a result of construction activities. Based on the analysis, construction of the project would result in significant impacts to regional air quality for ozone, ozone-precursors, PM_{10}, and $PM_{2.5}$.

Table 4.7-11
Estimated Unmitigated Construction Emissions

Construction Year	Maximum Daily Emissions (Pounds per Day)					
	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
2011	43	373	176	<1	893	198
2012	45	386	184	<1	893	198
2013	51	405	307	<1	820	184
2014	127	498	362	<1	853	194
2015	69	52	128	<1	4	3
2016	69	47	120	<1	4	3
2017	68	43	113	<1	4	3
2018	67	40	107	<1	3	3
Maximum Emissions in Any Year	127	498	362	<1	893	198
SCAQMD Thresholds	75	100	550	150	150	55
Exceeds Thresholds?	**YES**	**YES**	**NO**	**NO**	**YES**	**YES**

*Source: Impact Sciences, Inc., (2010). Emissions calculations are provided in **Appendix 4.7**.*
Totals in the table may not appear to add exactly due to rounding in the computer model calculations.

(2) Localized Significance Thresholds

The SCAQMD recommends the evaluation of localized NO_2, CO, PM_{10}, and $PM_{2.5}$ impacts as a result of on-site construction activities to sensitive receptors in the immediate vicinity of the project site. This analysis determined the ambient air quality impacts due to construction activities on the day with the highest estimated on-site daily mass emissions.

Sensitive receptors are defined by the SCAQMD in accordance with the following:

> *For the purposes of a CEQA analysis, the SCAQMD considers a sensitive receptor to be to be a receptor such as residence, hospital, convalescent facility were it is possible that an individual could remain for 24 hours. Commercial and industrial facilities are not included in the definition of sensitive receptor because employees do not typically remain on site for a full 24 hours, but are present for shorter periods of time, such as eight hours. Therefore, applying a 24-hour standard for PM10 is appropriate not only because the averaging period for the state standard is 24 hours, but*

> *because, according to the SCAQMD's definition, the sensitive receptor would be present at the location for the full 24 hours.*
>
> *Since a sensitive receptor is considered to be present on site for 24 hours, LSTs based on shorter averaging times, such as the one-hour NO2 or the one-hour and eight-hour CO ambient air quality standards, would also apply. However, LSTs based on shorter averaging periods, such as the NO2 and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours.*[40]

Therefore, nearby commercial, industrial, residential, hospital, convalescent land uses, and other areas where people could remain for 24 hours were considered to be sensitive receptors for PM_{10} and $PM_{2.5}$. Nearby commercial, industrial, recreational, school land uses, and other areas where people could remain for 1 to 8 hours were considered to be sensitive receptors for CO and NO_2.

Per the recommendation of the SCAQMD, ambient NO_2, CO, PM_{10}, and $PM_{2.5}$ concentrations due to the construction of the project were analyzed using methods described in its *Final LST Methodology.*[41] The U.S. EPA and SCAQMD-approved dispersion model, AERMOD[42] was used for the analysis to model the dispersion of the pollutants of concern. The AERMOD model was run in accordance with dispersion modeling guidance from the SCAQMD.[43]

Table 4.7-12, Localized Significance Threshold Analysis – Maximum Unmitigated Impacts, show the maximum NO_2, CO, PM_{10}, and $PM_{2.5}$ concentrations associated with construction of the project at the maximally impacted sensitive receptors. The estimates below are based on conservative assumptions. As stated earlier, construction emissions were based on conservative assumptions and do not fully take into account emissions reductions that would occur from CARB regulations that are scheduled to be implemented over the coming years. In addition, impacts were modeled assuming the maximum on-site emissions would occur on land proposed for development that is closest to sensitive receptors and that the emission sources would be concentrated in a contiguous 20-acre parcel.[44] For additional details regarding the localized significance thresholds analysis, refer to **Appendix 4.7**.

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40 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, (2008) p. 3-2.

41 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*, (2008).

42 Lakes Environmental Software, ISC-AERMOD View.

43 South Coast Air Quality Management District, "AQMD Modeling Guidance for AERMOD," http://www.aqmd.gov/smog/metdata/AERMOD_ModelingGuidance.html. 2009.

44 The maximum daily acreage to be disturbed is 20 acres.

As shown in **Table 4.7-12,** construction of the project would not generate on-site emissions in excess of the site-specific localized significance thresholds for CO. Construction of the project would generate on-site emissions in excess of the threshold for NO_2, PM_{10}, and $PM_{2.5}$ at sensitive receptors adjacent to the project site. Based on this assessment, the localized impacts for NO_2, PM_{10}, and $PM_{2.5}$ would be potentially significant during construction when construction activity is taking place near off-site sensitive receptors. Mitigation measures that reduce the level of significant impacts are presented later in this section.

Table 4.7-12
Localized Significance Threshold Analysis – Maximum Unmitigated Impacts

	Maximum Modeled Concentrations (micrograms per cubic meter; parts per million)							
	NO_2		CO		CO		PM_{10}	$PM_{2.5}$
	1-hour		1-hour		8-hour		24-hour	24-hour
Construction LST	µg/m³	ppm	µg/m³	ppm	µg/m³	ppm	µg/m³	µg/m³
LSTs[1]	73	0.039	20,700	18	8,556	7.7	10.4	10.4
Modeling Results	126	0.067	311	<1	52	0.1	151.0	54.1
Location of Results (UTM Coordinates)	353500, 3810500		352907.63, 3810237.25		352890.28, 3810404.75		351100, 3811200	350000, 3810200
Exceeds Threshold?	**YES**		NO		NO		**YES**	**YES**

Source: Impact Sciences, Inc., (2010). Emissions calculations are provided in ***Appendix 4.7****.*

[1] *South Coast Air Quality Management District,* Final Localized Significance Threshold Methodology*, (2008).*

(3) Construction-Related Health Impacts of Toxic Air Contaminants

The health impacts due to diesel exhaust particulate matter (DPM) emitted by diesel trucks and equipment associated with construction of the proposed project were evaluated. DPM is a health concern because some of the exhaust constituents, such as arsenic, benzene, and nickel, are known to cause cancer in humans. Exposure to DPM also can cause non-cancer health effects, including respiratory symptoms, changes in lung function, and cardiovascular disease. A health risk assessment has been prepared for the proposed Mission Village project and is found in **Appendix 4.7** of this EIR, and a summary of the assessment is provided herein.

The SCAQMD recommends the following significance criteria for health risk assessments:

Criterion 1: a greater than 10 in 1 million (10 x 10^{-6}) lifetime probability of contracting cancer; and

Criterion 2: a health hazard index of 1.0 for evaluating the non-carcinogenic effects of toxic air contaminants.

These thresholds generally apply to operational-based impacts. The SCAQMD established the first criterion based on a 70-year exposure duration. However, the proposed project would not expose nearby

sensitive receptors to 70 years of construction-related DPM emissions. The SCAQMD has not adopted a methodology or significance thresholds for evaluating the health impacts associated with shorter-term construction impacts. Nonetheless, the Proposed Project, given the duration of construction and the location of nearby sensitive receptors, evaluated construction-based health risks in the interest of full disclosure. In accordance with discussions with the SCAQMD, construction-based health impacts were evaluated over a 70-year exposure duration, with the assumption that construction emissions would be equal to zero after the approximate 7-year buildout. The total on-site DPM emissions were averaged over a 70-year period and converted to an emissions factor for use in the dispersion model, AERMOD. Detailed calculations are provided in **Appendix 4.7**.

The health risk assessment follows the methodologies outlined in OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*[45] (OEHHA Guidance) and considers exposure via inhalation only. The potential exposure through other pathways (e.g., ingestion) requires substance and site-specific data for the specific pollutant being analyzed. The specific parameters for DPM are not known for pathways other than inhalation.[46]

The dispersion of the construction emissions of DPM was modeled using the AERMOD model[47] along with 2005 through 2007 meteorological data obtained from the SCAQMD website for the Santa Clarita monitoring station. The modeled annual average ambient concentrations of DPM were converted to an estimated cancer risk by multiplying these levels by the OEHHA inhalation cancer potency factor of 1.1 per milligram per kilogram of body weight per day (mg/kg-day) and appropriate factors representing potential exposure periods. Additional details about the health risk assessment are provided in **Appendix 4.7**.

Table 4.7-13, Summary of Maximum Modeled Cancer Risks of Diesel Particulate Matter from Construction, provides the estimated cancer risk for the residential, workplace, and student receptors that would have the highest potential risks due to DPM from the construction of the proposed development.

45 Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, (2003).

46 Office of Environmental Health Hazard Assessment, *Report to the Air Resources Board on the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Part A Exposure Assessment*, (1998).

47 Lakes Environmental Software, ISC-AERMOD View.

Table 4.7-13
Summary of Maximum Modeled
Cancer Risks of Diesel Particulate Matter
from Construction

Receptor	Cancer Risk
Residence[1]	3.4×10^{-6}
Workplace[2]	1.2×10^{-6}
Student[3]	0.3×10^{-6}

Source: Impact Sciences, Inc., (2010).
[1] *Maximum impact occurred at Landmark Village.*
[2] *Maximum impact occurred at Landmark Village.*
[3] *Maximum impact occurred at Live Oak Elementary School.*

In addition to the potential cancer risk, DPM has chronic (i.e., long-term) noncancer health impacts. The chronic noncancer inhalation hazard indices for the proposed project were calculated by dividing the modeled annual average concentrations of the DPM by the REL. OEHHA has recommended an ambient concentration of 5 micrograms per cubic meter ($\mu g/m^3$) as the chronic inhalation REL for DPM. The REL is the concentration at or below which no adverse health effects are anticipated. No inhalation REL for acute (i.e., short-term) effects has been determined by the OEHHA. The chronic noncancer inhalation hazard index for the proposed project was calculated by dividing the modeled annual average concentrations of DPM by the REL. The maximum chronic hazard indices at selected receptors are shown in **Table 4.7-14, Summary of Maximum Modeled Noncancer Health Impacts of Diesel Particulate Matter from Construction**. The chronic hazard indices at the points of maximum impact are much less than the SCAQMD significance threshold of 1.0 for noncancer health impacts. The health impacts associated with the construction of the proposed project are below the significance criteria and, therefore, are less than significant.

Table 4.7-14
Summary of Maximum Modeled Noncancer Health Impacts
of Diesel Particulate Matter from Construction

Receptor	Chronic Hazard Index
Maximum Impacted Receptor	0.245

Source: Impact Sciences, Inc., (2010).

(4) Construction Emissions Conclusions

Project construction emissions would exceed the SCAQMD's thresholds of significance for VOCs, NO_X, PM_{10}, and $PM_{2.5}$ during the first half of construction when grading activity is anticipated in conjunction with utilities trenching, street paving, and the onset of building construction. The impacts are considered potentially significant to regional air quality and feasible mitigation is required. In addition, the LST analysis indicates that construction could result in significant localized impacts of NO_2, PM_{10}, and $PM_{2.5}$ to nearby sensitive receptors. The effectiveness of the proposed mitigation in reducing these potentially significant adverse air quality impacts is discussed below. Construction is not expected to result in a significant incremental increase in adverse health impacts to receptors; therefore, mitigation is not required to address health impacts. Nonetheless, the implementation of mitigation measures that reduces construction emissions will likely have a co-benefit of reducing health impacts from the levels indicated above.

c. Operational Impacts

(1) Operational Emissions

Operational emissions would be generated by point, area, and mobile sources as a result of normal day-to-day activities on the project site after occupation. Stationary emissions would be generated by the consumption of natural gas for space and water heating devices, the operation of landscape maintenance equipment, and from the use of consumer products. Mobile emissions would be generated by motor vehicles (e.g., passenger vehicles, trucks, buses, motorcycles, etc.) traveling to and from the project site. The data and assumptions used to calculate the emissions for the operational emissions sources are provided below.

(a) Point Source Emissions

Point source emissions could be generated, depending upon the types of uses located in the commercial areas of the project site. For this analysis, it is conservatively assumed that the types of point sources that could be potentially located in this area would include fast-food restaurants with under-fired charbroilers, fuel dispensers at gasoline stations, and dry cleaners. The use of under-fired charbroilers at restaurants results in emissions of VOCs and PM_{10}. Emissions from under-fired charbroilers are regulated under SCAQMD Rule 1138 (Control Of Emissions From Restaurant Operations), which requires the installation of catalytic oxidizers that can reduce PM_{10} emissions by approximately 89 percent and VOC emissions by 86 percent. Fuel-dispensers results in emissions of VOCs during gasoline dispensing, storage tank breathing, and gasoline spillage. Emissions from fuel dispensers are regulated by SCAQMD Rule 461 (Gasoline Transfer and Dispensing), which requires the installation of vapor recovery systems that can reduce vapor loss during dispensing by as much as 95 percent. Dry cleaners have the potential to

result in emissions of perchloroethylene, which has been identified as a TAC under California Health and Safety Code section 39650 et. seq. Dry cleaners using perchloroethylene are subject to the requirements of SCAQMD Rule 1421 (Control of Perchloroethylene Emissions from Dry Cleaning Systems), which contains requirements for operating perchloroethylene-containing equipment and transitioning to non-perchloroethylene alternatives.

Although the specific uses that would locate at the commercial sites are not known at this planning stage, it is assumed for the purposes of this impact analysis, based on common uses in similarly sized commercial centers, that at least one fast-food restaurant with an under-fired charbroiler and at least one gas station could operate at the site. Both of these uses, should they occur, would require SCAQMD permits to operate and would be required to employ best available control technologies (BACT) to control their stationary source emissions before they could receive their permits. Based on information obtained from the SCAQMD, it is assumed that a restaurant would charbroil 233 pounds of 25 percent fat content hamburger meat daily and would operate in conformance with Rule 1138.[48] Based on those assumptions, the restaurant would generate approximately 1 pound of PM_{10}[49] and less than 1 pound of VOCs per day.[50] Based on information obtained from the SCAQMD,[51] it is assumed that the gas station would have a through-put of 10,000 gallons per day and would operate in conformance with Rule 461. Based on those assumptions, the gas station would generate approximately 3 pounds of VOCs per day.[52]

If a dry cleaning establishment were to be located on the commercial site, mitigation is proposed that would require any such establishment to utilize off-site cleaning operations at facilities already permitted by the SCAQMD. Therefore, all dry cleaning operations are presumed to occur at existing permitted

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48 South Coast Air Quality Management District, "Emission Factors for Commercial Cooking Operations," http://www.aqmd.gov/rules/proposed/1138/PAR1138PDSR_AppendixI.pdf. n.d. High fat content hamburger meat generates the greatest amount of PM10 and VOC emissions of most charbroiled meats.

49 This emission assumes an uncontrolled emission rate of 32.65 pounds of PM10 per 1,000 pounds of 25 percent fat hamburger meat and an 89 percent reduction rate.

50 This emission assumes an uncontrolled emission rate of 3.94 pounds of VOC per 1,000 pounds of 25 percent fat hamburger meat and an 86 percent reduction rate.

51 South Coast Air Quality Management District, "Staff Report for Rule 461," http://www.aqmd.gov /hb/2008/March/080335a.htm. 2008.

52 This calculation assumes an emission rate of 0.417 pounds of VOC/1,000 gallons during gasoline dispensing, 0.027 pounds of VOC/1,000 gallons from storage tank breathing, and 0.232 pounds of VOC/1,000 gallons from gasoline spillage. The emission rate of 0.417 was provided by SCAQMD staff (telephone voice mail Randy Matsuyama, Air Quality Engineer II, SCAQMD, to Darren W. Stroud, Nossaman, Guthner, Knox & Elliott, LLP, October 20, 2003). The emission rate of 0.027 lb/1,000 gallons is based on the emission factor of 0.1 lb/1,000 gallons from page A-2 of the Staff Report for Proposed Rule 461 - Gasoline Transfer and Dispensing for the Pressure/Vacuum Vent (P/V) Valve on Vent Pipe (Breathing Loss) calculation and the control efficiency of 73 percent. The emission rate of 0.232 lb/1,000 gallons is based on the emission factor of 0.29 lb/1000 gallon from page A-3 of the Staff Report for Proposed Rule 461 - Gasoline Transfer and Dispensing for the Required Check Valve in the Nozzle calculation, and a control efficiency of 20 percent.

off-site locations and no point source emission permit under the authority of the SCAQMD would be required for the project.

The above analysis is expected to be consistent with the analysis that would be performed during the SCAQMD permit process; permits would not be issued for these uses by the SCAQMD unless they comply with SCAQMD rules and regulations, including the use of emission control equipment at the site. Accordingly, based on the above stationary source emissions from these uses and the SCAQMD requirement that the operators employ BACT and other emission controls prior to issuance of a permit to operate from the SCAQMD, point source emissions from the fast-food restaurant and gasoline station, as shown in **Table 4.7-15, Estimated Unmitigated Operational Emissions**, below.

(b) Area and Mobile Source Emissions

Area sources emissions would be generated during the consumption of natural gas for space and water heating devices, by natural gas fireplaces, and during the operation of gasoline-powered landscape maintenance equipment and use of consumer products (e.g., hair spray, deodorants, lighter fluid, air fresheners, automotive products, and household cleaners). Mobile source emissions would be generated by the motor vehicles traveling to and from and within the project site.

Area and mobile source emissions were estimated using URBEMIS2007. The project's land uses were entered into the model to estimate area source emissions. It was assumed that all buildings would combust natural gas and that all residential dwelling units would be equipped with a natural gas fireplace. The project would house approximately 10,802 persons, which is approximately 2.45 persons per dwelling unit. Average daily trip (ADT) generation rates used in URBEMIS2007 were obtained from data contained in the *Mission Village Traffic Impact Analysis*.[53] URBEMIS2007 estimates mobile source emission reductions for projects that locate mixed land uses in close proximity, include the presence of local serving retail, and incorporate transit services. The required inputs are the number of residential units and estimated employment numbers within a half mile of the project's center or within the entire project, whichever is larger. For the proposed project, the total number of residential units and the estimated employment numbers from the project's nonresidential land uses (4,412 dwelling units and 4,571 employees) were used in URBEMIS2007.[54] In addition, the number of weekday buses stopping within a quarter mile of the project site is required. As noted earlier, the project site is located near to Routes 3 and 7. It was assumed that each route would provide one stop within a quarter mile of the project site. Based on data from Santa Clarita Transit, it was estimated that approximately 42 buses would provide weekday service to the site.

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53 Austin-Foust Associates, Inc., *Mission Village Traffic Impact Analysis*, (2010).

54 The estimate of employment numbers are provided in the traffic impact analysis.

The project's area and mobile source emissions, as estimated using URBEMIS2007, are shown in **Table 4.7-15**. The table does not reflect mitigation required of the Mission Village project under the *Newhall Ranch Specific Plan* approval.

Table 4.7-15
Estimated Unmitigated Operational Emissions

Emissions Source	Emissions in Pounds per Day					
	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Summertime Emissions						
Point Sources	3	—	—	—	1	1
Mobile Sources	216	224	2,220	4	723	141
Area Sources						
Natural Gas	6	75	37	0	<1	<1
Hearth (Natural Gas Fireplaces)	—	—	—	—	—	—
Landscape Maintenance	8	<1	55	0	<1	<1
Consumer Products	185	—	—	—	—	—
Architectural Coatings	19	—	—	—	—	—
Area Source Subtotal	218	75	91	0	<1	<1
Summertime Emission Totals:	437	299	2,311	4	724	142
Recommended Threshold:	55	55	550	150	150	55
Exceeds Threshold?	**YES**	**YES**	**YES**	NO	**YES**	**YES**
Wintertime Emissions						
Point Sources	3	—	—	—	1	1
Mobile Sources	227	269	2,104	4	723	141
Area Sources						
Natural Gas	6	75	37	0	<1	<1
Hearth (Natural Gas Fireplaces)	2	27	11	<1	2	2
Landscape Maintenance	—	—	—	—	—	—
Consumer Products	185	—	—	—	—	—
Architectural Coatings	19	—	—	—	—	—
Area Source Subtotal	211	101	48	<10	2	2
Wintertime Emission Totals:	441	370	2,152		726	144
Recommended Threshold:	55	55	550	150	150	55
Exceeds Threshold?	**YES**	**YES**	**YES**	NO	**YES**	**YES**

*Source: Impact Sciences, Inc., (2010). Emissions calculations are provided in **Appendix 4.7**.*
Totals in table may not add exactly due to rounding in the computer model calculations.

As shown in **Table 4.7-15**, the project at buildout and in full operation would generate total summertime and wintertime emissions of VOC, NO_x, CO, PM_{10}, and $PM_{2.5}$ that would exceed SCAQMD recommended thresholds. As the amount of emissions under the proposed project would exceed the recommended significance thresholds for operational emissions, project air quality impacts would result in a significant impact on air quality in the region.

(2) Additional Indicators of Potential Air Quality Impacts

As previously discussed, the SCAQMD lists additional criteria indicating when a project may result in potential air quality impacts.[55] The section is organized by first restating the threshold followed by an analysis of the impacts.

- Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation.

The SCAQMD's *CEQA Air Quality Handbook* indicates that an air quality modeling analysis that identifies the proposed project's impact on ambient air quality would need to be performed.[56] In order for a project to be found consistent, the analysis would have to demonstrate that the project's emissions would not increase the frequency or the severity of existing air quality violations, or contribute to a new violation.[57] The CO hotspots analysis for traffic emissions described later in this section assesses the potential ambient air quality impacts with respect to this pollutant. With respect to the other criteria pollutants (NO_2, SO_2, PM_{10}, and $PM_{2.5}$), URBEMIS2007 is used to calculate project emissions for comparison with the SCAQMD significance thresholds addressing regional significance. Emissions of VOCs and NO_X contribute to ozone; however, the effect of the proposed project's VOC and NO_X emissions on regional ozone concentrations cannot be determined because no model exists to estimate impacts from a single project. While the project's operational emissions exceed the significance thresholds for VOCs, NO_X, CO, PM_{10}, and $PM_{2.5}$ the project would not violate ambient air quality standards or contribute considerably to an existing or projected air quality violation if it is consistent with regional growth projections and the applicable AQMP, which is discussed under the next impact criteria.

- Project could result in population increases within an area that would be in excess of that projected by SCAG in the AQMP, or increase the population in an area where SCAG has not projected that growth for the project's buildout year.

The 2007 AQMP is designed to accommodate growth, to reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, to achieve the federal 8-hour ozone standard by 2024 (under the bump-up to "extreme" nonattainment) and to minimize the impact on the economy. Projects that are consistent with the AQMP do not interfere with attainment and do not contribute to the exceedance of an existing air quality violation because the growth is included in the projections utilized in the formulation of the AQMP. Therefore, projects, uses, and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified

55 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993), pp. 6-2–6-3.

56 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) p. 12-3.

57 Ibid.

in the AQMP, even if they exceed the SCAQMD's recommended thresholds. The following analysis discusses the proposed project's consistency with the AQMP.

Projects that are consistent with growth forecasts identified by SCAG are considered consistent with the AQMP growth projections. This is because the growth projections by SCAG form the basis of the land use and transportation control portions of the AQMP. The proposed project is consistent with the future residential figures projected for the region. The proposed project would have an estimated population of 10,802 people. According to data from the California Department of Finance, the current population in the City of Santa Clarita is estimated at 177,150 people.[58] The 2004 SCAG projections, which are incorporated into the 2007 AQMP, anticipates the City of Santa Clarita would have a population level of 200,104 people in 2015 and 211,367 people in 2020.[59] The project's increase in population accounts for approximately 47 percent of the projected population and employment increase within the City in 2015 and 32 percent of the projected population and employment increase within the City in 2020. Therefore, the proposed project would not increase population figures over those that have been planned for the area, would be consistent with the AQMP forecasts for this area, and would be considered consistent with the air quality-related regional plans. The project is not expected to jeopardize attainment of state and federal ambient air quality standards in the SoCAB and would result in a less than significant impact with respect to this criterion.

Another measurement tool in determining AQMP consistency is to determine how a project accommodates the expected increase in population and employment. Generally, if a project is planned in a way that minimizes vehicle miles traveled both within the project and in the community in which it is located, and consequently air pollutant emissions, that project is consistent with the AQMP.[60] The project site is located in close proximity to several modes of public transportation. Therefore, it is reasonably expected that some portion of the project's population would utilize public transportation. As a result, vehicle miles traveled and, consequently, air pollutant emissions from mobile sources, would be further reduced.

- Project could generate vehicle trips that cause a CO hotspot or project could be occupied by sensitive receptors that are exposed to a CO hotspot.

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58 California Department of Finance, "E-1 Population Estimates for Cities, Counties, and the State with Annual Percent Change — January 1, 2008 and 2009," http://www.dof.ca.gov/research/demographic/reports/estimates/e-1/2008-09/. 2009.

59 Southern California Association of Governments, "City Projections," http://www.scag.ca.gov/forecast/downloads/2004GF.xls. 2008.

60 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, (1993) p. 12-5.

Traffic-congested roadways and intersections that operate at a level of service (LOS) D, E, or F have the potential to generate localized high levels of CO within approximately 1,000 feet of a roadway. According to the UC Davis *Transportation Project-Level Carbon Monoxide Protocol*, if an intersection operates at a LOS of E or F, it is considered to have the potential for a CO violation and is required to be further analyzed.[61] Also, if project traffic volume worsens an intersection's LOS to E or F from a LOS D or above, this intersection represents a potential for a CO violation and would be required to be further analyzed.[62] For the purposes of this analysis, all intersections operating at LOS D or worse were analyzed for the potential of CO hotspots. The project traffic report, prepared by Austin-Foust Associates, identifies 9 intersections that would potentially operate at a LOS D, E, or F during full project buildout. The following intersections were analyzed for potential CO hotspots:

- The Old Road and McBean Parkway
- Commerce Center Drive and SR-126 Ramps
- McBean Parkway and Magic Mountain Parkway
- McBean Parkway and Newhall Ranch Road
- Orchard Village Road and Wiley Canyon Road
- Orchard Village Road and McBean Parkway
- Valencia Boulevard and Magic Mountain Parkway
- Bouquet Canyon Road and Soledad Canyon Road
- Bouquet Canyon Road and Newhall Ranch Road

Maximum existing CO concentrations for project study intersections were calculated for morning and afternoon peak hour traffic volumes at each of these intersections using a screening approach based on CALINE4, a dispersion model for predicting CO concentrations near roadways. For this analysis, CO concentrations were calculated based on a simplified CALINE4 screening model developed by the Bay Area Air Quality Management District (BAAQMD). The simplified model is intended as a screening analysis that identifies a potential CO hotspot. If a hotspot is identified, the complete CALINE4 model is then utilized to determine precisely the CO concentrations predicted at the intersections in question. This methodology assumes worst-case conditions (i.e., wind direction parallel to the primary roadway and 90 degrees to the secondary road, wind speed of less than 1 meter per second and extreme atmospheric

61 University of California at Davis, Institute of Transportation Studies, Transportation Project-Level Carbon Monoxide Protocol (1997), Section 4.7.3 and 4.7.4

62 Ibid.

stability) and provides a screening of maximum, worst-case CO concentrations. This method is acceptable to the SCAQMD as long as it is used consistently with the *BAAQMD Guidelines*.[63] The CO concentrations at 0 and 25 feet from the roadway at each of the project-impacted intersections are shown below in **Table 4.7-16, Existing plus Ambient Conditions with Project Carbon Monoxide Concentrations**.

Table 4.7-16
Existing plus Ambient Conditions with Project Carbon Monoxide Concentrations

Intersection	0 Feet		25 Feet	
	1-Hour	8-Hour	1-Hour	8-Hour[2]
The Old Road and McBean Parkway	6.5	3.6	6.0	3.2
Commerce Center Drive and SR-126 Ramps	6.9	3.9	6.2	3.4
McBean Parkway and Magic Mountain Parkway	6.8	3.8	6.2	3.4
McBean Parkway and Newhall Ranch Road	6.8	3.8	6.2	3.4
Orchard Village Road and Wiley Canyon Road	6.3	3.4	5.8	3.1
Orchard Village Road and McBean Parkway	6.7	3.7	6.1	3.3
Valencia Boulevard and Magic Mountain Parkway	6.5	3.6	6.0	3.3
Bouquet Canyon Road and Soledad Canyon Road	7.1	4.0	6.4	3.5
Bouquet Canyon Road and Newhall Ranch Road	6.7	3.8	6.2	3.4
State Standards (ppm)	**9.0**	**20**	**9.0**	**20**
Federal Standards (ppm)	**9**	**35**	**9**	**35**
Exceeds Standards?	NO	NO	NO	NO

*Source: Impact Sciences, Inc., (2010). Emissions calculations are provided in **Appendix 4.7**.*

As shown in **Table 4.7-16**, the state and federal 1- and 8-hour CO standards would not be exceeded at project buildout, and the contribution of cumulative projects and the proposed project traffic to CO concentrations at these intersections would not be considered significant.

- Project will have the potential to create, or be subjected to, an objectionable odor that could impact sensitive receptors.

The proposed residential and institutional uses on the site would not generate objectionable odors. Airborne odors associated with commercial uses would result primarily from cooking activities within any food services and eating establishments that may occur in these areas. Food-related odors would be typical of food service businesses and are not considered objectionable by most individuals. Food wastes can, however, putrefy if left on site in dumpsters for long periods without frequent disposal and can generate objectionable odors. In each case, such odors would be controlled in accordance with County Department of Health Services, SCAQMD permit requirements for proper air filtration and food storage

63 Communication with Dr. Steve Smith, Program Supervisor, South Coast Air Quality Management District, May 12, 2004.

and disposal, and SCAQMD Rule 402, which prohibits persons from discharging quantities of air contaminants which cause nuisance to any considerable number of persons.[64] Consequently, no significant impacts from such odors are anticipated.

The SCAQMD lists land uses primarily associated with odor complaints as agricultural activities, chemical plants, composting operations, dairies, fiberglass molding, landfills, refineries, rendering plants, rail yards, and wastewater treatment plants.[65] The *Newhall Ranch Specific Plan* proposes a water reclamation plant (WRP) within Newhall Ranch and to the west of the proposed project site. The WRP, which was subject to its own separate environmental review, is a minimum of 3 miles away from the Mission Village site. Typically, a maximum screening distance of 2 miles is used for assessing odor impacts. Sources that are more than 2 miles from receptors would not result in an odor impact. Based on this screening distance, the WRP would be too far away to be a perceived source of odors.

The Chiquita Canyon Landfill, located to the north of the proposed project and along the Newhall Ranch boundary, was evaluated in the *Newhall Ranch Specific Plan Program EIR* as another potential source of odors at Newhall Ranch. That EIR concluded that, given the operational techniques employed as part of a sanitary landfill operation and the use of the gas collection and flaring system, no significant impacts from such odors are expected.

No other land uses in the vicinity of the Mission Village project would generate objectionable odors that would have the potential to result in significant impacts to the project site. Consequently, no significant impacts from such odors are anticipated under this criterion.

- Project will have hazardous materials on site and could result in an accidental release of toxic air emissions or acutely hazardous materials posing a threat to public health and safety.

The residential and commercial land uses associated with the proposed project are not anticipated to use hazardous or acutely hazardous materials in appreciable quantities. Hazardous substances currently are regulated under the California Accidental Release Prevention (CalARP) Program. The CalARP Program satisfies the requirements of the Federal Risk Management Plan Program, and contains additional state requirements. The CalARP Program applies to regulated substances in excess of specific quantity thresholds. The majority of the substances have thresholds in the range of 100 to 10,000 pounds. Land uses associated with the project may contain small, if any, amounts of these hazardous substances in household and commercial cleaners and other products. However, typical use of these products would

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64 South Coast Air Quality Management District, "Rule 402 – Nuisance," http://www.aqmd.gov/rules/reg/reg04/r402.pdf. 1976.

65 South Coast Air Quality Management District, *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, (2005) p. 2-2.

not result in quantities at any one location that exceed the thresholds. Moreover, significant amounts of hazardous substances would typically be expected at industrial, manufacturing, and complex water or wastewater treatment land uses. As noted earlier, the WRP was subject to its own environmental review. Accordingly, no significant impacts with respect to the criteria listed above are expected to occur.

- Project could emit a toxic air contaminant regulated by SCAQMD rules or that is on a federal or state air toxic list.

The proposed residential and commercial land uses may potentially emit trace amounts of TACs but would not exceed the thresholds contained in SCAQMD Rule 1401 (New Source Review of Toxic Air Contaminants). Diesel-fueled delivery and waste-hauling trucks would drive to and from the project site resulting in emissions of diesel particulate matter. However, the number of trucks would be equal to that occurring in other similarly developed residential and commercial neighborhoods throughout the region. As previously discussed, the proposed project may include restaurant uses, which have the potential to emit TACs. Restaurants that use charbroilers to cook meat could emit VOCs and particulate matter. It is unknown at this time whether an on-site restaurant use would use a charbroiler; however, the installation of any chain-driven charbroiler would be required to comply with Rule 1138, which requires the use of catalytic oxidizers to reduce VOC and particulate matter emissions. Also, as previously discussed, if a dry cleaning establishment were to be located on site, mitigation is proposed that would require any such establishment to utilize off-site cleaning operations at facilities already permitted by the SCAQMD. For these reasons, no significant impacts from such emissions are anticipated.

- Project could be occupied by sensitive receptors within 0.25 mile of an existing facility that emits air toxics identified in SCAQMD Rule 1401.

Based on a survey of data obtained from the SCAQMD's Facility Information Detail (FIND) system, there are no facilities that emit TACs above the SCAQMD reporting threshold as required by Rule 1401 (New Source Review of Toxic Air Contaminants) within a 0.25 mile of the project site. The nearest sources include a bulk petroleum storage and delivery station/terminal on Henry Mayo Drive, a CalTrans regional office and maintenance station and a Los Angeles County Sheriff's Department Correctional Institution on The Old Road. These facilities have not reported emissions of TACs above the SCAQMD reporting threshold for recent years. For these reasons, no significant impacts are anticipated.

The project site is bounded by proposed development in land to the southeast, land within Newhall Ranch to the southwest, the proposed Landmark Village project to the northwest. The proposed land uses in these areas consist of residential and commercial development. It is unlikely that development of these land uses would locate facilities within a 0.25 mile of the project site that would emit TACs in excess of the SCAQMD reporting threshold. For these reasons, no significant impacts are anticipated.

The proposed project is located south of SR-126, a north-south route traveled by heavy-duty diesel-fueled vehicles, as well as other motor vehicles. While heavy-duty diesel-fueled vehicles are not included in Rule 1401, CARB has determined that health effects are generally elevated near heavily traveled roadways. The CARB guidance document, *Air Quality and Land Use Handbook*, recommends that lead agencies, where possible, avoid citing new sensitive land uses within 500 feet of a freeway,[66] urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. This recommendation is not mandated by state law, but only serves as a general guidance to lead agencies when considering land use projects. The *Air Quality and Land Use Handbook* states that it is up to lead agencies to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.[67] The proposed project would not locate sensitive land uses within 500 feet of SR-126. The nearest on-site development to SR-126 includes commercial land uses in the northern portion of the site, in excess of 1,000 feet from SR-126. In addition, an analysis of the traffic impact study for the proposed Project did not identify any urban roads with 100,000 vehicles or more per day in the vicinity of the project site. For these reasons, no significant impacts are anticipated.

- Project could emit carcinogenic or toxic air contaminants that individually or cumulatively exceed the maximum individual cancer risk of 10 in 1 million.

Substantial TAC emissions are not expected to occur in conjunction with operation of the proposed development and, as a result, no significant impacts would occur under those criteria stated above. Residential land uses are not associated with substantial emissions of TACs. Commercial land uses are usually not associated with substantial emissions of TACs; however, specific commercial facilities may result in emissions of TACs. As noted earlier, the project may include restaurants with charbroilers, gasoline dispensing stations, and dry cleaners. Charbroilers are not typically considered substantial sources of TACs, and, therefore, any charbroiler operated in association with the proposed commercial uses would not be expected to emit TACs that would exceed the SCAQMD's recommended toxics thresholds of significance. Gasoline stations can emit TACs, generally in the form of benzene from dispensing operations, tank "breathing" losses, and gasoline spillage. However, as previously discussed, the amount of VOCs from a gasoline station associated with the project would be nominal. As previously discussed, any dry cleaner would be required to utilize existing permitted facilities for cleaning operations. Therefore, the site is not expected to generate emissions of TACs that would exceed the SCAQMD's cancer risk threshold of 10 in 1 million.

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66 California Air Resources Board, *Air Quality and Land Use Handbook*, (2005) p. 8-9. The 2002 study of impacts along the San Diego (I-405) Freeway and the Long Beach (I-710) Freeway cited by CARB in its *Air Quality and Land Use Handbook* found a substantial reduction in pollutant concentrations, relative exposure, and health risk beyond 300 feet.

67 California Air Resources Board, *Air Quality and Land Use Handbook*, (2005) p. 4.

Further, all regulated point sources of emissions associated with the project's commercial uses, should they occur, must be permitted and must use toxic best available control technologies (T-BACT) before they can receive a permit.[68] Compliance with the permit requirements would reduce TACs to less than significant.

(3) Operational Impacts Conclusion

Operational-related VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions generated by the Mission Village project would exceed SCAQMD recommended emission thresholds of significance for these pollutants. The impacts are considered potentially significant to regional air quality. As a result, feasible mitigation for these significant impacts is required both under the conditions imposed on the Newhall Ranch Specific Plan and under the requirements of CEQA. The effectiveness of the required mitigation measures in reducing these potentially significant adverse air quality impacts is discussed below.

The project would be consistent with the growth projections in the 2007 AQMP; therefore, it would not jeopardize the long-term attainment of the air quality standards predicted in that document. The project does not exceed or result in a conflict with the additional indicators of potential air quality impacts.

7. MITIGATION MEASURES

Although the proposed Mission Village project may result in potentially significant local and regional air quality impacts, the county already has imposed mitigation measures required to be implemented as part of the *Newhall Ranch Specific Plan*. These mitigation measures, as they relate to air quality, are found in the previously certified *Newhall Ranch Specific Plan Program EIR* (March 8, 1999) and the adopted Mitigation Monitoring Plan for the *Specific Plan* (May 2003). These measures, which are listed immediately below, are preceded by "SP," which stands for Specific Plan. In addition, this EIR identifies recommended mitigation measures specific to the Mission Village project. The project applicant has committed to implementing both the applicable mitigation measures from the *Newhall Ranch Specific Plan* and the mitigation measures recommended for the proposed Mission Village project.

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68 South Coast Air Quality Management District, "Rule 1401 – New Source Review of Toxic Air Contaminants," http://www.aqmd.gov/rules/reg/reg14/r1401.pdf. 2005.

a. Mitigation Measures Already Incorporated into Mission Village

The following mitigation measures, adopted by the County in connection with its approval of the *Specific Plan*, have been incorporated into the design features of the Mission Village Project:

SP 4.10-1 The Specific Plan will provide Commercial and Service Uses in close proximity to residential subdivisions. *(Mission Village provides commercial uses in close proximity to residential subdivisions).*

SP 4.10-2 The Specific Plan will locate residential uses in close proximity to Commercial Uses, Mixed-Uses, and Business Parks. *(Mission Village locates residential uses in close proximity to Commercial Uses and Mixed Uses).*

SP 4.10-3 Bus pull-ins will be constructed throughout the Specific Plan site. *(Mission Village provides for bus stops at designated locations).*

SP 4.10-4 Pedestrian facilities, such as sidewalks, and community regional, and local trails, will be provided throughout the Specific Plan site. *(Pedestrian facilities, such as sidewalks, bike paths, and trails, will be constructed throughout Mission Village, with future connections to other on-site and off-site future developments and designated trails).*

SP 4.10-5 Roads with adjacent trails for pedestrian and bicycle use will be provided throughout the Specific Plan site connecting the individual Villages and community. *(Roads with adjacent trails for pedestrian and bicycle use will be provided throughout the Mission Village site with future connections to future developments within Newhall Ranch).*

b. Applicable Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan as they Relate to the Mission Village Project

The following nine mitigation measures were adopted by the County in connection with its approval of the *Newhall Ranch Specific Plan* (May 2003). The applicable mitigation measures will be implemented in conjunction with the proposed Mission Village project to mitigate potentially significant air quality impacts to the extent feasible.

Of the nine Specific Plan mitigation measures, portions of two of the measures are not feasible and/or applicable to the Mission Village project. Because Newhall Ranch would be built out over an estimated 25-year period, it was unknown at the time the *Newhall Ranch Specific Plan Program EIR* was certified what technological developments or regulatory requirements may take place over the course of buildout that could affect the identification and implementation of mitigation measures. Thus, it was unknown at the time of Specific Plan approval whether a particular mitigation action would be feasible at the time of implementation. Additionally, because the Specific Plan mitigation measures would apply to each tract map within the Specific Plan without distinction, certain measures would not be applicable to each subdivision. For example, mitigation identified for Business Park Uses is not applicable to Mission

Village, which contains no Business Park land uses as identified in the Specific Plan. For these reasons, the adopted Specific Plan mitigation measures included the qualifying phrase "if found applicable and feasible for that subdivision" in order to address these contingencies.

Consistent with the Specific Plan approach acknowledging that certain mitigation measures would not be feasible and/or applicable to each subdivision, those Specific Plan mitigation measures containing implementation actions that are either not applicable or feasible relative to Mission Village (i.e., SP 4.10-7 and SP 4.10-9) have been replaced by project specific mitigation measures MV 4.7-16 and MV 4.7-21, respectively. These two measures, which are based on the adopted Specific Plan mitigation measures, have been revised to eliminate the qualifying phrase "if found applicable and feasible for that subdivision," and updated for applicability to the Mission Village project and consistency with current SCAQMD regulations and existing technologies. In addition, Specific Plan mitigation measure SP 4.10-6 is replaced by MV 4.7-15 to eliminate the qualifying phrase "if found applicable and feasible for that subdivision." The basis for the revisions is provided in (*italicized parenthetical text*) following the subject Specific Plan mitigation measure listed below.

(1) Construction Mitigation Measures

SP 4.10-6 The applicant of future subdivisions shall implement all rules and regulations adopted by the Governing Board of the SCAQMD which are applicable to the development of the subdivision (such as Rule 402 - Nuisance, Rule 403 - Fugitive Dust, Rule 1113 - Architectural Coatings) and which are in effect at the time of development. The purpose of Rule 403 is to reduce the amount of particulate matter entrained in the ambient air as a result of man-made fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or man-made condition capable of generating fugitive dust such as the mass and remedial grading associated with the project as well as weed abatement and stockpiling of construction materials (i.e., rock, earth, gravel). Rule 403 requires that grading operations either (1) take actions specified in Tables 1 and 2 of the Rule for each applicable source of fugitive dust and take certain notification and record keeping actions; or (2) obtain an approved Fugitive Dust Control Plan. A complete copy of the SCAQMD's Rule 403 Implementation Handbook, which has been included in Appendix 4.10 [of the *Newhall Ranch Specific Plan Program EIR*], provides guideline tables to demonstrate the typical mitigation program and record keeping required for grading operations (Tables 1 and 2 and sample record keeping chart). The record keeping is accomplished by on-site construction personnel, typically the construction superintendent.

Each future subdivision proposed in association with the *Newhall Ranch Specific Plan* shall implement the following if found applicable and feasible for that subdivision:

Grading

a. Apply non-toxic soil stabilizers according to manufacturers' specification to all inactive construction areas (previously graded areas inactive for 10 days or more).

b. Replace groundcover in disturbed areas as quickly as possible.

c. Enclose, cover, water twice daily, or apply non-toxic soil binders according to manufacturers' specifications, to exposed piles (i.e., gravel, sand, dirt) with 5 percent or greater silt content.

d. Water active sites at least twice daily.

e. Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 mph.

f. Monitor for particulate emissions according to district-specified procedures.

g. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer) in accordance with the requirements of CVC Section 23114.

Paved Roads

h. Sweep paved streets at the end of the day if visible soil material is carried onto adjacent public paved roads (recommend water sweepers with reclaimed water).

i. Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip.

Unpaved Roads

j. Apply water three times daily, or non-toxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces.

k. Reduce traffic speeds on all unpaved roads to 15 mph or less.

l. Pave construction roads that have a traffic volume of more than 50 daily trips by construction equipment, 150 total daily trips for all vehicles.

m. Pave all construction access roads at least 100 feet on to the site from the main road.

n. Pave construction roads that have a daily traffic volume of less than 50 vehicular trips.

(For purposes of the Mission Village project, Specific Plan mitigation measure SP 4.10-6 is replaced by project specific mitigation measure MV 4.7-15, which eliminates the phrase "if found applicable and feasible for that subdivision.")

SP 4.10-7 Prior to the approval of each future subdivision proposed in association with the *Newhall Ranch Specific Plan*, each of the construction emission reduction measures indicated below (and in Tables 11-2 and 11-3 of the SCAQMD's *CEQA Air Quality Handbook*, as amended) shall be implemented if found applicable and feasible for that subdivision:

On-Road Mobile Source Construction Emissions

a. Configure construction parking to minimize traffic interference.

b. Provide temporary traffic controls when construction activities have the potential to disrupt traffic to maintain traffic flow (e.g., signage, flag person, detours).

c. Schedule construction activities that affect traffic flow to off-peak hours (e.g., between 7:00 PM and 6:00 AM and between 10:00 AM and 3:00 PM).

d. Develop a trip reduction plan to achieve a 1.5 average vehicle ridership (AVR) for construction employees.

e. Implement a shuttle service to and from retail services and food establishments during lunch hours.

f. Develop a construction traffic management plan that includes the following measures to address construction traffic that has the potential to affect traffic on public streets:

- Rerouting construction traffic off congested streets;
- Consolidating truck deliveries; and
- Providing temporary dedicated turn lanes for movement of construction trucks and equipment on and off of the site.

g. Prohibit truck idling in excess of 2 minutes.

Off-Road Mobile Source Construction Emissions

h. Use methanol-fueled pile drivers. (Infeasible as written due to the present market for alternative fuels for use in construction equipment. Revised to provide greater flexibility in the selection of alternative fuel type.)

i. Suspend use of all construction equipment operations during second stage smog alerts.

j. Prevent trucks from idling longer than 2 minutes.

k. Use electricity from power poles rather than temporary diesel-powered generators.

l. Use electricity from power poles rather than temporary gasoline-powered generators.

m. Use methanol- or natural gas-powered mobile equipment instead of diesel. (*Infeasible as written due to the present market for alternative fuels for use in construction equipment. Revised to provide greater flexibility in the selection of alternative fuel type.*)

n. Use propane- or butane-powered on-site mobile equipment instead of gasoline. (Infeasible as written due to the present market for alternative fuels for use in construction equipment. Revised to provide greater flexibility in the selection of alternative fuel type.)

(For purposes of the Mission Village project, Specific Plan mitigation measure SP 4.10-7 is replaced by project specific mitigation measure MV 4.7-16, for the reasons discussed above.)

(2) Operational Mitigation Measures

(a) Point Source Operational Emissions

SP 4.10-8 The applicant of future subdivisions shall implement all rules and regulations adopted by the Governing Board of the SCAQMD which are applicable to the development of the subdivision (such as Rule 402 - Nuisance, Rule 461 - Gasoline Transfer And Dispensing, Rule 1102 - Petroleum Solvent Dry Cleaners, Rule 1111 – NO_x Emissions from Natural Gas-Fired, Fan-Type Central Furnaces, Rule 1138 - Control Of Emissions From Restaurant Operations, Rule 1146 - Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters) and which are in effect at the time of occupancy permit issuance.

(b) Mobile Source Operational Emissions

SP 4.10-9 Prior to the approval of each future subdivision proposed in association with the *Newhall Ranch Specific Plan*, each of the operational emission reduction measures indicated below (and in Tables 11-6 and 11-7 of the SCAQMD's *CEQA Air Quality Handbook*, as amended) shall be implemented if found applicable and feasible for that subdivision.

On Road Mobile Source Operational Emissions

Residential Uses

a. Include satellite telecommunications centers in residential subdivisions. (No longer applicable as growth of Internet allows residents to telecommute from home using personal computers.)

b. Establish shuttle service from residential subdivision to commercial core areas. (Infeasible as written as shuttle services will be provided by commercial uses and public transit rather than residential uses; revised measure requires that residents be provided with information regarding the availability of shuttle services and public transit.)

c. Construct on-site or off-site bus stops (e.g., bus turnouts, passenger benches, and shelters).

d. Construct off-site pedestrian facility improvements, such as overpasses and wider sidewalks.

e. Include retail services within or adjacent to residential subdivisions.

f. Provide shuttles to major rail transit centers or multi-modal stations. (Infeasible as written as shuttle services will be provided by commercial uses and public transit rather than residential uses; revised measure requires that residents be provided with information regarding the availability of shuttle services and public transit.)

g. Contribute to regional transit systems (e.g., right-of-way, capital improvements, etc.).

h. Synchronize traffic lights on streets impacted by development.

i. Construct, contribute, or dedicate land for the provision of off-site bicycle trails linking the facility to designated bicycle commuting routes.

Commercial Uses

j. Provide preferential parking spaces for carpools and vanpools and provide 7 feet 2 inches minimum vertical clearance in parking facilities for vanpool access.

k. Implement on-site circulation plans in parking lots to reduce vehicle queuing.

l. Improve traffic flow at drive-throughs by designing separate windows for different functions and by providing temporary parking for orders not immediately available for pickup.

m. Provide video-conference facilities. (No longer applicable as growth of internet allows employees to attend videoconference from home using personal computers.)

n. Set up resident worker training programs to improve job/housing balance.

o. Implement home dispatching system where employees receive routing schedule by phone instead of driving to work. (No longer applicable as growth of Internet allows employers to establish websites where such information can be posted and accessed by employees at home on personal computers.)

p. Develop a program to minimize the use of fleet vehicles during smog alerts (for business not subject to Regulation XV (now Rule 2202) or XII).

q. Use low-emissions fleet vehicles:

- TLEV
- ULEV
- LEV
- ZEV

r. Reduce employee parking spaces for those businesses subject to Regulation XV (now Rule 2202).

s. Implement a lunch shuttle service from a worksite(s) to food establishments. (*Infeasible as written; revised consistent with Rule 2202, which applies to employers with more than 250 employees on a single worksite.*)

t. Implement compressed work-week schedules where weekly work hours are compressed into fewer than five days.

- 9/80
- 4/40
- 3/36

(*Infeasible as written; revision consistent with Rule 2202, which applies to employers with more than 250 employees on a single worksite.*)

u. Develop a trip reduction plan to achieve 1.5 AVR for businesses with less than 100 employees or multi-tenant worksites. (*This measure is not applicable because the uses proposed by the Mission Village project are not suited for imposition of a trip reduction plan. In addition, the requirement to achieve a specific AVR has been ruled unlawful and, therefore, is no longer recommended.*)

v. Utilize satellite offices rather than regular worksite to reduce VMT. (*No longer applicable as growth of Internet allows employees to work from home on personal computers.*)

w. Establish a home-based telecommuting program. (*No longer applicable as growth of internet allows employees to telecommute from home using personal computers*.)

x. Provide on-site child care and after-school facilities or contribute to off-site development within walking distance. (*Infeasible as written; revised consistent with Rule 2202, which applies to employers with more than 250 employees on a single worksite.*)

y. Require retail facilities or special event centers to offer travel incentives such as discounts on purchases for transit riders.

z. Provide on-site employee services such as cafeterias, banks, etc. (*Infeasible as written; revised consistent with Rule 2202, which applies to employers with more than 250 employees on a single worksite.*)

aa. Establish a shuttle service from residential core areas to the worksite. (*Infeasible as written due to the unlimited scope of worksite locations.*)

ab. Construct on-site or off-site bus stops (e.g., bus turnouts, passenger benches, and shelters).

ac. Implement a pricing structure for single-occupancy employee parking and/or provide discounts to ridesharers.

ad. Include residential units within a commercial project.

ae. Utilize parking in excess of code requirements as on-site park-n-ride lots or contribute to construction of off-site lots.

af. Any two of the following:

- Construct off-site bicycle facility improvements, such as bicycle trails linking the facility to designated bicycle commuting routes, or on-site improvements, such as bicycle paths.
- Include bicycle parking facilities, such as bicycle lockers and racks.
- Include showers for bicycling employees' use.

ag. Any two of the following:

- Construct off-site pedestrian facility improvements, such as overpasses, wider sidewalks.
- Construct on-site pedestrian facility improvements, such as building access which is physically separated from street and parking lot traffic and walk paths.
- Include showers for pedestrian employees' use.

ah. Provide shuttles to major rail transit stations and multi-modal centers. (*Infeasible as written due to the unlimited scope of shuttle routes.*)

ai. Contribute to regional transit systems (e.g., right-of-way, capital improvements, etc.).

aj. Charge visitors to park. (Infeasible as written due to the business implications of establishing parking fees at certain commercial uses (e.g., grocery stores, big-box retailers).)

ak. Synchronize traffic lights on streets impacted by development.

al. Reschedule truck deliveries and pickups to off-peak hours.

am. Set up paid parking systems where drivers pay at walkup kiosk and exit via a stamped ticket to reduce emissions from queuing vehicles.

an. Require on-site truck loading zones.

ao. Implement or contribute to public outreach programs.

ap. Require employers not subject to Regulation XV (now Rule 2202) to provide commuter information area.

Business Park Uses

aq. Provide preferential parking spaces for carpools and vanpools and provide 7 feet 2 inches minimum vertical clearance in parking facilities for vanpool access. (*This mitigation measure is not applicable to the Mission Village project. The measure refers to preferential parking spaces for carpools and vanpools in Business Park uses. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

ar. Implement on-site circulation plans in parking lots to reduce vehicle queuing. (*This mitigation measure is not applicable to the Mission Village project. The measure refers to improved circulation within Business Park parking lots. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.*)

as. Set up resident worker training programs to improve job/housing balance. (*This mitigation measure is not applicable to the Mission Village project. The measure refers to resident worker training programs for Business Park employees. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.*)

at. Implement home dispatching system where employees receive routing schedule by phone instead of driving to work. (*This mitigation measure is not applicable to the Mission Village project. The measure refers to establishment of home dispatching system for Business Park employees. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.*)

au. Develop a program to minimize the use of fleet vehicles during smog alerts (for business not subject to Regulation XV (now Rule 2202) or XII). *(This mitigation measure is not applicable to the Mission Village project. The measure refers to creation of a program designed to reduce use of vehicle fleets within the context of a Business Park. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

av. Use low-emissions fleet vehicles:

- TLEV
- ULEV
- LEV
- ZEV

(This mitigation measure is not applicable to the Mission Village project. The measure promotes use of alternative fuels in vehicle fleets within the context of a Business Park. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)

aw. Require employers not subject to Regulation XV (now Rule 2202) to provide commuter information area. (*This mitigation measure is not applicable to the Mission Village project. The measure requires employers in Business Parks to provide commuter information area. The Mission Village project does not propose a Business Park.*)

ax. Reduce employee parking spaces for those businesses subject to Regulation XV (now Rule 2202). (*This mitigation measure is not applicable to the Mission Village project. The measure requires employers in Business Parks to limit employee parking. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.*)

ay. Implement compressed work-week schedules where weekly work hours are compressed into fewer than five days.

- 9/80
- 4/40
- 3/36

(This mitigation measure is not applicable to the Mission Village project. The measure promotes use of flexible work schedules in Business Park uses. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)

az. Offer first right of refusal, low interest loans, or other incentives to employees who purchase or rent local residences. (*This mitigation measure is not applicable to the Mission Village project. The measure promotes use of incentives to Business Park employees who choose to reside in a local residence. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.*)

ba. Develop a trip reduction plan to achieve 1.5 AVR for businesses with less than 100 employees or multi-tenant worksites. (*This mitigation measure is not applicable to the Landmark Village project. The measure promotes use of a trip reduction plan for Business Park users. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.*)

bb. Provide on-site child care and after-school facilities or contribute to off-site development within walking distance. (*This mitigation measure is not applicable to the Mission Village project. The measure promotes on-site childcare in Business Park uses. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.*)

bc. Provide on-site employee services such as cafeterias, banks, etc. (*This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to provide on-site employee amenities such as cafeterias or banks.*)

bd. Establish a shuttle service from residential core areas to the worksite. (T*his mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to provide shuttle service to residential areas. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.*)

be. Construct on-site or off-site bus stops (e.g., bus turnouts, passenger benches, and shelters). (*This mitigation measure is not applicable to the Mission Village project. The measure requires bus stops in Business Park uses. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.*)

bf. Implement a pricing structure for single-occupancy employee parking and/or provide discounts to ridesharers. (*This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to encourage ridesharing and discourage travel in single occupancy vehicles. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.*)

bg. Utilize parking in excess of code requirements as on-site park-n-ride lots or contribute to construction of off-site lots. (*This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to provide parking in excess of code for park and ride lots. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.*)

bh. Any two of the following:

- Construct off-site bicycle facility improvements, such as bicycle trails linking the facility to designated bicycle commuting routes, or on-site improvements, such as bicycle paths.
- Include bicycle parking facilities, such as bicycle lockers and racks.
- Include showers for bicycling employees' use.

(This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to construct on-site improvements that encourage bicycling. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)

bi. Any two of the following:

- Construct off-site pedestrian facility improvements, such as overpasses, wider sidewalks.
- Construct on-site pedestrian facility improvements, such as building access which is physically separated from street and parking lot traffic and walk paths.
- Include showers for pedestrian employees' use.

(This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to provide pedestrian facility improvements. The Mission Village project does not propose a Business Park.)

bj. Provide shuttles to major rail transit stations and multi-modal centers. (*This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to provide shuttles to transit stations. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.*)

bk. Contribute to regional transit systems (e.g., right-of-way, capital improvements, etc.). (*This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to contribute towards regional transit improvements. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.*)

bl. Synchronize traffic lights on streets impacted by development. (*This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to synchronize traffic signals affected by operation of the park.*)

bm. Reschedule truck deliveries and pickups to off-peak hours. (This mitigation measure has been omitted because the Mission Village project does not propose industrial land uses). *(This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to schedule deliveries at off-peak hours. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

bn. Implement a lunch shuttle service from a worksite(s) to food establishments. *(This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to implement a lunch shuttle service. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

bo. Require on-site truck loading zones. *(This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to provide on-site truck loading zones. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

bp. Install aerodynamic add-on devices to heavy-duty trucks. *(This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to install aerodynamic devices on truck fleets. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

bq. Implement or contribute to public outreach programs. *(This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to conduct public outreach programs to reduce VMT. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

Stationary Source Operational Emissions

Residential

br. Use solar or low emission water heaters.

bs. Use central water heating systems.

bt. Use built-in energy-efficient appliances.

bu. Provide shade trees to reduce building heating/cooling needs.

bv. Use energy-efficient and automated controls for air conditioners.

bw. Use double-paned windows.

bx. Use energy-efficient low-sodium parking lot lights.

by. Use lighting controls and energy-efficient lighting.

bz. Use fuel cells in residential subdivisions to produce heat and electricity. *(This measure is not yet considered technically or economically feasible. There are presently no commercially available fuel cell applications for individual home use at a reasonable cost.)*

ca. Orient buildings to the north for natural cooling and include passive solar design (e.g., daylighting).

cb. Use light-colored roofing materials to reflect heat.

cc. Increase walls and attic insulation beyond Title 24 requirements

Commercial Uses

cd. Use solar or low emission water heaters.

ce. Use central water heating systems.

cf. Provide shade trees to reduce building heating/cooling needs.

cg. Use energy-efficient and automated controls for air conditioners.

ch. Use double-paned windows.

ci. Use energy-efficient low-sodium parking lot lights.

cj. Use lighting controls and energy-efficient lighting.

ck. Use light-colored roofing materials to reflect heat.

cl. Increase walls and attic insulation beyond Title 24 requirements.

cm. Orient buildings to the north for natural cooling and include passive solar design (e.g., daylighting).

Business Park Uses

cn. Provide shade trees to reduce building heating/cooling needs. *(This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to provide shade trees near structures. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

co. Use energy-efficient and automated controls for air conditioning. (This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to use energy efficient air conditioning. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)

cp. Use double-paned windows. (This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to use energy efficient windows. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)

cq. Use energy-efficient low-sodium parking lot lights. (This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to use energy efficient parking lot lighting. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)

cr. Use lighting controls and energy-efficient lighting. *(This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to use energy efficient lighting. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

cs. Use light-colored roofing materials to reflect heat. *(This mitigation is not applicable to the Mission Village project. The measure requires uses within the Business Park to use light color roofing materials. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

ct. Orient buildings to the north for natural cooling and include passive solar design (e.g., daylighting). *(This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to orient the structure to account for passive solar design. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

cu. Increase walls and attic insulation beyond Title 24 requirements. *(This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to increase wall insulation beyond code requirements. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

cv. Improved storage and handling or source materials. *(This mitigation measure is not applicable to the Mission Landmark Village project. The measure requires uses within the Business Park to improve storage and handling. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

cw. Materials substitution (e.g., use water-based paints, life-cycle analysis). *(This mitigation measure is not applicable to the Mission Village project. The measure requires uses within the Business Park to conduct materials substitution in their processes. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

cx. Modify manufacturing processes (e.g., reduce process stages, closed-loop systems, materials recycling). *(This mitigation measure is not applicable to the Mission Village project. The measure addresses manufacturing uses within a Business Park. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

cy. Resource recovery systems that redirect chemicals to new production processes. *(This mitigation measure is not applicable to the Mission Village project. The measure addresses manufacturing uses within a Business Park. The Mission Village project does not contain Business Park land uses as identified in the Specific Plan.)*

(*For purposes of the Mission Village project, Specific Plan mitigation measure SP 4.10-9 is replaced by project specific mitigation measure MV 4.7-21, for the reasons discussed above.*)

SP 4.10-10 All non-residential development of 25,000 gross square feet or more shall comply with the County's Transportation Demand Management (TDM) Ordinance (Ordinance No. 93-0028M) in effect at the time of subdivision. The sizes and configurations of the *Specific Plan's* non-residential uses are not known at this time and the Ordinance specifies different requirements based on the size of the project under review. All current provisions of the ordinance are summarized in Appendix 4.10 [of the *Newhall Ranch Specific Plan Program EIR*].

SP 4.10-11 Subdivisions and buildings shall comply with Title 24 of the *California Code of Regulations* which are current at the time of development.

SP 4.10-12 Lighting for public streets, parking areas, and recreation areas shall utilize energy efficient light and mechanical, computerized or photo cell switching devices to reduce unnecessary energy usage.

SP 4.10-13 Any on-site subterranean parking structures shall provide adequate ventilation systems to disperse pollutants and preclude the potential for a pollutant concentration to occur.

SP 4.10-14 The sellers of new residential units shall be required to distribute brochures and other relevant information published by the SCAQMD or similar organization to new homeowners regarding the importance of reducing vehicle miles traveled and related air quality impacts, as well as on local opportunities for public transit and ridesharing.

c. Mitigation Measures Recommended for this Project

The following project-specific mitigation measures are recommended to mitigate the potentially significant air quality impacts that would occur with implementation of the Mission Village project. These mitigation measures are in addition to those adopted in the previously certified *Newhall Ranch Specific Plan Program EIR*. To reflect that these measures relate specifically to the Mission Village project, the following designation was used below (e.g., "MV 4.7-1").

(1) Construction Mitigation Measures

The following recommended mitigation measures would reduce construction-related emissions to some extent; however, the resultant benefit of the mitigation measures presently cannot be quantified because certain specific details of project construction are unknown at this time. For example, alternative fuels and construction equipment that can operate on such fuels is still under development and currently in limited supply; however, it may be more plentiful in the future, resulting in potentially more benefit. Moreover, while the following mitigation measures would reduce potentially significant impacts to the maximum extent feasible, no additional feasible mitigation exists that would reduce these emissions to a sufficient degree that the construction-related emissions would be below the SCAQMD's emission-based thresholds of significance. For these same reasons, implementation of these mitigation measures would not be likely to reduce the impacts relative to the localized significance thresholds to less than significant levels. Therefore, construction-related emissions for the proposed project would be considered significant and unavoidable.

MV 4.7-1 The project applicant shall require that prior to the commencement of construction its contractors shall develop a Construction Traffic Emission Management Plan to minimize emissions from vehicles including, but not limited to, scheduling truck deliveries to

avoid peak hour traffic conditions, consolidating truck deliveries, and prohibiting truck idling in excess of 5 minutes.

MV 4.7-2 The project applicant shall require that its contractors suspend the use of all construction equipment during first-stage smog alerts.

MV 4.7-3 The project applicant shall require that its contractors maintain construction equipment by conducting regular tune-ups according to the manufacturers' recommendations.

MV 4.7-4 The project applicant shall require that its contractors use electric welders to avoid emissions from gas or diesel welders.

MV 4.7-5 The project applicant shall require that its contractors reduce traffic speeds on all unpaved roads to 15 miles per hour or less.

MV 4.7-6 The project applicant shall require that its contractors water active sites at least three times daily during dry weather.

MV 4.7-7 The project applicant shall require that its contractors replace ground cover as quickly as possible.

MV 4.7-8 The project applicant shall require that its contractors schedule construction activities that affect traffic flow to off-peak hours (e.g., between 7:00 PM and 6:00 AM and between 10:00 AM and 3:00 PM).

MV 4.7-9 The project applicant shall require the contractor to provide temporary controls, such as a flag person, during all phases of construction to maintain smooth traffic flow.

MV 4.7-10 The project applicant shall require the contractor route construction trucks away from congested streets and sensitive receptor areas (e.g., residences, schools, hospitals, etc.).

MV-4.7-11 The project applicant shall install shaker plates at construction site exits, to minimize dirt track out and dust generation.

MV-4.7-12 The project applicant shall operate street sweepers that comply with SCAQMD Rules 1186 and 1186.1 on roads adjacent to the construction site in a nearly continuous manner so as to minimize dust emissions. Paved parking and staging areas shall be swept daily.

MV 4.7-13 The project applicant shall all on-site construction equipment to meet U.S. EPA Tier 2 of higher emissions standards according to the following:

- **April 2010 through December 31, 2011**: All offroad diesel-powered construction equipment greater than 50 horsepower (hp) shall meet Tier 2 offroad emissions standards. In addition, all construction equipment shall be outfitted with the BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 2 or Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.

- **January 1, 2012, through December 31, 2014**: All offroad diesel-powered construction equipment greater than 50 horsepower (hp) shall meet Tier 3 offroad emissions standards. In addition, all construction equipment shall be outfitted with the BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.

- **Post-January 1, 2015**: All offroad diesel-powered construction equipment greater than 50 horsepower (hp) shall meet Tier 4 offroad emissions standards. In addition, all construction equipment shall be outfitted with the BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.

MV 4.7-14 An information sign shall be posted at the entrance to each construction site that identifies the permitted construction hours and provides a telephone number to call and receive information about the construction project or to report complaints regarding excessive fugitive dust generation. Any reasonable complaints shall be rectified within 24 hours of their receipt.

MV 4.7-15 [Replaces Mitigation Measure SP 4.10-6] The applicant shall implement all rules and regulations adopted by the Governing Board of the SCAQMD which are applicable to the development of the subdivision (such as Rule 402 – Nuisance, Rule 403 – Fugitive Dust, Rule 1113 – Architectural Coatings) and which are in effect at the time of development. The purpose of Rule 403 is to reduce the amount of particulate matter entrained in the ambient air as a result of man-made fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or man-made condition capable of generating fugitive dust such as the mass and remedial grading associated with the project as well as weed abatement and stockpiling of construction materials (i.e., rock, earth, gravel). Rule 403 requires that grading operations either (1) take actions specified in Tables 1 and 2 of the Rule for each applicable source of fugitive dust and take certain notification and record keeping actions, or (2) obtain an approved Fugitive Dust Control Plan. A complete copy of the SCAQMD's Rule 403 Implementation Handbook, which is included in Draft EIR **Appendix 4.7**, provides guideline tables to demonstrate the typical mitigation program and record keeping required for grading operations (Tables 1 and 2 and sample record-keeping chart). The record keeping is accomplished by on-site construction personnel, typically the construction superintendent.

The project applicant or its designee shall implement the following measures during construction of the proposed project:

Grading

a. Apply non-toxic soil stabilizers according to manufacturers' specification to all inactive construction areas (previously graded areas inactive for 10 days or more).

b. Replace groundcover in disturbed areas as quickly as possible.

c. Enclose, cover, water twice daily, or apply non-toxic soil binders according to manufacturers' specifications, to exposed piles (i.e., gravel, sand, dirt) with 5 percent or greater silt content.

d. Water active sites at least twice daily.

e. Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.

f. Monitor for particulate emissions according to district-specified procedures.

g. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 feet of freeboard (i.e., minimum vertical distance between top of the load and the top of the trailer) in accordance with the requirements of CVC Section 23114.

Paved Roads

h. Sweep paved streets at the end of the day if visible soil material is carried onto adjacent public paved roads (recommend water sweepers with reclaimed water).

i. Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off trucks and any equipment leaving the site each trip.

Unpaved Roads

j. Apply water three times daily, or non-toxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces.

k. Reduce traffic speeds on all unpaved roads to 15 miles per hour or less.

l. Pave construction roads that have a traffic volume of more than 50 daily trips by construction equipment, 150 total daily trips for all vehicles.

m. Pave all construction access roads at least 100 feet on to the site from the main road.

n. Pave construction roads that have a daily traffic volume of less than 50 vehicular trips.

MV 4.7-16 [Replaces Mitigation Measure SP 4.10-7] Prior to the approval of each future subdivision proposed in association with Mission Village, each of the construction emission reduction measures listed below, which are based on Tables 11-2 and 11-3 of the SCAQMD's CEQA Air Quality Handbook, shall be implemented.

On-Road Mobile Source Construction Emissions

a. Configure construction parking to minimize traffic interference.

b. Provide temporary traffic controls when construction activities have the potential to disrupt traffic to maintain traffic flow (e.g., signage, flag person, detours).

c. Schedule construction activities that affect traffic flow to off-peak hours (e.g., between 7:00 PM and 6:00 AM and between 10:00 AM and 3:00 PM).

d. Develop a trip reduction plan to achieve a 1.5 average vehicle ridership (AVR) for construction employees.

e. Implement a shuttle service to and from retail services and food establishments during lunch hours.

f. Develop a construction traffic management plan that includes the following measures to address construction traffic that has the potential to affect traffic on public streets:

- Rerouting construction traffic off congested streets;
- Consolidating truck deliveries; and
- Providing temporary dedicated turn lanes for movement of construction trucks and equipment on and off of the site.

g. Prohibit truck idling in excess of two minutes.

Off-Road Mobile Source Construction Emissions

h. Use pile drivers powered by an alternative to diesel fuel.

i. Suspend use of all construction equipment operations during second stage smog alerts.

j. Prevent trucks from idling longer than two minutes.

k. Use electricity from power poles rather than temporary diesel-powered generators.

l. Use electricity from power poles rather than temporary gasoline-powered generators.

m. Use mobile equipment powered by an alternative to diesel fuel.

n. Use on-site mobile equipment powered by an alternative to gasoline.

(2) Operational Mitigation Measures

(a) Point Source Operational Emissions

MV4.7-17 Any dry cleaners proposing to locate on site shall utilize the services of off-site cleaning operations at already SCAQMD-permitted locations. No on-site dry cleaning operations utilizing perchloroethylene or any other cleaning solvent containing toxic air contaminants shall be permitted within Mission Village.

(b) Mobile Source Operational Emissions

MV4.7-18 The project developer(s) shall coordinate with Santa Clarita Transit to identify appropriate bus stop/turnout locations.

MV4.7-19 Kiosks containing transit information shall be constructed by the project applicant adjacent to selected future bus stops prior to initiation of bus service to the site.

(c) Area Source Operational Emissions

MV4.7-120 Wood-burning fireplaces and stoves shall be prohibited in all residential units. Use of wood in fireplaces shall be prohibited through project CC&Rs.

MV 4.7-21 [Replaces Mitigation Measure SP 4.10-9] Prior to the approval of each future subdivision proposed in association with Mission Village, each of the operational emission reduction measures listed below, which are based on Tables 11-6 and 11-7 of the SCAQMD's *CEQA Air Quality Handbook*, shall be implemented.

On Road Mobile Source Operational Emissions

Residential Uses

a. Provide residents with information regarding the availability of existing shuttle service providers and public transit between residential and commercial core areas.

b. Construct on-site or off-site bus stops (e.g., bus turnouts, passenger benches, and shelters).

c. Construct off-site pedestrian facility improvements, such as overpasses and wider sidewalks.

d. Include retail services within or adjacent to residential subdivisions.

e. Provide residents with information regarding the availability of existing shuttle service providers and public transit between residential areas and transit centers.

f. Contribute to regional transit systems (e.g., right-of-way, capital improvements, etc.).

g. Synchronize traffic lights on streets impacted by development.

h. Construct, contribute, or dedicate land for the provision of off-site bicycle trails linking the facility to designated bicycle commuting routes.

Commercial Uses

i. Provide preferential parking spaces for carpools and vanpools and provide 7 foot 2 inch minimum vertical clearance in parking facilities for vanpool access.

j. Implement on-site circulation plans in parking lots to reduce vehicle queuing.

k. Improve traffic flow at drive-throughs by designing separate windows for different functions and by providing temporary parking for orders not immediately available for pickup.

l. Set up resident worker training programs to improve job/housing balance.

m. Develop a program to minimize the use of fleet vehicles during smog alerts (for business not subject to Regulation XV (now Rule 2202) or XII).

n. Use low-emissions fleet vehicles:

- TLEV
- ULEV
- LEV
- ZEV

o. Reduce employee parking spaces for those businesses subject to Regulation XV (now Rule 2202).

p. For commercial uses subject to Rule 2202, implement a lunch shuttle service from a worksite(s) to food establishments.

q. For commercial uses subject to Rule 2202, implement compressed workweek schedules where weekly work hours are compressed into fewer than five days.

- 9/80
- 4/40
- 3/36

r. Employers with 250 or more employees are to provide on-site child care and after-school facilities or contribute to off-site development within walking distance.

s. Require retail facilities or special event centers to offer travel incentives such as discounts on purchases for transit riders.

t. Employers with 250 or more employees are to provide on-site employee services such as cafeterias, banks, etc.

u. Establish a shuttle service from residential core areas to the commercial core areas.

v. Construct on-site or off-site bus stops (e.g., bus turnouts, passenger benches, and shelters).

w. Implement a pricing structure for single-occupancy employee parking and/or provide discounts to ridesharers.

x. Include residential units within a commercial project.

y. Utilize parking in excess of code requirements as on-site park-n-ride lots or contribute to construction of off-site lots.

z. Any two of the following:

- Construct off-site bicycle facility improvements, such as bicycle trails linking the facility to designated bicycle commuting routes, or on-site improvements, such as bicycle paths.
- Include bicycle parking facilities, such as bicycle lockers and racks.
- Include showers for bicycling employees' use.

aa. Any two of the following:

- Construct off-site pedestrian facility improvements, such as overpasses, wider sidewalks.
- Construct on-site pedestrian facility improvements, such as building access that is physically separated from street and parking lot traffic and walk paths.
- Include showers for pedestrian employees' use.

ab. Provide shuttles from the commercial core areas to major transit stations.

ac. Contribute to regional transit systems (e.g., right-of-way, capital improvements, etc.).

ad. Charge visitors to park at specialty commercial/entertainment developments.

ae. Synchronize traffic lights on streets impacted by development.

af. Reschedule truck deliveries and pickups to off-peak hours.

ag. Set up paid parking systems where drivers pay at walkup kiosk and exit via a stamped ticket to reduce emissions from queuing vehicles.

ah. Require on-site truck loading zones.

ai. Implement or contribute to public outreach programs.

aj. Require employers not subject to Regulation XV (now Rule 2202) to provide commuter information area.

Stationary Source Operational Emissions

Residential

ak. Use solar or low emission water heaters.

al. Use central water heating systems.

am. Use built-in energy-efficient appliances.

an. Provide shade trees to reduce building heating/cooling needs.

ao. Use energy-efficient and automated controls for air conditioners.

ap. Use double-paned windows.

aq. Use energy-efficient low-sodium parking lot lights.

ar. Use lighting controls and energy-efficient lighting.

as. Orient buildings to the north for natural cooling and include passive solar design (e.g., daylighting).

at. Use light-colored roofing materials to reflect heat.

au. Increase walls and attic insulation beyond Title 24 requirements.

Commercial Uses

av. Use solar or low emission water heaters.

aw. Use central water heating systems.

ax. Provide shade trees to reduce building heating/cooling needs.

ay. Use energy-efficient and automated controls for air conditioners.

az. Use double-paned windows.

ba. Use energy-efficient low-sodium parking lot lights.

bb. Use lighting controls and energy-efficient lighting.

bc. Use light-colored roofing materials to reflect heat.

bd. Increase walls and attic insulation beyond Title 24 requirements.

be. Orient buildings to the north for natural cooling and include passive solar design (e.g., daylighting).

c. Emission Reduction Efficiencies for Operational Emissions

Ranges of emission reduction efficiencies for the above-recommended mitigation measures for operational emissions are identified in Table 11-6 of the SCAQMD's *CEQA Air Quality Handbook*.[69] The SCAQMD recommends that the low end of the range should be used when selecting the efficiencies for various projects unless otherwise justified.[70] Not all of the recommended measures would measurably reduce all operational-related pollutant levels to less than significant, but their implementation would

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69 No emissions reduction efficiencies are provided for SO_x emissions; however, SO_x emissions of the proposed project would be less than significant.

70 South Coast Air Quality Management District, *CEQA Air Quality Handbook* (1993).

reduce summertime CO emissions by 5.3 percent, VOC emissions by 1.0 percent, NO_X emissions by 14.2 percent, PM_{10} emissions by 4.7 percent, and $PM_{2.5}$ emissions by 4.4 percent. The measures would reduce wintertime CO emissions by 5.8 percent, VOC emissions by 1.0 percent, NO_X emissions by 15.0 percent, PM_{10} emissions by 4.8 percent, and $PM_{2.5}$ emissions by 4.8 percent. Even with these emissions reductions, project operational air quality impacts would remain significant.

8. CUMULATIVE IMPACTS

The *CEQA Air Quality Handbook* identifies possible methods to determine the cumulative significance of land use projects.[71] These methods are different than the methodology for construction and operational impacts used throughout the remainder of this EIR in which all foreseeable future development within a given service boundary or geographical area is predicted and its impacts measured. The SCAQMD staff has suggested that the emissions-based thresholds be used to determine if a project's contribution to regional cumulative emissions is cumulatively considerable.[72] In addition, the relevant methods for determining cumulative impacts in the *CEQA Air Quality Handbook*, which are based on performance standards and emission reduction targets necessary to attain the federal and state air quality standards identified in the AQMP, are also evaluated. This EIR evaluates the following methods: (1) the SCAQMD method of whether the rate of growth in average daily trips exceeds the rate of growth in population; and (2) whether or not the project is consistent with 2007 AQMP and, thus, would not jeopardize attainment of state and federal ambient air quality standards in the SoCAB.

The SCAQMD's approach towards assessing cumulative impacts is based on the fact that the AQMP forecasts attainment of ambient air quality standards inclusive of growth in population, employment, and vehicle miles traveled. The 2007 AQMP was prepared to accommodate growth, to reduce the high levels of pollutants within the SoCAB, to meet state and federal air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. Projects found to be consistent with the growth assumptions upon which the AQMP forecasts are based are deemed to be consistent with the AQMP and would not impede attainment of the ambient air quality standards. Once fully developed and occupied, the proposed project, as well as the other projects being proposed and developed in the area, are expected to be within the growth forecasts contained in the Growth Management Chapter (GMC) of SCAG's Regional Comprehensive Plan and Guide (RCPG), which forms the basis for the land use and transportation control portions of the SCAQMD's AQMP. The RCPG serves as a regional framework for decision-making for the growth and change that is anticipated during the next 20 years and beyond. The GMC of the RCPG contains population, housing, and jobs forecasts, which are adopted by SCAG's

71 South Coast Air Quality Management District, *CEQA Air Quality Handbook* (1993), p. 9-12.

72 Communication with Dr. Steve Smith, Program Supervisor, South Coast Air Quality Management District, April 19, 2006.

Regional Council and that reflect local plans and policies that shall be used by SCAG in all phases of implementation and review. It states that the overall goals for the region are to (1) re-invigorate the region's economy, (2) avoid social and economic inequities and the geographical isolation of communities, and (3) maintain the region's quality of life. Thus, from this perspective, the proposed project is not expected to jeopardize attainment of state and federal ambient air quality standards.

An additional analysis that evaluates the proposed project's cumulative impacts is based on performance standards that are recommended in the SCAQMD's *CEQA Air Quality Handbook* and that are appropriate to the proposed project. As specified in the *CEQA Air Quality Handbook*, the ratio of project's VMT or ADT to anticipated VMT or ADT in the city or county in which the project is located is compared to the ratio of the project population to the anticipated population in the same city or county.[73] If the growth of VMT or ADT is less than the population growth, then the project is not considered to have a significant cumulative air quality impact. The relevant values are shown in **Table 4.7-17, Comparison of Growth of VMT to Population Growth**. As shown in **Table 4.7-17**, this criterion has not been met, and therefore, the project would be considered to have a significant cumulative impact on air quality under this criterion.

Table 4.7-17
Comparison of Growth of VMT to Population Growth

	Vehicle Miles Traveled	Population
Proposed Project	472,713	15,373
Los Angeles County	235,734,000	11,501,884
Ratio of Project to Los Angeles County	0.0020	0.0013

Source: Impact Sciences, Inc.
*Note: Estimated project VMT from URBEMIS2007 output data (see **Appendix 4.7** of this EIR). Estimated VMT in Los Angeles County in 2020 was determined by EMFAC2007. Project population includes residents and employees (VMT from URBEMIS2007 includes miles traveled from residents and employees). Estimated aggregated population in the SoCAB portion of Los Angeles County in 2020 is based on data from the Southern California Association of Governments, "City Projections." [Online] [January 26, 2007]. http://scag.ca.gov/forecast/index.htm.*

In summary, while the proposed project is consistent with the growth projections in the AQMP and constitutes a relatively small contribution to the regional emissions, the project emissions and VMT growth would exceed other thresholds indicating cumulative impacts. In particular, because the SoCAB is a nonattainment area for ozone, PM_{10}, and $PM_{2.5}$ the project's construction and operational emissions contribute to the cumulative air quality impacts in the SoCAB. As previously discussed, the project's construction emissions would exceed the project-level threshold of significance for VOCs, NO_X PM_{10}, and $PM_{2.5}$. Accordingly, the project's construction emissions would be considered cumulatively considerable,

73 South Coast Air Quality Management District, *CEQA Air Quality Handbook* (1993), p. A9-126.

and the cumulative air quality impact would be significant under this criterion. The mitigated operational emissions also are greater than the project-level thresholds of significance for VOCs, NO_X, CO, PM_{10}, and $PM_{2.5}$; therefore, operational emissions would be considered cumulatively considerable.

9. CUMULATIVE MITIGATION MEASURES

All known required mitigation measures, as discussed above, have been incorporated into this air quality impact analysis to further reduce and control project-specific emissions. These measures will also help reduce the project's cumulative significant air quality impacts.

10. SIGNIFICANT UNAVOIDABLE IMPACTS

a. Project-Specific Impacts

Although the recommended mitigation measures would reduce the magnitude of construction and operational emissions to some extent, no feasible mitigation exists that would reduce all of these emissions to below the SCAQMD's recommended thresholds of significance. The project's construction-related emissions of VOCs, NO_X, PM_{10}, and $PM_{2.5}$ and operation-related emissions of VOCs, NO_X, CO, PM_{10}, and $PM_{2.5}$ are considered significant and unavoidable. Furthermore, the construction phase would result in localized ambient air quality impacts for NO_2, PM_{10}, and $PM_{2.5}$.

b. Cumulative Impacts

The project's mitigated construction-related emissions of VOCs, NO_X, PM_{10}, and $PM_{2.5}$ and operational-related emissions of VOCs, NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions exceed the SCAQMD's recommended daily emission thresholds of significance for these pollutants and the growth in VMT relative to that in Los Angeles County will exceed the growth in population. In addition, because the SoCAB is already in nonattainment for ozone (VOC and NO_X as ozone precursors), PM_{10}, and $PM_{2.5}$, any increases in these emissions by the project are considered significant and unavoidable cumulative air quality impacts.

4.8 WATER SERVICE

1. SUMMARY

The proposed Mission Village project would generate a total water demand of 2,919 acre-feet per year (afy),[1] *1,676 afy of potable water demand, and 1,243 afy of non-potable demand. Potable water demand (1,676 afy) would be met by the Valencia Water Company through the use of the project applicant's rights to 7,038 afy of groundwater from the Alluvial aquifer, which is presently used by the applicant for agricultural irrigation. Because this water is already used to support the applicant's existing agricultural uses, there is not expected to be any significant environmental effects resulting from the use of such water to meet the potable demands of the Mission Village project, which is part of the approved Newhall Ranch Specific Plan area. In addition, due to project conditions, the amount of groundwater that will be used to meet the potable demands of the Newhall Ranch Specific Plan, including the Mission Village project, cannot exceed the amount of water historically and presently used by the applicant for agricultural uses. Therefore, no net increase in groundwater use will occur with implementation of this project pursuant to the Specific Plan.*

Non-potable water demand (1,243 afy) would be met through the use of recycled (reclaimed) water from the initial phase of the Newhall Ranch Water Reclamation Plant (WRP), with buildout of the WRP occurring over time as demand for treatment increases with implementation of the Newhall Ranch Specific Plan. Alternatively, if the Newhall Ranch WRP is not operating at the time of project occupancy, the non-potable water demand would be met through the use of recycled water from the existing Valencia WRP, located upstream of the Mission Village project site.

Accordingly, the proposed project's water demand would be met by relying on two primary sources of water supply, namely, the applicant's agricultural water supplies and recycled water supplied by the Newhall Ranch WRP or the existing Valencia WRP. Because these two independent water sources meet the water needs of the proposed project, no potable water would be needed from the existing or planned water supplies of Castaic Lake Water Agency (CLWA), including imported water from CLWA's State Water Project (SWP) supplies. Nonetheless, CLWA's water supplies, including imported water from the SWP, and other non-SWP imported supplies, are assessed in this EIR for information purposes.

Based on the information presented, an adequate supply of water is available to serve the Mission Village project, and the project will not contribute to any significant cumulative water supply impacts in the Santa Clarita Valley,

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1 An acre-foot represents 43,560 cubic feet, or 325,850 gallons, of water. An acre-foot of water has been generally defined as "an irrigation-based measurement equaling the quantity of water required to cover an acre of land to a depth of one foot." See, *Brydon v. East Bay Mun. Utility Dist.* (1994) 24 Cal.App.4th 178, 182, fn. 1.

because it would rely on local groundwater and recycled water from local water reclamation plants and not use or rely on CLWA's SWP supplies. No significant water supply or water quality impacts are expected from supplying available water to meet the demands of the Mission Village project. No significant cumulative water supply impacts are expected to result from supplying water to the Mission Village project, because it would not use or rely on CLWA's SWP supplies.

Over the past several years, questions have been raised regarding the reliability of SWP water delivered by CLWA, the ability of local water purveyors to deliver an adequate and reliable supply of water to its customers, and the extent to which ammonium perchlorate discovered in local groundwater reduces the amount of local water available in the Santa Clarita Valley. Provided below are answers to these questions, in non-technical terms.

a. Where does the Mission Village water come from (what are the supply sources)?

The project area lies within the groundwater basin identified in DWR Bulletin 118 (2003 Update) as the Santa Clara River Valley Groundwater Basin, East Subbasin (Basin) (See **Appendix 4.8**). The Basin is comprised of two aquifer systems, the Alluvium and the Saugus Formation. The Alluvium (also referred to as the Alluvial aquifer) generally underlies the Santa Clara River and its several tributaries, and the Saugus Formation underlies practically the entire Upper Santa Clara River area.

As discussed above, the projected total water demand for the Mission Village project is 2,919 afy in a normal/average year. Project water demand increases by approximately 10 percent in a dry year[2] to a total of 3,211 afy. To meet this demand, Valencia Water Company, as the local retail purveyor, would provide water to the Mission Village project. Water sources expected to serve the Mission Village project are the applicant's agricultural water from the Alluvial aquifer to meet the project's potable demand, and recycled water from the Newhall Ranch WRP (or the existing Valencia WRP) to meet the project's non-potable demand. These local supplies are readily available from the local groundwater basin, and from existing and approved water reclamation plants (either the existing Valencia WRP or the approved Newhall Ranch WRP).

b. How reliable are the water supply sources for Mission Village?

The Alluvial aquifer can meet the groundwater demands of the proposed Mission Village project under both short- and long-term conditions without creating any significant groundwater impacts. The

2 In a single dry year, people are still in their "normal" or wet year water usage pattern from the prior year. In that dry year, however, they see dryer lawns, etc., and increase water usage to compensate (i.e., resulting in a 10 percent increase in water usage).

groundwater component of the overall water supply in the Santa Clarita Valley derives from a groundwater operating plan developed by CLWA and the local retail purveyors over the past 20 years to meet water requirements (municipal, agricultural, small domestic), while maintaining the Basin in a sustainable condition (i.e., no long-term depletion of groundwater or interrelated surface water). This operating plan also addresses groundwater contamination issues in the Basin. The operating plan is based on the concept that pumping can vary from year-to-year to allow increased groundwater use in dry periods and increased recharge during wet periods, and to collectively assure that the Basin is adequately replenished through various wet/dry cycles. The operating yield for the Basin has been quantified as ranges of annual pumping volumes. The groundwater operating plan is further described below. The operating plan addresses both the Alluvial aquifer and the Saugus Formation.

Groundwater supplies were evaluated in the *2005 UWMP*, the 2005 *Basin Yield Report,* and the more recently issued 2009 report entitled, *Analysis of Groundwater Supplies and Groundwater Basin Yield Upper Santa Clara River Groundwater Basin, East Subbasin (*2009 *Basin Yield Update*). This evaluation resulted in the following findings: (a) both the Alluvial aquifer and the Saugus Formation are reasonable and sustainable sources of local water supplies at the yields stated in the *2005 UWMP* over the next 25 years; (b) the yields are not overstated and will not deplete or "dry-up" the groundwater basin; and (c) there is no need to reduce the yields for purposes of planning, as shown in both the *2005 UWMP,* the 2005 *Basin Yield Report,* and the 2009 *Basin Yield Update* (see **Appendix 4.8**, for the *2005 UWMP*, the *2005 Basin Yield Report* and the 2009 *Basin Yield Update*). In addition, the *2005 UWMP, 2005 Basin Yield Report,* and the *2009 Basin Yield Update* determined that neither the Alluvial aquifer nor the Saugus Formation is in an overdraft condition, or projected to become overdrafted.

Alluvium – The applicant would meet all of the Mission Village project's water demands by using its groundwater produced from the Alluvial aquifer in Los Angeles County (County), which is presently committed to agricultural uses. The amount of water historically and presently available from this source is approximately 7,038 afy. The project's potable water demand is estimated to be 1,676 afy. The water from the Alluvial aquifer presently used for agriculture would be used to meet all of the project's potable water needs resulting in no net increase in groundwater use.

As stated in the *2009 Santa Clarita Valley Water Report, May 2010 (2009 Water Report)*, the *2009 Basin Yield Update* and the *2005 Urban Water Management Plan* (*2005 UWMP*; see **Appendix 4.8**), the operating plan for the Alluvial aquifer involves pumping from the Alluvial aquifer in a given year, based on local hydrologic conditions in the eastern Santa Clara River watershed. Pumping ranges between 30,000 and 40,000 afy during normal/average and above-normal rainfall years. However, due to hydrogeologic constraints in the eastern part of the Basin, pumping is reduced to between 30,000 and 35,000 afy during locally dry years.

Saugus Formation – The Saugus Formation is not identified as a source of supply for the Newhall Ranch Specific Plan, including the Mission Village project. However, the operating plan for Saugus pumping is presented as additional information regarding the groundwater basin.

As stated in the *2009 Water Report* and the *2005 UWMP*, pumping from the Saugus Formation in a given year is tied directly to the availability of other water supplies, particularly from the SWP. During average year conditions within the SWP system, Saugus pumping ranges between 7,500 and 15,000 afy. Planned dry-year pumping from the Saugus Formation ranges between 15,000 and 25,000 afy during a dry year and can increase to between 21,000 and 25,000 afy if SWP deliveries are reduced for two consecutive dry years and between 21,000 and 35,000 afy if SWP deliveries are reduced for three consecutive dry years. Such pumping would be followed by periods of reduced (average-year) pumping, at rates between 7,500 and 15,000 afy, to further enhance the effectiveness of natural recharge processes that would recover water levels and groundwater storage volumes after the higher pumping during dry years.

c. Does Mission Village rely on State Water Project supplies?

No. As indicated above, Mission Village will use local groundwater and recycled water from local water reclamation plants. Because these two independent water sources (i.e., groundwater and recycled water) meet the potable and non-potable water demands of the proposed Mission Village project, no potable water would be used or relied upon from CLWA's SWP supplies. Because the Mission Village project relies only upon local groundwater and recycled water to meet its potable and non-potable water demands, it does not contribute any significant cumulative water impacts in the Santa Clarita Valley. Nonetheless, for information purposes, this EIR summarizes CLWA's SWP and non-SWP imported supplies available to the Santa Clarita Valley as a whole.

For the other portions of the Santa Clarita Valley that rely, at least in part, on SWP supplies, the reliability of that water varies depending upon several factors. The amount of water the Department of Water Resources (DWR) determines is available and allocates for delivery in a given year is based on that year's hydrologic conditions, the amount of water in storage in the SWP system, regulatory, environmental, operational constraints, levee vulnerability due to flooding and earthquakes, the SWP Contractors' requests for SWP supplies, and other factors. These factors can significantly alter and reduce the availability of SWP water in any given year.

CLWA takes delivery of its SWP water at Castaic Lake, a terminal reservoir of the West Branch. From Castaic Lake, CLWA delivers its SWP supplies to the local retail water purveyors through an extensive transmission pipeline system. CLWA is one of 29 water agencies (i.e., "SWP Contractors"), with a long-term SWP water supply contract with DWR. Each SWP contractor's SWP water supply contract

contains a "Table A," which lists the maximum amount of water a contractor may request each year throughout the life of the contract. Currently, CLWA's annual Table A Amount is 95,200 acre-feet (af).[3] In an effort to assess the impacts of various conditions on SWP supply reliability, DWR released *The State Water Project Delivery Reliability Report*, August 2010 (2009 DWR Delivery Reliability Report). A copy of this report is incorporated into this EIR by reference and is available for public review on the State's website at, http://baydeltaoffice.water.ca.gov. The report is an update to the *State Water Project Delivery Reliability Report, 2007* issued as final in 2008. The report assists SWP Contractors in assessing the reliability of the SWP component of their overall supplies. The DWR computer-based reliability projections have been applied to CLWA's maximum Table A Amount yields in tabular form in **Tables 4.8-11** through **4.8-14**, later in this document).[4] The results show that adequate water supplies are available to meet the potable and non-potable demands of the proposed project, in addition to existing and planned future uses in the Santa Clarita Valley, without resulting in significant environmental impacts to the Santa Clara River, the local Basin, or downstream users in Ventura County.

d. What is the quality of the Newhall Ranch water?

The quality of the groundwater available from the Alluvial aquifer near the Mission Village project site has been tested. Results from laboratory testing conducted for Valencia Water Company wells expected to serve the Mission Village project site are provided in Draft EIR **Appendix 4.8**. The wells expected to be used are approved by the State Department of Public Health (DPH) and are located just northeast of the Newhall Ranch Specific Plan site in the Valencia Commerce Center. Laboratory testing completed in July 2009 indicates that all constituents tested were at acceptable levels for drinking water under Title 22. Tests conducted for perchlorate indicated "non-detect," meaning no perchlorate was detected. Groundwater monitoring in Alluvial aquifer wells has shown both chloride and nitrate concentrations to be below (better than) the Basin Plan groundwater objectives. The Basin Plan includes groundwater quality objectives for various constituents. These objectives are designed to protect groundwater for municipal drinking water purposes. As to the potential affect that water disinfection would have on the quality of water found in the Santa Clara River and local groundwater supplies, Valencia Water Company disinfects its groundwater supply with calcium hypochlorite (65 percent available chlorine) to an average dosage of not more than 0.5 mg/L. Valencia indicates that the use of calcium hypochlorite to disinfect

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3 CLWA's original SWP water supply contract with DWR was amended in 1966 for a maximum annual Table A Amount of 41,500 af. In 1991, CLWA purchased 12,700 af of annual Table A Amount from a Kern County water district, and in 1999 purchased an additional 41,000 af of annual Table A Amount from another Kern County water district, for a current total annual Table A Amount of 95,200 af.

4 See **Tables 4.8-11** through **4.8-14**, which include CLWA's SWP and non-SWP imported supplies for the Santa Clarita Valley.

groundwater would slightly increase the level of chloride found in groundwater and would still be far below the secondary maximum contaminant level (MCL) for chloride of 250 mg/L. Methyl-Tertiary Butyl Ether (MTBE) has been a concern for the past several years, and on May 17, 2000, DPH adopted a primary MCL for MTBE of 0.013 mg/L. CLWA and the local water purveyors have been testing for MTBE since 1997 and, to date, have not detected it in any of the production wells.

Total Dissolved Solids (TDS) are a measure of the dissolved cations and anions, primarily inorganic salts (calcium, magnesium, potassium, sodium, chlorides, and sulfates). High TDS levels can impair agricultural, municipal supply, and groundwater recharge beneficial uses. Results from laboratory testing conducted for the Valencia Water Company wells show that TDS levels range from 890 to 900 milligrams per liter (mg/l), which meets all water quality standards for drinking water, including the secondary standards for TDS. Please see **Section 4.22, Water Quality**, of this EIR for further information on TDS standards.

e. What is the likelihood of perchlorate contamination of the Mission Village water sources?

In 1997, the State of California conducted tests on a number of municipal water wells owned by Santa Clarita Water Division of Castaic Lake Water Agency (SCWD), Newhall County Water District (NCWD) and Valencia Water Company (VWC) located in the vicinity of the former Whittaker Bermite site. Valencia Water Company investigated the future risk of perchlorate contamination on its new wells. In summary, the approach used to investigate the potential capture of perchlorate-impacted groundwater by the new wells involved three sequential steps: identification of local and regional groundwater flow patterns in the Alluvium; application of a single layer groundwater flow model to examine the capture zone of the four-well "well field" under planned operating conditions; and interpretation of potential capture of perchlorate via examination of the well's theoretical independent capture zone relative to the known occurrence of perchlorate in the Alluvium. The latter step was subsequently augmented by considering other factors, such as the locations and magnitude of pumping between the new wells and the known occurrence of perchlorate, which affect the potential capture of perchlorate by the new wells. Given that the groundwater resources from the Alluvial aquifer for the Mission Village project would be produced from wells located along Castaic Creek and over 4 miles west of the area known to be perchlorate-contaminated (i.e., the former Whittaker-Bermite facility), the groundwater supplies for this

project are not considered to be at risk due to perchlorate contamination released from the former Whittaker-Bermite facility.[5]

f. Will either Mission Village or perchlorate contamination result in overdrafting the local groundwater basin?

It has been suggested that the amount of water available from local groundwater supplies is overstated and that the effects of perchlorate contamination are not adequately analyzed in the *2005 UWMP*. This EIR contains an analysis of this issue, as does the *2005 UWMP*. An important aspect of this work was the completion of the *2005 Basin Yield Report* and the *2009 Basin Yield Update* (see **Appendix 4.8** [*2005 Basin Yield Report* and *2009 Basin Yield Update*]). The primary determinations made in those reports are that, despite perchlorate contamination: (1) both the Alluvial aquifer and the Saugus Formation are sustainable sources at the operational plan yields stated in the *2005 UWMP* over the next 25 years; (2) the yields are not overstated and will not deplete or "dry up" the groundwater basin; and (3) there is no need to reduce the yields shown in the *2005 UWMP*. Additionally, the Basin Yield Report and the Basin Yield Update conclude that neither the Alluvial aquifer nor the Saugus Formation is in an overdraft condition or projected to become overdrafted.

g. Was a SB 610 Water Supply Assessment prepared for the Mission Village project, and if so, what were the findings of that assessment?

Yes. A water supply assessment was completed and updated. As indicated in the *Water Supply Assessment Mission Village Vesting Tentative Tract Map No. 61105, July 2010,* (Mission Village WSA, or WSA), an adequate supply of water is available to meet the demands of the Mission Village project, in addition to existing and planned future uses in the Santa Clarita Valley (see **Appendix 4.8** [*Water Supply Assessment Mission Village Vesting Tentative Tract Map No. 061105, July 2010*]). The supply available to meet the project's potable demand is the applicant's groundwater supplies from the Alluvial aquifer, which is presently used for agricultural uses. As stated above, there will be no net increase in groundwater usage due to the conversion of agricultural water to potable supply uses for the project site. The project's non-potable demand will be met by recycled water from the Newhall Ranch WRP or, alternatively, from the existing Valencia WRP, upstream from the project site. Because the applicant is utilizing water supplies from independent sources, the project does not result in or contribute to any significant cumulative water supply impacts in the Santa Clarita Valley.

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5 See, *Potential Capture of Perchlorate Contamination*, Valencia Water Company's Wells E14–E17, Prepared by Luhdorff and Scalmanini for the Valencia Water Company, April 26, 2006. This report is found in **Appendix 4.8** of this EIR.

h. Do adequate and reliable water supplies exist in the Santa Clarita Valley to serve Mission Village and the existing population during future average, dry and multiple dry years?

Yes. In average years, dry years, and multiple-dry years, the data provided by CLWA and the local purveyors shows that adequate and reliable water supplies exist in the Santa Clarita Valley to serve Mission Village and existing and planned future uses over the planning horizon shown in the 2005 UWMP. (See **Tables 4.8-11** through **4.8-14**, later in this document.)

Specific to the proposed Mission Village project, potable water demand (1,676 afy) would be met through the use of the project applicant's rights to 7,038 afy of groundwater from the local Alluvial aquifer, which is presently used by the applicant for agricultural irrigation. The project's non-potable water demand (1,243 afy) would be met through the use of recycled water from local water reclamation plants (either the existing Valencia WRP or the approved Newhall Ranch WRP). In summary, the Mission Village project's water demand would be met by two primary sources of water supply, namely, the applicant's local agricultural water supplies and recycled water supplied by local water reclamation plants. Because these two independent water sources meet the needs of the proposed Mission Village project, no potable water would be needed from CLWA's existing or planned SWP supplies. Nonetheless, for information purposes, the Mission Village EIR contains a discussion of CLWA's supplies, including SWP supplies.

i. Will adequate and reliable water supplies exist in the Valley to serve Mission Village, plus existing and future populations during average, dry and multiple dry years?

Yes. In order to analyze the cumulative water impacts of Mission Village in combination with other expected future growth, the amount and location of growth expected to occur in addition to that of the project was predicted. Cumulative development scenarios are analyzed for this water analysis in order to meet CEQA requirements as well as the requirements of Senate Bill 610. The cumulative scenarios analyzed in this EIR are referred to as the "SB 610 Water Supply Assessment Scenario," the "DMS Buildout Scenario," and the "Santa Clarita Valley 2030 Buildout Scenario." Under the scenarios, available supplies would exceed demand in average/normal years, a single-dry year, and multiple dry years through 2030 at the SWP delivery rates projected in DWR's 2009 DWR Delivery Reliability Report (approximately 60 percent in average years). However, it should be emphasized that the Mission Village project does not rely on CLWA's SWP supplies. Instead, the Mission Village project would use local groundwater and recycled water from local water reclamation plants to meet its potable and non-potable water demands. Therefore, the Mission Village project would not contribute to any significant cumulative impacts on the Santa Clarita Valley's water supplies.

j. Does Mission Village cause significant cumulative impacts on water supplies in the Santa Clarita Valley?

No. Because the Mission Village project relies only upon local groundwater and recycled water to meet its potable and non-potable water demands, it does not contribute to any significant cumulative water impacts in the Santa Clarita Valley.

2. INTRODUCTION

a. Relationship of Project to Newhall Ranch Specific Plan Program EIR

Section 2.5 of the Newhall Ranch Revised Additional Analysis, Volume VIII (May 2003), identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with supplying water to the entire Newhall Ranch Specific Plan (see **Appendix 4.8** [Newhall Ranch Revised Additional Analysis, Vol. VIII (May 2003)]). This prior analysis found that an adequate supply of water exists to meet the demands of both the Specific Plan and cumulative development without creating any significant water-related impacts. Based on the prior analysis, and the adopted Specific Plan mitigation measures, all water-related impacts were found to be less than significant. The Specific Plan also was found to be consistent with the County's General Plan Development Monitoring System (DMS) requirements.

This project-level EIR tiers from the previously certified Newhall Ranch Specific Plan Program EIR and Revised Additional Analysis. This section discusses, at a project-level, the Mission Village project's existing conditions relative to water supplies and demand, the project's impacts on available water supplies, the adopted mitigation measures from the Newhall Ranch Revised Additional Analysis, Volume VIII (May 2003), and any additional mitigation measures recommended by this EIR for the Mission Village project.

b. Summary of the Newhall Ranch Specific Plan Program EIR Findings

The Newhall Ranch Revised Additional Analysis, Volume VIII (May 2003), identified potentially significant impacts to water resources resulting from implementation of the Newhall Ranch Specific Plan, in conjunction with cumulative development in the Santa Clarita Valley. In response to identified potential significant impacts, Los Angeles County adopted 22 water-related mitigation measures.[6] Based on the environmental analysis and record, the Board of Supervisors found that adoption of the mitigation measures would reduce potentially significant water-related impacts to less than significant levels.

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6 See Mitigation Measures 4.11-1 through 4.11-22 in the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

3. EXISTING CONDITIONS

Water supply and demand in the Santa Clarita Valley is affected by existing conditions, including local climatic conditions, demographics in the region, existing topography and regional area geology and hydrology, surface water flows, effects of drought cycles both locally and regionally, and effects of urbanization in the Valley. These existing conditions are thoroughly addressed in Section 2.5 of the Newhall Ranch Revised Additional Analysis, Volume VIII (May 2003). In addition, these local conditions are evaluated in several documents listed below. This list also identifies the documents that were used or relied upon in the preparation of this section.

The documents, some of which are referenced appendices, are incorporated by reference and available for public inspection and review upon request at CLWA (wholesale water agency) 27234 Bouquet Canyon Road, Santa Clarita, California 91350, or the Valencia Water Company (local retail water supplier), 24631 Avenue Rockefeller, Valencia, California 91355. The documents referred to throughout this section were used in formulating an independent determination of the sufficiency of the identified water supplies to meet the proposed demands of the proposed Project and other related cumulative development.

- *2005 Urban Water Management Plan*, prepared for Castaic Lake Water Agency, CLWA Santa Clarita Water Division, Newhall County Water District, Valencia Water Company, Los Angeles County Waterworks District No. 36, prepared by Black & Veatch, Nancy Clemm, Kennedy Jenks Consultants, Jeff Lambert, Luhdorff & Scalmanini, Richard Slade and Associates, November 2005 (2005 UWMP).

- *Data Document, Proposed 2008 Facility Capacity Fees*, Castaic Lake Water Agency, November 12, 2008 (2008 Data Document).

- *Analysis of Groundwater Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin, Los Angeles County, California*, prepared by CH2M HILL, in cooperation with Luhdorff & Scalmanini, in support of the August 2001 Memorandum of Understanding between the Upper Basin Water Purveyors and the United Water Conservation District August 2005 (2005 Basin Yield Report).

- *Analysis of Groundwater Supplies and Groundwater Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin,* by Luhdorff & Scalmanini and GSI Water Solutions, Inc., August 2009 (2009 Basin Yield Update).

- *Santa Clarita Valley Water Report 2006*, prepared for CLWA, Los Angeles County Waterworks District No. 36, Santa Clarita Water Division, Newhall County Water District and Valencia Water Company by Luhdorff and Scalmanini, Consulting Engineers, May 2007 (SCVWR, 2007).

- *Santa Clarita Valley Water Report 2007*, prepared for CLWA, Los Angeles County Waterworks District No. 36, Santa Clarita Water Division, Newhall County Water District and Valencia Water Company by Luhdorff and Scalmanini, Consulting Engineers, April 2008 (SCVWR, 2008).

- *Santa Clarita Valley Water Report 2008*, prepared for CLWA, Los Angeles County Waterworks District No. 36, Santa Clarita Water Division, Newhall County Water District and Valencia Water Company by Luhdorff and Scalmanini, Consulting Engineers, April 2009 (SCVWR, 2009).

- *2009 Santa Clarita Valley Water Report*, prepared for CLWA, Los Angeles County Waterworks District No. 36, Santa Clarita Water Division, Newhall County Water District and Valencia Water Company by Luhdorff and Scalmanini, Consulting Engineers, May 2010. (SCVWR, 2010).

- *The Santa Clarita Valley 2007 Consumer Confidence Report, prepared by CLWA, CLWA's Santa Clarita* Water Division, Newhall County Water District, and Valencia Water Company, 2007.

- *The Santa Clarita Valley 2008 Water Quality Report*, prepared by CLWA, CLWA's Santa Clarita Water Division, Newhall County Water District, and Valencia Water Company, 2008.

- *The Santa Clarita Valley 2009 Water Quality Report*, prepared by CLWA, CLWA's Santa Clarita Water Division, Newhall County Water District, and Valencia Water Company, 2009.

- *The Santa Clarita Valley 2010 Water Quality Report*, prepared by CLWA, CLWA's Santa Clarita Water Division, Newhall County Water District, and Valencia Water Company, 2010.

- *2001 Update Report: Hydrogeologic Conditions in the Alluvial and Saugus Formation Aquifer Systems*, prepared for Santa Clarita Valley Water Purveyors by Richard C. Slade and Associates, LLC, July 2002 (Slade, 2002).

- *CLWA Capital Improvement Program* prepared by Kennedy/Jenks Consultants, 2003.

- *CLWA FY 2009/2010 Budget, Capital Improvement Program, Fiscal Year 2009/2010, Castaic Lake Water Agency, Adopted June 2008 and effective July 2009.*

- *Water Supply Reliability Plan Draft Report* prepared for CLWA by Kennedy/Jenks Consultants, September 2003.

- *Memorandum of Understanding* between Castaic Lake Water Agency and Newhall County Water District, September 2005.

- *Memorandum of Understanding* between the Santa Clara River Valley Upper Basin Water Purveyors and United Water Conservation District, August 2001 (MOU, 2001).

- *Groundwater Management Plan - Santa Clara River Valley Groundwater Basin, East Subbasin*, prepared for CLWA by Luhdorff & Scalmanini Consulting Engineers, December 2003.

- *Regional Groundwater Flow Model for the Santa Clarita Valley: Model Development and Calibration*, prepared for Upper Basin Water Purveyors (CLWA, CLWA Santa Clarita Water Division, Newhall County Water District and Valencia Water Company) by CH2M HILL, April 2004.

- *Analysis of Perchlorate Containment in Groundwater Near the Whittaker-Bermite Property, Santa Clarita, California*, prepared for Upper Basin Water Purveyors in support of the Department of Health Services 97-005 Permit Application by CH2M HILL, December 2004.

- *Analysis of Near-Term Groundwater Capture Areas for Production Wells Located Near the Whittaker-Bermite Property (Santa Clarita, California)*, prepared for Upper Basin Water Purveyors in support of the amended 2000 UWMP by CH2M HILL, December 21, 2004.

- *Water Supply Contract Between the State of California Department of Water Resources and CLWA, 1963* (plus amendments, including the "Monterey Amendment," 1995, and Amendment No. 18, 1999, the transfer of 41,000 acre-feet of SWP supplies from Kern County Water Agency to CLWA).

- *2002 Semitropic Groundwater Storage Program and Point of Delivery Agreement* among the Department of Water Resources of the State of California, CLWA, and Kern County Water Agency.

- *2002 Draft Recycled Water Master Plan* prepared for CLWA by Kennedy/Jenks Consultants.

- *Draft Program Environmental Impact Report - Recycled Water Master Plan*, prepared for CLWA by Bon Terra Consulting, November 2006 (SCH No. 2005041138).

- *Final Program Environmental Impact Report - Recycled Water Master Plan*, prepared for CLWA by Bon Terra Consulting, March 2007 (SCH No. 2005041138).

- *2002 and 2003 Semitropic Groundwater Storage Programs* prepared for CLWA by Kennedy/Jenks Consultants.

- *Draft Environmental Impact Report – Supplemental Water Project Transfer of 41,000 acre-feet of State Water Project Table A Amount*, prepared for CLWA by Science Applications International Corporation, June 2004 (SCH No. 1998041127).

- *Final Environmental Impact Report – Supplemental Water Project Transfer of 41,000 acre-feet of State Water Project Table A Amount*, prepared for CLWA by Science Applications International Corporation, December 2004 (SCH No. 1998041127).

- *Draft Environmental Impact Report - Rosedale-Rio Bravo Water Storage District (RRBWSD) Water Banking and Exchange Program*, prepared for CLWA by Science Applications International Corporation, August 2005 (SCH No. 2005061157).

- *Final Environmental Impact Report - Rosedale-Rio Bravo Water Storage District (RRBWSD) Water Banking and Exchange Program*, prepared for CLWA by Science Applications International Corporation, October 2005 (SCH No. 2005061157).

- *Draft Environmental Impact Report - Castaic Lake Water Agency Water Acquisition from the Buena Vista Water Storage District and Rosedale-Rio Bravo Water Storage District Water Banking and Recovery Program*, prepared for CLWA by Science Applications International Corporation, June 2006 (SCH No. 2006021003).

- *Final Environmental Impact Report - Castaic Lake Water Agency Water Acquisition from the Buena Vista Water Storage District and Rosedale-Rio Bravo Water Storage District Water Banking and Recovery Program*, prepared for CLWA by Science Applications International Corporation, October 2006 (SCH No. 2006021003).

- California Environmental Protection Agency, State Water Resources Control Board, *Draft Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem*, July 20, 2010.

- California Department of Water Resources, *California's Groundwater*, Bulletin 118, Santa Clara River Valley Groundwater Basin, Santa Clara River Valley East Subbasin, February, 2004.

- California Department of Water Resources, *Groundwater Basins in California*, Bulletin 118-80, January 1980. (DWR Bulletin 118-80, 1980).

- California Department of Water Resources, *The State Water Project Delivery Reliability Report, 2002*, May 2003. (2002 DWR Delivery Reliability Report, May 2003).

- California Department of Water Resources, *The State Water Project Delivery Reliability Report, 2005*, Final, April 2006. (2005 DWR Delivery Reliability Report, April 2006).

- California Department of Water Resources, Bulletin 132-06, Management of the California State Water Project (December 2007).

- California Department of Water Resources, *The State Water Project Delivery Reliability Report, 2007*, August 2008. (2007 DWR Delivery Reliability Report, August 2008).

- California Department of Water Resources, *The State Water Project Delivery Reliability Report 2009*, August 2010. (2009 DWR Delivery Reliability Report).

- California Department of Water Resources, *California's Drought* and associated publications, http://www.water.ca.gov/drought (accessed, December 8, 2008).

- California Department of Water Resources, *Using Future Climate Projections to Support Water Resources Decision Making in California,* http://www.energy.ca.gov/2009publications/CEC-500-2009-052/CEC-500-2009-052-D.PDF (accessed, January 27, 2009).

- 2008 *Water Master Plan, Draft*, (Santa Clarita Water Division of the Castaic Lake Water Agency), Civiltec Engineering, Inc., May 19, 2008.

- CLWA Letter to Los Angeles County Department of Regional Planning, February 2008.

- *Additional CEQA Findings Regarding the Newhall Ranch Final Additional Analysis to the Partially Certified Final EIR for the Newhall Ranch Specific Plan and Water Reclamation Plant*. March 2003. (Los Angeles County 2003).

- *Mitigated Negative Declaration – Groundwater Containment, Treatment and Restoration Project*, prepared by Kennedy/Jenks Consultants for Castaic Lake Water Agency, September 2005.

- *Interim Remedial Action Plan*, to facilitate and restore pumping of groundwater from two Saugus Formation production wells impacted by perchlorate, prepared by Kennedy/Jenks Consultants for Castaic Lake Water Agency and approved by the Department of Toxic Substances Control, December 2005.

- *Impact and Response to Perchlorate Contamination, Valencia Water Company Well Q2*, prepared by Luhdorff & Scalmanini Consulting Engineers, April 2005 (Q2 Report).

- *Analysis of Perchlorate Containment in Groundwater Near the Whittaker-Bermite Property, Santa Clarita, California*, prepared by CH2MHill for the Upper Basin Water Purveyors in Support of the Department of Health Services 97-005 Permit Application, December 2004 and UWMP.

- *Newhall Ranch Revised Additional Analysis*, Volume VIII (Final Revised Text, Figures and Tables), prepared by Impact Sciences Inc., for Los Angeles County, May 2003.

- Nickel Water contract and environmental documentation (see, Newhall Ranch Revised Draft Additional Analysis, Volume II, prepared by Impact Sciences, Inc., for Los Angeles County, November 2002, Appendix 2.5(b), (c)).

- Technical Memorandum: *Potential Effects of Climate Change on Groundwater Supplies for the Newhall Ranch Specific Plan, Santa Clarita Valley, California*, prepared by GSI Water Solutions, Inc. (John Porcello), March 18, 2008.

- Summary Report to Department of Toxic Substances Control from AMEC Geomatrix regarding Former Whittaker-Bermite Facility, Santa Clarita, California, November 17, 2008.

- Statewide Drought Press Release and Executive Order S-06-08, June 4, 2008.

- State of Emergency – Water Shortage, Proclamation by the Governor or the State of California, February 27, 2009.

- Progress Letter Report from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, September 15, 2009.

- Letter from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, June 8, 2009.

- CLWA News Release, September 14, 2009.

- Progress Letter Report from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, September 15, 2009.

- CLWA Memorandum from Brian J. Folsom to CLWA Board of Directors, October 1, 2009.

- 2009 laboratory test water well results.

- 2008 Delta Smelt Biological Opinion (USFWS, December 15, 2008).

- 2009 Chinook Salmon/Sturgeon Biological Opinion (NMFS, June 4, 2009).
- *Water Supply Assessment Mission Village Vesting Tentative Tract Map No. 61105, July 2010,* Valencia Water Company, July 2010. (Mission Village WSA, or WSA).

Please refer to the above-referenced documents for pertinent water supply assessment information.

4. WATER AGENCIES OF THE SANTA CLARITA VALLEY

Imported SWP supplies from CLWA are not needed or relied upon to serve the Specific Plan's potable water demands, including Mission Village. Instead, the Specific Plan will use local groundwater, Nickel water, and recycled water from local WRPs to meet its potable and non-potable water demands. These local supplies are readily available from the local groundwater basin, contracts (Nickel water), and from existing and approved WRPs (either the two existing upstream WRPs or the approved Newhall Ranch WRP). Nonetheless, the following discussion of imported water supplies from CLWA is presented in this EIR for information purposes.

a. Castaic Lake Water Agency

CLWA, a wholesale public water agency, was formed in 1962 through passage of the "Castaic Lake Water Agency Law."[7] At that time, CLWA's purpose was contracting with State of California, through DWR, to acquire and distribute SWP water to its retail water purveyors. The retail purveyors are SCWD, Los Angeles County Waterworks District No. 36, NCWD, and Valencia Water Company (VWC).

Since 1962, subsequent legislation broadened CLWA's purpose, which now includes, but is not limited to, the following: (a) Acquire water from the state; (b) Distribute such water wholesale through a transmission system to be acquired or constructed by CLWA; (c) Reclaim (recycle) water; (d) Sell water at retail within certain boundaries; and (e) Exercise other related powers.

The CLWA service area comprises approximately 195 square miles (124,800 acres) in Los Angeles and Ventura counties. CLWA serves the incorporated and unincorporated areas in, or adjacent to, the Santa Clarita Valley. Most of this area, including the incorporated cities, is within the geographic boundaries of Los Angeles County, but it also extends into a small portion of eastern Ventura County. The service area includes largely urban areas, such as the City of Santa Clarita, other smaller communities, and rural areas. The West Branch of the California Aqueduct terminates at Castaic Lake, in the northern portion of the service area. **Figure 4.8-1, Castaic Lake Water Agency Service Area**, depicts the CLWA service area.

Adequate planning for, and the procurement of, a reliable water supply is a fundamental function of the CLWA and the local retail purveyors. CLWA obtains its water supply for wholesale purposes principally

7 See, California Water Code Appendix Section 103-1, 103-15.

from the SWP and has a water supply contract with DWR for 95,200 af of SWP Table A Amount. (As discussed below, CLWA maintains other non-SWP imported supplies, including water from Buena Vista-Rosedale [11,000 afy] and Yuba County Water Agency water transfer [850 af in critically dry years].)

"Table A" is a term used in SWP water supply contracts. The "Table A Amount" is the maximum amount of water to which a SWP Contractor has a contract right to request delivery each year of the highest priority available under the SWP Contractor's water supply contract, and is specified in Table A of the contract. The Table A Amount is not equivalent to actual deliveries of water in any given year, and the water actually available for delivery in any given year may be an amount *less* than the SWP Contractor's Table A Amount, depending upon hydrologic conditions, the amount of water in storage, the operational constraints, requirements imposed by regulatory agencies to meet environmental water needs, the amount of water requested by other SWP Contractors, climatic conditions, and other factors.

As stated, CLWA has an annual SWP Table A Amount of 95,200 af through its water supply contract with DWR. This Table A Amount is a maximum and does not reflect the actual amount of water available to CLWA from the SWP, which varies from year to year as described above.

As background, CLWA's original SWP water supply contract with DWR was amended in 1966 for a maximum annual Table A Amount of 41,500 af. In 1991, CLWA purchased an additional 12,700 af of annual Table A Amount from the Devil's Den Water District in Kern County. In March 1999, CLWA purchased another 41,000 af of annual Table A Amount from the Wheeler Ridge-Maricopa Water Storage District by way of an amendment to its water supply contract. The amended water supply contract between CLWA and DWR is found in Draft EIR **Appendix 4.8.**[8]

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8 CLWA prepared an EIR to address the environmental consequences of the 1999 41,000 af transfer. The EIR for the 41,000 af transfer was the subject of litigation in Los Angeles County Superior Court (*Friends of the Santa Clara River v. Castaic Lake Water Agency* (Los Angeles County Superior Court, Case No. BS056954). CLWA prevailed in the litigation at the trial court; however, the project opponent (Friends of the Santa Clara River) filed an appeal. In January 2002, the Court of Appeal issued a decision ordering the trial court to decertify the EIR for the 41,000 af transfer agreement on the grounds that it had tiered from another EIR that had been subsequently decertified in other litigation. In doing so, however, the Court of Appeal also examined all of the petitioner's other arguments, found them to be without merit, and held that, if the tiering problem had not arisen, it would have affirmed the earlier trial court judgment upholding the EIR. (See, **Appendix 4.8** [*Friends of the Santa Clara River v. Castaic Lake Water Agency* (2002) 95 Cal.App.4th 1373, 1387.]).

The Court of Appeal did not invalidate any portion of the completed 41,000 af transfer agreement. Instead, the Court of Appeal directed the trial court to vacate certification of the EIR, and to retain jurisdiction until CLWA corrected the tiering technicality by preparing a new EIR. (See, **Appendix 4.8** [*Friends of the Santa Clara River*, 95 Cal.App.4th at p. 1388.]).

In October 2002, the Los Angeles County Superior Court refused to prohibit CLWA from using the 41,000 af of Table A water while a new EIR was being prepared. (See, **Appendix 4.8** [Judgment Granting Peremptory Writ of Mandate, *Friends of the Santa Clara River v. Castaic Lake Water Agency*, Case No. BS056954, filed October 25, 2002.].) The trial court decision on remand was appealed by Friends of the Santa Clara River in January 2003. On

In early 2007, CLWA finalized a Water Acquisition Agreement with the Buena Vista Water Storage District (Buena Vista) and the Rosedale-Rio Bravo Water Storage District (Rosedale-Rio Bravo) in Kern County. Under this Program, Buena Vista's high flow Kern River entitlements (and other acquired waters that may become available) are captured and recharged within Rosedale-Rio Bravo's service area on an ongoing basis. CLWA will receive 11,000 af of these supplies annually either through an exchange of Buena Vista's and Rosedale-Rio Bravo's SWP supplies or through direct delivery of water to the California Aqueduct *via* the Cross Valley Canal.[9]

December 1, 2003, the appellate court denied any relief to Friends and affirmed the trial court's ruling. (See, **Appendix 4.8** [Appellate court decision, *Friends of the Santa Clara River v. Castaic Lake Water Agency*, Court of Appeal, Second Appellate District, Division Four, Appellate No. B164027.]).

CLWA's revised EIR was subsequently certified by the CLWA Board of Directors on December 23, 2004. On January 24, 2005, separate lawsuits challenging the EIR for this same project were filed by California Water Impact Network and Planning and Conservation League in the Ventura County Superior Court. These cases were consolidated and transferred to Los Angeles County Superior Court. On May 22, 2007, after a hearing, the trial court issued a final Statement of Decision, which included a determination that the 41,000 afy transfer is valid and cannot be terminated or unwound. The trial court, however, also found one defect in the 2004 EIR and ordered CLWA to correct the defect and report back to the court. The defect did not relate to the environmental conclusions reached in the 2004 EIR; rather, CLWA is required to better establish the basis for selecting three alternative scenarios covered in the 2004 EIR. As a result, the trial court entered Judgment against CLWA and another writ of mandate issued directing CLWA set aside its certification of the 2004 EIR. (See, **Appendix 4.8** [Statement of Decision, *California Water Network v. Castaic Lake Water Agency*, Los Angeles County Superior Court No. BS098724, filed April 2, 2007 ("Chalfant Decision."].) The writ, however, specifically stated that it did not call for CLWA to set aside the 41,000 afy transfer. In July 2007, the petitioners appealed the trial court's decision and judgment, and cross-appeals were filed by CLWA and other parties. This appeal was resolved in favor of CLWA on December 17, 2009. On that date, the Court of Appeal, Second District, reversed an earlier trial court decision, and determined CLWA's new EIR adequately analyzed all of the 41,000 afy water transfer's potential significant environmental impacts and that the document fully complied with the California Environmental Quality Act (CEQA). (*Planning and Conservation League v. Castaic Lake Water Agency* (2009) 180 Cal.App.4th 210, rehearing denied on January 14, 2010.) Therefore, the 41,000 afy water transfer is now supported by a certified Final EIR that has been upheld in a published appellate court decision. On January 26, 2010, PCL and CWIN filed a petition for review with the California Supreme Court. On March 10, 2010, the California Supreme Court (En Banc) denied the petitioners' petition for review and their request to depublish the Court of Appeal decision.

9 In November 2006, a petition for writ of mandate was filed by California Water Impact Network, seeking to set aside CLWA's certification of the EIR for the Water Acquisition Agreement Project with Buena Vista and Rosedale-Rio Bravo. (*California Water Impact Network, et al. v. Castaic Lake Water Agency, et al.*, Los Angeles County Superior Court No. BS106546.) The petition was later amended to add Friends of the Santa Clara River (Friends) as a petitioner. In November 2007, the trial court filed its Statement of Decision finding that in certifying the EIR and approving the project, CLWA proceeded in a manner required by law, and that its actions were supported by substantial evidence. Judgment was entered in favor of CLWA in December 2007. Petitioners filed a notice of appeal on January 31, 2008. On April 20, 2009, the appellate court ruled in CLWA's favor and this water purchase is now considered final and it remains appropriate to list the 11,000 afy as one of CLWA's permanent water supply sources. (Please refer to **Appendix 4.8**, for the recent appellate court decision in *California Water Impact Network, Inc. v. Castaic Lake Water Agency*, Second Appellate District, Division Five, Appellate Case No. B205622.)

Additional non-SWP imported water supply also is available to CLWA in critically dry years as a result of DWR entering into agreements with the Yuba County Water Agency (YCWA) and the Bureau of Reclamation (Reclamation) related to settlement of water rights issues on the Lower Yuba River (Yuba Accord). Additional supplies also could be available to CLWA in wetter years. The quantity of water would vary depending upon hydrology and the extent of participation by other SWP contractors. For purposes of analysis, however, and based on CLWA entering into a YCWA water transfer agreement with DWR, CLWA has projected that approximately 850 af of water would be available to CLWA under the Yuba Accord in a critically dry year. (For a summary of the existing and planned water supplies available for the CLWA service area, please refer to **Tables 4.8-11** and **4.8-14**, below.)

CLWA and the local retail purveyors have evaluated the long-term water needs (water demand) within its service area based on applicable county and city plans and has compared these needs against existing and potential water supplies. In addition, the *2005 UWMP* was prepared by CLWA and the local retail purveyors to address water supply and demand forecasts for the CLWA service area (over a 25-year horizon [2005-2030]).[10] CLWA estimated future water demands, retail district-by-retail district. These demand projections are presented in the report entitled, *Data Document, Proposed 2008 Facility Capacity Fees*, Castaic Lake Water Agency, November 12, 2008 (2008 Data Document). Although information in the *2005 UWMP* and the *2008 Data Document* was considered, this EIR does not rely solely on that information, and an independent analysis and determination of water-related impacts was carried out in this EIR for the proposed project.

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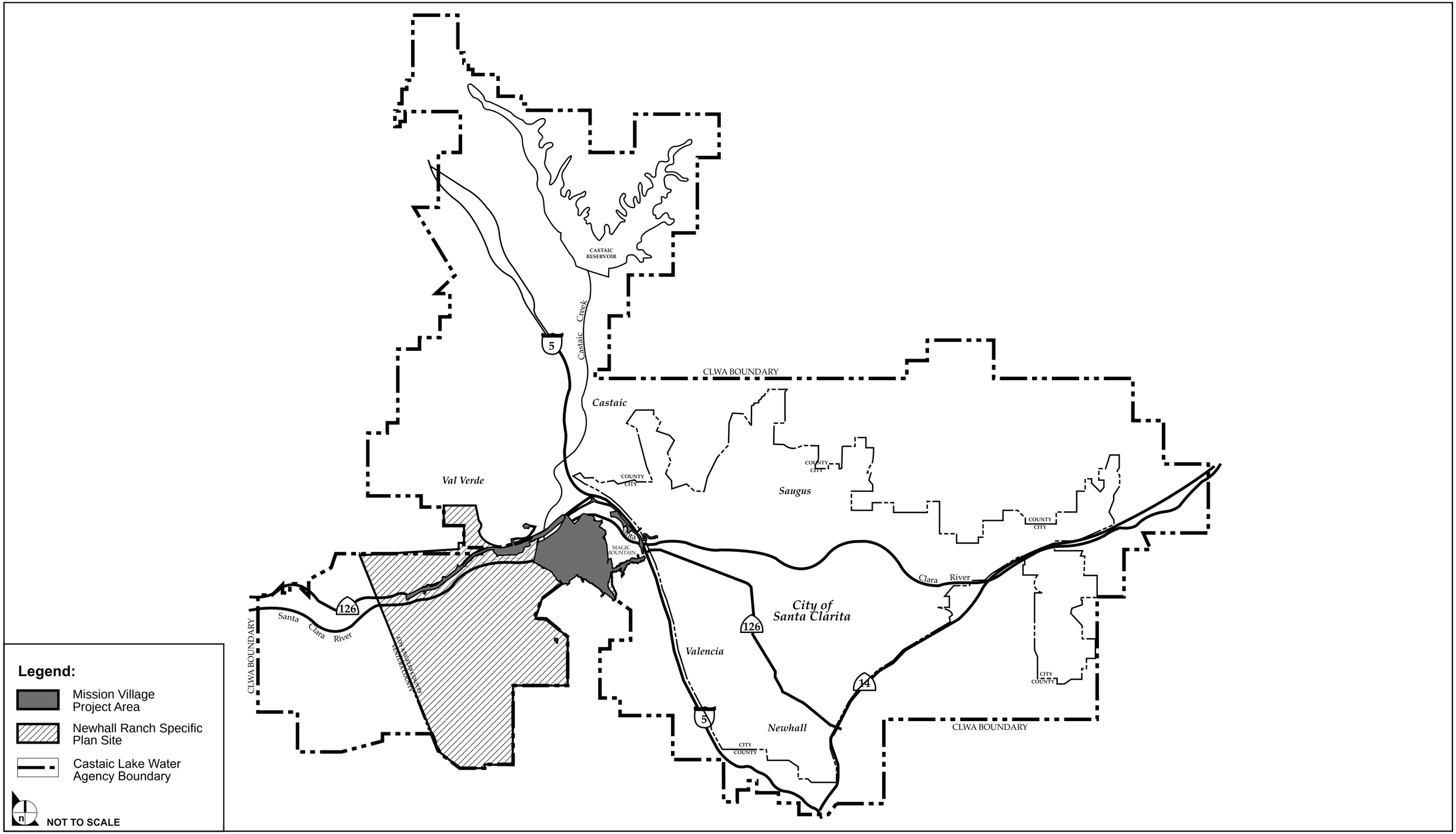
10 On February 25, 2006, a lawsuit challenging the *2005 UWMP* was filed by California Water Impact Network and Friends of the Santa Clara River alleging that the plan violated the UWMP Act because it overstated availability of local groundwater and SWP supplies and it will allegedly facilitate unsustainable urban development resulting in harm to the Santa Clara River and its habitat (*California Water Impact Network, et al. v. Castaic Lake Water Agency, et al.*, Los Angeles County Superior Court No. BS103295). CLWA and other named parties opposed the litigation challenge. On August 3, 2007, after a hearing, the trial court rejected the litigation challenge to the 2005 UWMP. In that decision, the trial court concluded that substantial evidence supported the determination that the 41,000 afy transfer "remains a valid and reliable water source." Relying upon the evidence presented in the 2005 UWMP and record, the trial court identified the following evidence supporting the validity of the transfer: (a) it was completed in 1999 and DWR has allocated and annually delivered the water in accordance with the completed transfer; (b) the Court of Appeal held that the only defect in the 1999 CLWA EIR was that it tiered from the Monterey Agreement EIR, which was later decertified, and that defect was remedied by CLWA's preparation of the 2004 EIR that did not tier from the Monterey Agreement EIR; (c) the Monterey Settlement Agreement expressly authorizes operation of the SWP in accordance with the Monterey Amendments, which facilitated the 41,000 afy transfer; (d) Courts of Appeal have refused to enjoin the 41,000 afy transfer; and (e) the DWR/CLWA contract encompassing the transfer remains in full force and effect, and no court has ever questioned the validity of the contract, or enjoined the use of this portion of CLWA's SWP Table A supplies. The trial court decision was the subject of an appeal; however, the parties have settled and the appeal was dismissed in October 2008. Thus, the 2005 UWMP remains valid and is no longer subject to any litigation.



SOURCE: PSOMAS and Associates, January 1999, Impact Sciences, Inc. – March 2007

FIGURE **4.8-1**

Castaic Lake Water Agency Service Area

32-99•03/07

b. Retail Water Purveyors

Four retail water purveyors provide water service to most residents of the Santa Clarita Valley. A description of the service areas of the local retail purveyors is provided below.

The Los Angeles County Waterworks District #36 service area encompasses approximately 7,635 acres and includes the Hasley Canyon area and the unincorporated community of Val Verde. The District obtains its water supply from CLWA and from local groundwater.

The Newhall County Water District (NCWD) service area includes portions of the City of Santa Clarita and unincorporated portions of Los Angeles County in the communities of Newhall, Canyon Country, Saugus, and Castaic. The District supplies water from local groundwater and CLWA imported water.

CLWA Santa Clarita Water Division (SCWD) service area includes portions of the City of Santa Clarita and unincorporated portions of Los Angeles County in the communities of Canyon Country, Newhall, and Saugus. SCWD supplies water from local groundwater and CLWA imported water.

The Valencia Water Company service area includes a portion of the City of Santa Clarita and unincorporated portions of Los Angeles County in the communities of Castaic, Stevenson Ranch, and Valencia. Valencia Water Company supplies water from local groundwater, CLWA imported water, and recycled water. Valencia is a public water utility regulated by the California Public Utilities Commission (PUC), and its service area currently includes portions of the Newhall Ranch Specific Plan site, including the Mission Village project site. As a result, Valencia is the retail water purveyor for the Mission Village project. **Figure 4.8-2, Valencia Water Company Service Area**, illustrates the CLWA and Valencia Water Company service area, which includes portions of the Newhall Ranch Specific Plan site and the Mission Village project site.

As of 2009, the retail water purveyors served approximately 69,700 connections in the Santa Clarita Valley. The specific breakdown by purveyor is provided in **Table 4.8-1, Retail Water Service Connections**.

Table 4.8-1
Retail Water Service Connections

Retail Water Purveyor	Connections
CLWA Santa Clarita Water Division (SCWD)	28,700
Los Angeles County Waterworks District #36	1,400
Newhall County Water District (NCWD)	9,600
Valencia Water Company	30,000
Total	**69,700**

Source: 2009 Santa Clarita Valley Water Report, *May 2010 (see **Appendix 4.8**).*

5. SANTA CLARITA VALLEY WATER SUPPLIES – HISTORIC AND EXISTING USES

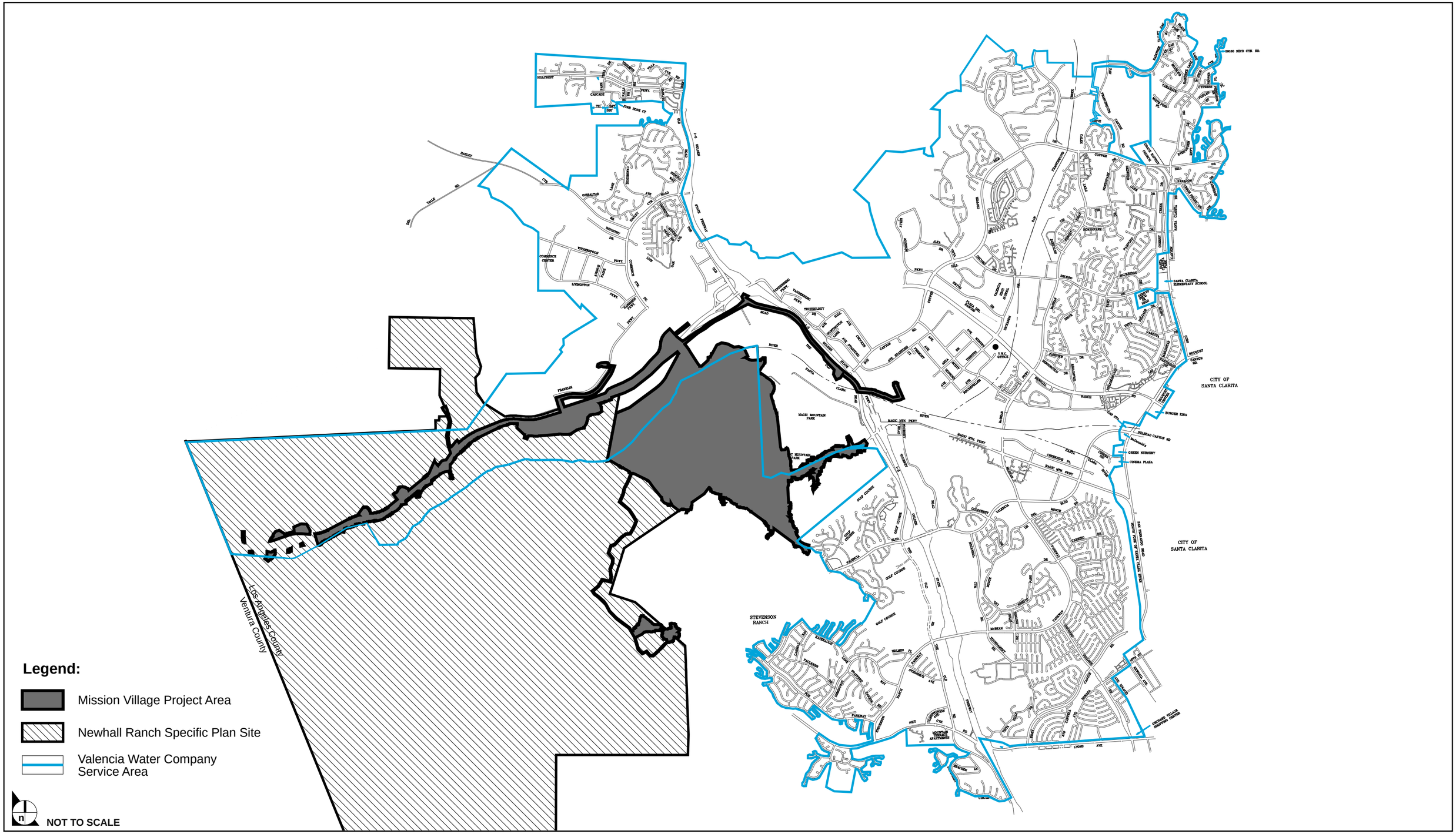
The Newhall Ranch Revised Additional Analysis, Section 2.5, Volume VIII (May 2003), provides important water demand and supply information for the Santa Clarita Valley, including the Newhall Ranch Specific Plan and the Mission Village project site. The *2009 Water Report* and *2005 UWMP* (see, **Appendix 4.8**) also contain useful local and regional water demand, supply, and reliability planning information, particularly in the context of the perchlorate contamination detected in municipal-supply wells in the local Basin. In addition, the *2005 Basin Yield Report* and *2009 Basin Yield Update* confirm that the CLWA/purveyor groundwater operating plan for the local groundwater basin in Santa Clarita Valley will not cause detrimental short or long-term effects to the groundwater and surface water resources in the valley and, therefore, the local groundwater basin is sustainable. Valencia Water Company's Mission Village WSA for the proposed Mission Village project also provides useful information to the County of Los Angeles for its consideration in making a determination on whether there are sufficient water supplies available to serve the Mission Village project, in addition to existing and planned future uses in the Santa Clarita Valley (see **Appendix 4.8** [Mission Village WSA]). Valencia Water Company prepared the Mission Village WSA for the Mission Village project, because it is the purveyor that will provide water service to the proposed project.

a. Description of Groundwater Supplies

This section focuses on the available local groundwater supplies in the Santa Clarita Valley, including a summary of both the adopted Groundwater Management Plan for the local Basin and the *2009 Basin Yield Update*.

(1) The Upper Santa Clara River Hydrologic Area

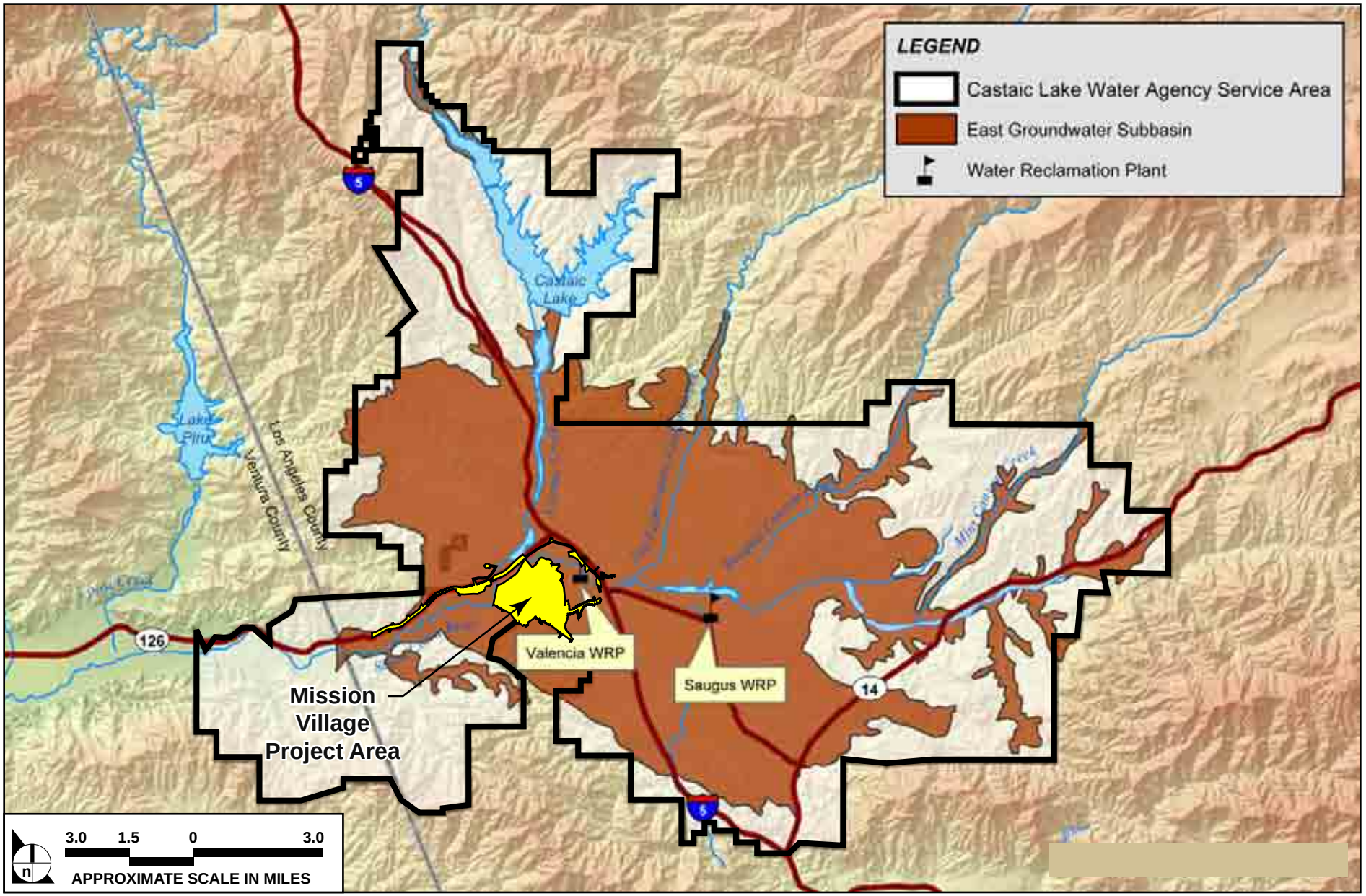
The Upper Santa Clara River Hydrologic Area, as defined by DWR, is located almost entirely in northwestern Los Angeles County. The area, as shown in **Figure 4.8-2a**, **Santa Clara Valley East Groundwater Basin – East Subbasin**, encompasses about 654 square miles comprised of flat valley land (about 6 percent of the total area) and hills and mountains (about 94 percent of the total area) that border the Valley area. The mountains include the Santa Susana and San Gabriel Mountains to the south and the Sierra Pelona and Leibre-Sawmill Mountains to the north. Elevations range from about 800 feet on the Valley floor to about 6,500 feet in the San Gabriel Mountains. The headwaters of the Santa Clara River are at an elevation of about 3,200 feet at the divide separating this hydrologic area from the Mojave Desert.



SOURCE: Valencia Water Company – February 2006

FIGURE **4.8-2**

Valencia Water Company Service Area



SOURCE: Luhdorff & Scalmanini Consulting Engineers – January 2006

FIGURE **4.8-2a**

Santa Clara River Valley East Groundwater Basin – East Subbasin

The Santa Clara River and its tributaries flow intermittently from Lang Station westward about 35 miles to Blue Cut, just west of the Los Angeles County/Ventura County line, where the river is the outlet from the Upper Santa Clara River Hydrologic Area. The principal tributaries of the Santa Clara River in the Santa Clarita Valley are Castaic Creek, San Francisquito Creek, Bouquet Creek, and the South Fork of the Santa Clara River. In addition to tributary inflow, the Santa Clara River receives treated wastewater discharge from the existing Saugus and Valencia Water Reclamation Plants (WRPs), which are operated by the Santa Clarita Valley Sanitation District.

The Santa Clara River Valley East Groundwater Subbasin, beneath the Santa Clarita Valley in the Upper Santa Clara River Hydrologic Area (**Figure 4.8-3**), is the source of essentially all local groundwater used for water supply in the Santa Clarita Valley. Below Blue Cut, the Santa Clara River continues westward through Ventura County to its mouth near Oxnard. Along that route, the River traverses all or parts of six groundwater basins in Ventura County (Piru, Fillmore, Santa Paula, Oxnard Forebay, Oxnard Plain, and Mound).

There are two primary precipitation gauges in the Santa Clarita Valley, the Newhall-Soledad 32c gauge and the NCWD gauge. The National Climatic Data Center (NCDC) and Los Angeles County Department of Public Works (LACDPW) have maintained records for the Newhall-Soledad 32c gauge since 1931. The NCWD has maintained records for the NCWD gauge since 1979. The cumulative records from these two gauges correlate very closely, with the NCWD gauge recording approximately 25 percent more precipitation than the Newhall-Soledad 32c gauge. This is likely due to the location of the NCWD gauge, which is at the base of the mountains rimming the southern edge of the Santa Clarita Valley.

The Santa Clarita Valley is characterized as having an arid climate. Historically, intermittent periods of below-average precipitation have typically been followed by periods of above-average precipitation in a cyclical pattern, with each wetter or drier period typically lasting from one to five years. The longer-term precipitation records for the Newhall-Soledad 32c gauge are illustrated in 2009 Water Report Figure 1-3. Long-term average precipitation at that gauge is 17.9 inches (1931–2009). 2009 Water Report Figure 1-3 also shows the cumulative departure from mean annual precipitation. In general, periods of below-average precipitation have been longer and more moderate than 1-5 periods of above-average precipitation. Recently, the periods from 1971 to 1976, 1984 to 1991 and 1999 to 2003 have been drier than average; the periods from 1977 to 1983 and 1992 to 1996 have been wetter than average. More recently, wet conditions that began in late 2004, continued into early 2005, ultimately resulting in about 37 inches of measured precipitation, or slightly more than 200 percent of long-term average precipitation, in that year. Those significantly wet conditions contributed to substantial groundwater recharge and decreased water demand that year. Subsequently, total precipitation in 2006 and 2007 was slightly to significantly lower, 14 inches and 6 inches respectively, but water requirements in both years were still close to those

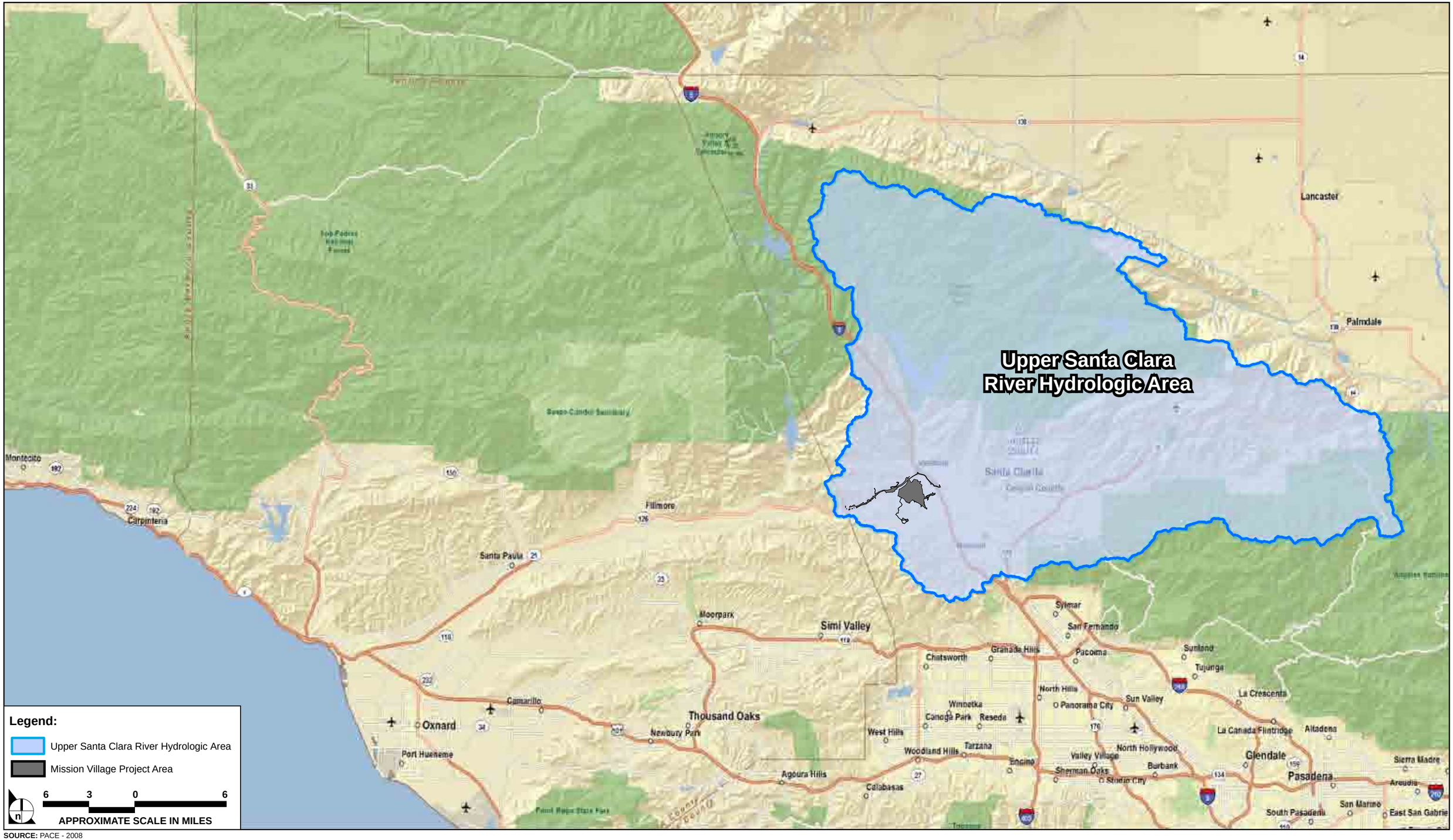
projected in the 2005 UWMP, and there were no dramatic changes in groundwater conditions. With the exception of the average annual rainfall total in 2008, the dry conditions that began in 2006 have persisted through 2009. 2009 was a below-average year, with 11.6 inches of precipitation. However, water demand in 2009 was below that projected for average conditions in the 2005 UWMP, and below the short-term projection in the 2008 Water Report. Early year precipitation in 2010 was approximately 13.4 inches through April, or close to long-term average for that part of the year, but water use further decreased from last year for the same period. Combined with other water supply considerations, discussed in 2009 Water Report Chapter 4, those conditions are expected to result in 2010 water requirements being slightly lower than water use in 2009.

(2) Santa Clara River Valley Groundwater Basin - East Subbasin

As stated, the project area lies within the groundwater basin identified in DWR Bulletin 118 (2003 Update) as the Santa Clara River Valley Groundwater Basin, East Subbasin (Basin). The Basin is comprised of two aquifer systems, the Alluvium and the Saugus Formation. The Alluvium (also referred to as the Alluvial aquifer) generally underlies the Santa Clara River and its several tributaries, and the Saugus Formation underlies practically the entire Upper Santa Clara River area. There are also some scattered outcrops of terrace deposits in the Basin that likely contain limited amounts of groundwater. Since these deposits are located in limited areas situated at elevations above the regional water table and are also of limited thickness, they are of no practical significance as aquifers and, consequently, have not been developed for any significant water supply. **Figure 4.8-2,** illustrates the mapped extent of the Santa Clara River Valley East Subbasin, which approximately coincides with the outer extent of the Alluvium and Saugus Formation. The CLWA service area and the location of the two existing water reclamation plants in the Valley also are shown on **Figure 4.8-3**.

(3) Adopted Groundwater Management Plan

In 2001, as part of legislation authorizing CLWA to provide retail water service to individual municipal customers, Assembly Bill (AB) 134 included a requirement that CLWA prepare a groundwater management plan in accordance with the provisions of Water Code Section 10753.



SOURCE: PACE - 2008

FIGURE **4.8-3**

Upper Santa Clara River Hydrologic Area

32-99•07/10

CLWA adopted the Groundwater Management Plan (GWMP) on December 10, 2003.[11] The GWMP contains four management objectives, or goals, for the Basin, including (1) development of an integrated surface water, groundwater and recycled water supply to meet existing and projected demands for municipal, agricultural and other water uses; (2) assessment of Basin conditions to determine a range of operational yield values that use local groundwater conjunctively with supplemental SWP supplies and recycled water to avoid groundwater overdraft; (3) preservation of groundwater quality, and active characterization and resolution of groundwater contamination problems, including perchlorate; and (4) preservation of interrelated surface water resources, which includes managing groundwater in a manner that does not adversely impact surface and groundwater discharges or quality to downstream basins.

Prior to preparation and adoption of the GWMP, a local Memorandum of Understanding (MOU) process among CLWA, the purveyors, and United Water Conservation District (UWCD) in neighboring Ventura County had produced the beginning of local groundwater management, now embodied in the GWMP. In 2001, those agencies prepared and executed the MOU (see **Appendix 4.8** [MOU]). The MOU is a collaborative and integrated approach to several of the aspects of water resource management included in the GWMP. UWCD manages surface water and groundwater resources in seven groundwater basins, all located in Ventura County, downstream of the Basin. As a result of the MOU, the cooperating agencies have undertaken the following measures: (1) Integrated their database management efforts; (2) Developed and utilized a numerical groundwater flow model for analysis of groundwater basin yield and containment of groundwater contamination; and (3) Continued to monitor and report on the status of Basin conditions, as well as on geologic and hydrologic aspects of the overall stream-aquifer system.

The adopted GWMP includes 14 elements intended to accomplish the Basin management objectives listed above. In summary, the plan elements include:

- monitoring of groundwater levels, quality, production and subsidence;
- monitoring and management of surface water flows and quality;
- determination of Basin yield and avoidance of overdraft;
- development of regular and dry-year emergency water supply;
- continuation of conjunctive use operations;
- long-term salinity management;
- integration of recycled water;

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11 CLWA's Groundwater Management Plan, adopted December 10, 2003, is found in **Appendix 4.8** of this EIR.

- identification and mitigation of soil and groundwater contamination, including involvement with other local agencies in investigation, cleanup, and closure;
- development and continuation of local, state and federal agency relationships;
- groundwater management reports;
- continuation of public education and water conservation programs;
- identification and management of recharge areas and wellhead protection areas;
- identification of well construction, abandonment, and destruction policies; and
- provisions to update the groundwater management plan.

Work on a number of the GWMP elements had been ongoing for some time prior to adoption of the GWMP. This work continues on an ongoing basis. An important aspect of this work was completion of the *2005 Basin Yield Report* and the *2009 Basin Yield Update* (see **Appendix 4.8** [*2005 Basin Yield Report* and *2009 Basin Yield Update*]). The primary determinations made in those reports are that: (1) both the Alluvial aquifer and the Saugus Formation are sustainable sources at the operational plan yields stated in the *2005 UWMP* over the next 25 years; (2) the yields are not overstated and will not deplete or "dry up" the groundwater basin; and (3) there is no need to reduce the yields shown in the *2005 UWMP*. Additionally, the 2005 Basin Yield Report and the 2009 Basin Yield Update (described below) conclude that neither the Alluvial aquifer nor the Saugus Formation is in an overdraft condition, or projected to become overdrafted.

(4) 2009 Basin Yield Update

In April 2009, the purveyors[12] in Santa Clarita Valley determined that an updated analysis was needed to further assess groundwater development potential and possible augmentation of the groundwater operating plan, partly in preparation for the next UWMP in 2010, and in part because of recent events that are expected to impact the future reliability of the principal supplemental water supply for Santa Clarita Valley (i.e., from the State Water Project). The document entitled, *Analysis of Groundwater Supplies and Groundwater Basin Yield Upper Santa Clara River Groundwater Basin, East Subbasin* was published in August 2009 (2009 Basin Yield Update) and is included in Draft EIR **Appendix 4.8** along with its appendix material and references. A summary of that report is provided below.

The primary objective of the updated analysis of groundwater basin yield in the Santa Clarita Valley was to evaluate the planned utilization of groundwater by the Santa Clarita Valley purveyors, while

12 The Santa Clarita Valley purveyors are comprised of Los Angeles County Waterworks District 36, Newhall County Water District, Santa Clarita Water Division of the Castaic Lake Water Agency (formerly Santa Clarita Water Company, acquired by CLWA in 1999), and Valencia Water Company.

considering potential impacts on traditional supplemental water supplies from the State Water Project, and recognizing ongoing pumping by others for agricultural and other private water supply. This objective also included the sustainability of the groundwater resources and the physical ability to extract groundwater at desired rates. As previously used in this basin, and consistent with groundwater management in other settings, sustainability is defined in terms of renewability (recharge) of groundwater as reflected by the following indicators:

- lack of chronic, or sustained, depletion of groundwater storage, as indicated by projected groundwater levels, over a reasonable range of wet, normal, and dry hydrologic conditions; and
- maintenance of surface water flows in the western portion of the basin (which are partially maintained by groundwater discharge) and surface water outflow to downstream basins over the same range of hydrologic conditions.

Regarding maintenance of surface water flows, although the development and use of groundwater in a sustainable manner necessitates the inducement of recharge from surface water, sustainability in this case does not rely on inducing groundwater recharge by eliminating surface water flows. Rather, sustainability retains surface water outflows and may even increase them with the importation of SWP water when contrasted to pre-SWP conditions. Regarding both indicators of sustainability, the range of analyzed hydrologic conditions is a long-term period that includes anticipated occurrences of the types of years and groups of year types that have historically occurred in the basin.

A second objective of the 2009 Basin Yield Update was to investigate and describe potential impacts of expected climate change on the groundwater basin and its yield. A third objective was to consider potential augmentation of basin yield via potential artificial groundwater recharge using storm water runoff in selected areas of the basin as planned by the Los Angeles County Flood Control District.

The 2009 Basin Yield Update analyzed, with the numerical groundwater flow model for the basin, two groundwater operating plans: (1) a 2008 Operating Plan to reflect currently envisioned pumping rates and distribution throughout the Valley, including fluctuations through wet/normal and dry years, to achieve a desired amount of water supply that, in combination with anticipated supplemental water supplies, can meet existing and projected water requirements in the Valley; (2) Potential Operating Plan that envisions potentially increased utilization of groundwater during both wet/normal and dry years. The 2008 Operating Plan is presented and addressed in this EIR because it is relied upon to determine the sustainability of the basin groundwater in meeting the future needs of the proposed project, the Newhall Ranch Specific Plan, and other future land uses.[13]

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13 It should be noted that the Potential Operating Plan is not part of the water supply and demand analysis presented in this EIR because it is not relied upon to determine the sustainability of the basin groundwater in meeting the future needs of the proposed project, the Newhall Ranch Specific Plan, and other future land uses.

Based on the 2009 Basin Yield Update, the 2008 Operating Plan will not cause detrimental short- or long-term effects to the groundwater and surface water resources in the Valley; and, therefore, is sustainable. Consistent with actual operating experience and empirical observations of historical basin response to groundwater pumping, the 2008 Operating Plan can be expected to have local difficulty, in the Alluvium at the eastern end of the basin during locally dry periods, with achievement of all the Alluvial pumping in the 2008 Operating Plan. This condition is particularly evident if several decades of predominantly below-normal rainfall years were to occur in the future such as occurred during much of the five decades from the mid-1920s through the mid-1970s. In other words, while the basin as a whole can sustain the pumping encompassed in the 2008 Operating Plan, local conditions in the Alluvium in the eastern end of the basin can be expected to repeat historical groundwater level declines during dry periods, necessitating a reduction in desired Alluvial aquifer pumping due to decreased well yield and associated actual pumping capacity. The modeling analysis conducted to date suggests that those reductions in pumping from the Alluvial aquifer can be made up by an equivalent amount of increased pumping in other parts of the basin without disrupting basinwide sustainability or local pumping capacity in those other areas. For the Saugus Formation, the modeling analysis indicates that this aquifer can sustain the pumping from this unit that is encompassed in the 2008 Operating Plan.

Simulation of the 2008 Operating Plan with pumping redistribution indicates that westerly redistribution of 1,600 afy of Alluvial pumping from the eastern end of the basin would help, but not eliminate, the lack of achievability. The residual unachievable pumping in the east end of the basin, about 4,500 afy, could be redistributed to other areas of the basin with minimal impact on groundwater levels. In this case, total Alluvial pumping in the basin could remain near the upper end of the 2008 Operating Plan range of 30,000 to 35,000 afy. Conversely, absent any additional efforts to redistribute pumping, the total Alluvial pumping capacity during extended dry periods would likely fall toward the lower end of the 2008 Operating Plan range (toward 30,000 afy). The 2009 Basin Yield Update also assessed the runoff conservation/groundwater recharge projects planned by the Los Angeles County Flood Control District, and determined that the projects are unlikely to provide any substantial recharge that does not already occur in the basin. Additionally, the 2009 Basin Yield Update concluded that these proposed projects are mostly located in areas of the basin where the Alluvial aquifer is of insufficient thickness and storage (and, thus is not developed for water supply), or where the Alluvial aquifer already fully recharges when stream flows are naturally present.

The 2009 Basin Yield Update also assessed potential impacts of climate change on the yield of the basin and the related groundwater supply from the basin. While future conditions cannot be projected with any degree of certainty, the results of simulating basin response to the 2008 Operating Plan, under a range of potential climate change trends give rise to two observations:

- For the broad range of climate change possibilities that was analyzed, the 2008 Operating Plan would appear to be both sustainable and, with the same physical constraints to full pumping in the eastern part of the basin as have otherwise been experienced, achievable through the shorter term horizon associated with UWMP planning.

- The range of potential climate change impacts extends from a possible wet trend to a possible dry trend over the long term. The trends that range from an approximate continuation of historical average precipitation, to something wetter than that, would appear to result in continued sustainability of the 2008 Operating Plan, again with intermittent constraints on full pumping in the eastern part of the basin. The potential long-term dry trend arising out of climate change would be expected to decrease local recharge to the point that lower and declining groundwater levels would render the 2008 Operating Plan unsustainable.

(5) Available Groundwater Supplies

Groundwater Operating Plan – Based on the 2009 Water Report (May 2010), the groundwater component of overall water supply in the Santa Clarita Valley derives from a groundwater operating plan developed by CLWA and the local retail purveyors over the past 20 years to meet water requirements (municipal, agricultural, small domestic), while maintaining the Basin in a sustainable condition (i.e., no long-term depletion of groundwater or interrelated surface water). This operating plan also addresses groundwater contamination issues in the Basin, all consistent with both the GWMP and the MOU described above. This operating plan is based on the concept that pumping can vary from year-to-year to allow increased groundwater use in dry periods and increased recharge during wet periods, and to collectively assure that the Basin is adequately replenished through various wet/dry cycles. As described in the GWMP and the MOU, the operating yield concept has been quantified as ranges of annual pumping volumes.

The ongoing work of the MOU has produced two important reports. The first report, dated April 2004, documents the development and calibration of the groundwater flow model for the Santa Clarita Valley.[14] The second report, dated August 2005, presents the modeling analysis of the CLWA/retail water purveyor groundwater operating plan for the valley, and concludes that the plan will not cause detrimental short or long-term effects to the groundwater and surface water resources in the valley and, therefore, the plan is a reliable, sustainable component of water supply for the valley.[15] The analysis of

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14 See, *Regional Groundwater Flow Model for the Santa Clarita Valley: Model Development and Calibration*, prepared for the Upper Basin Water Purveyors by CH2MHill, April 2004. This report was updated by CH2MHill in a report entitled, *Calibration Update of the Regional Groundwater Flow Model for the Santa Clarita Valley, Santa Clarita, California*, August 2005. Copies of these two reports are available for public review and inspection in **Appendix 4.8** of this EIR.

15 See, *Analysis of Groundwater Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin, Los Angeles County, California*, prepared by CH2MHill in cooperation with Luhdorff & Scalmanini Consulting Engineers, August 2005. This report is available for public review and inspection in **Appendix 4.8** of this EIR.

sustainability for groundwater and interrelated surface water is described further in Appendix C to the *2005 UWMP* (see **Appendix 4.8)**.

The groundwater operating plan, summarized in **Table 4.8-2, Groundwater Operating Plan for the Santa Clarita Valley**, is further described below. The operating plan addresses both the Alluvium and Saugus Formation.

Table 4.8-2
Groundwater Operating Plan for the Santa Clarita Valley

Aquifer	Groundwater Production (af)			
	Normal Years	**Dry Year 1**	**Dry Year 2**	**Dry Year 3**
Alluvium	30,000 to 40,000	30,000 to 35,000	30,000 to 35,000	30,000 to 35,000
Saugus	7,500 to 15,000	15,000 to 25,000	21,000 to 25,000	21,000 to 35,000
Total	**37,500 to 55,000**	**45,000 to 60,000**	**51,000 to 60,000**	**51,000 to 70,000**

*Source: 2005 UWMP, 2009 Water Report (May 2010), and 2009 Basin Yield Update. See **Appendix 4.8** for these reports.*

Alluvium – As applied to the Newhall Ranch Specific Plan, the applicant would meet all of the Mission Village project's water demands by using its groundwater produced from the Alluvial aquifer in Los Angeles County, which is presently committed to agricultural uses. The amount of water historically and presently available from this source is approximately 7,038 afy. The project's potable water demand is estimated to be 1,676 afy. The water from the Alluvial aquifer presently used for agriculture would be used to meet all of the project's potable water needs resulting in no net increase in groundwater use.

As stated in the 2005 UWMP, 2009 Water Report, and the *2009 Basin Yield Update*, the operating plan for the Alluvial aquifer involves pumping from the Alluvial aquifer in a given year, based on local hydrologic conditions in the eastern Santa Clara River watershed. Pumping ranges between 30,000 and 40,000 afy during normal/average and above-normal rainfall years. However, due to hydrogeologic constraints in the eastern part of the Basin, pumping is reduced to between 30,000 and 35,000 afy following multiple locally dry years.

Saugus Formation – The Saugus Formation is not identified as a source of supply for the Newhall Ranch Specific Plan, including the Mission Village project. However, the operating plan for Saugus pumping is presented as additional information regarding the Basin.

As stated in the 2005 UWMP, 2009 Water Report, and the *2009 Basin Yield Update*, pumping from the Saugus Formation in a given year is tied directly to the availability of other water supplies, particularly

from the SWP. During average year conditions within the SWP system, Saugus pumping ranges between 7,500 and 15,000 afy. Planned dry-year pumping from the Saugus Formation ranges between 15,000 and 25,000 afy during a drought year and can increase to between 21,000 and 25,000 afy if SWP deliveries are reduced for two consecutive years and between 21,000 and 35,000 afy if SWP deliveries are reduced for three consecutive years. Such pumping would be followed by periods of reduced (average-year) pumping, at rates between 7,500 and 15,000 afy, to further enhance the effectiveness of natural recharge processes that would cause groundwater levels and storage volumes to recover after the higher pumping during dry years. For reference to the groundwater operating plan historical and projected groundwater pumping by retail water purveyor, please refer to **Table 4.8-3, Historical Groundwater Production by the Retail Water Purveyors,** and **Table 4.8-4, Projected Groundwater Production (Normal Year)**.

Table 4.8-3
Historical Groundwater Production by the Retail Water Purveyors

Basin Name	Groundwater Pumped (af)[1]							
	2002	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Santa Clara River Valley East Subbasin								
CLWA Santa Clarita Water Division								
- Alluvium	9,513	6,424	7,146	12,408	13,156	10,686	11,878	10,077
- Saugus Formation	0	0	0	0	0	0	0	0
LA County Waterworks District #36								
- Alluvium	0	0	380	343	0	0	0	0
- Saugus Formation	0	0	0	0	0	0	0	0
Newhall County Water District								
- Alluvium	981	1,266	1,582	1,389	2,149	1,806	1,717	1,860
- Saugus Formation	3,395	2,513	3,739	3,435	3,423	3,691	4,195	3,868
Valencia Water Company								
- Alluvium	11,603	11,707	9,862	12,228	11,884	13,140	14,324	12,459
- Saugus Formation	965	1,068	1,962	2,513	2,449	2,367	1,770	2,836
Total	***26,457***	***22,978***	***24,671***	***32,316***	***33,061***	***31,690***	***33,884***	***31,100***
- Alluvium	22,097	19,397	18,970	26,368	27,189	25,632	27,919	24,396
- Saugus Formation	4,360	3,581	5,701	5,948	5,872	6,058	5,965	6,704
% of Total Municipal Water Supply	**39%**	**34%**	**34%**	**46%**	**45%**	**35%**	**45%**	**44%**

Notes:
[1] *Pumping for municipal and industrial uses only. Does not include pumping for agricultural and miscellaneous uses.*
Source: 2009 Santa Clarita Valley Water Report, May 2010, Table 2-1 (see **Appendix 4.8**).

Three factors affect the availability of groundwater supplies under the groundwater operating plan. They are: (1) sufficient source capacity (wells and pumps); (2) sustainability of the groundwater resource to meet pumping demand on a renewable basis; and (3) protection of groundwater sources (wells) from known contamination, or provisions for treatment in the event of contamination. All three factors are

discussed below, and are addressed in further detail in Chapter 5 and Appendices C and D to the *2005 UWMP* (see **Appendix 4.8** [2005 UWMP]).

Table 4.8-4
Projected Groundwater Production (Normal Year)

	Range of Groundwater Pumping (af)[1,2,3]				
Basin Name	**2010**	**2015**	**2020**	**2025**	**2030**
Santa Clara River Valley East Subbasin					
CLWA Santa Clarita Water Division					
- Alluvium	6,000–14,000	6,000–14,000	6,000–14,000	6,000–14,000	6,000–14,000
- Saugus Formation	3,000	3,000	3,000	3,000	3,000
LA County Waterworks District #36					
- Alluvium	0	0	0	0	0
- Saugus Formation	500–1,000	500–1,000	500–1,000	500–1,000	500–1,000
Newhall County Water District					
- Alluvium	1,500–3,000	1,500–3,000	1,500–3,000	1,500–3,000	1,500–3,000
- Saugus Formation	3,000–6,000	3,000–6,000	3,000–6,000	3,000–6,000	3,000–6,000
Valencia Water Company					
- Alluvium	12,000–20,000	12,000–20,000	12,000–20,000	12,000–20,000	12,000–20,000
- Saugus Formation	2,500–5,000	2,500–5,000	2,500–5,000	2,500–5,000	2,500–5,000

Notes:

[1] *The range of groundwater production capability for each purveyor varies based on a number of factors, including each purveyor's capacity to produce groundwater, the location of its wells within the Alluvium and Saugus Formation, local hydrology, availability of imported water supplies and water demands.*

[2] *To ensure sustainability, the purveyors have committed that the annual use of groundwater pumped collectively in any given year will not exceed the purveyors' operating plan as described in the 2005 Basin Yield Report and the 2009 Basin Yield Update, and reported annually in the Santa Clarita Valley Water Reports. As noted in the discussion of the purveyors' operating plan for groundwater in Table 3-6 of the* 2005 UWMP, *the "normal" year quantities of groundwater pumped from the Alluvium and Saugus Formation are 30,000 to 40,000 afy and 7,500 to 15,000 afy, respectively.*

[3] *Groundwater pumping shown for purveyor municipal and industrial uses only.*

Source: 2005 UWMP *(see EIR* ***Appendix 4.8****)*

(a) Alluvial Aquifer

Based on a combination of historical operating experience and recent groundwater modeling analysis, the Alluvial aquifer can supply groundwater on a long-term sustainable basis in the overall range of 30,000 to 40,000 afy, with a probable reduction in dry years to a range of 30,000 to 35,000 afy. Both of those ranges include about 15,000 afy of Alluvial pumping for current agricultural water uses and an estimated pumping of up to about 500 afy by small private pumpers in the basin. The dry year reduction is a result of practical constraints in the eastern part of the Basin, where lowered groundwater levels in dry periods have the effect of reducing pumping capacities in that shallower portion of the aquifer.

Background. Total pumping from the Alluvium in 2009 was about 39,986 af, a decrease of 1,730 af from the preceding year. Total Alluvium pumping was at the upper end of the groundwater operating plan

range. Of the total Alluvial pumping in 2009, about 24,396 af (61 percent) was for municipal water supply, and the balance, about 15,590 af (39 percent), was for agriculture and other smaller uses, including individual domestic uses. In a longer-term context, there has been a change in municipal/agricultural pumping distribution since SWP deliveries began in 1980, toward a higher fraction for municipal water supply (from about 50 percent to more than 65 percent of Alluvial pumpage), which reflects the general land use changes in the area. Ultimately, on a long-term average basis since the beginning of imported water deliveries from the SWP, total Alluvial pumping has been about 32,000 afy, which is at the lower end of the range of operational yield of the Alluvium. That average has been higher over the last decade, about 38,500 afy, which remains within the range of operational yield of the Alluvium. The overall historic record of Alluvial pumping is illustrated in Figure 3-2 of the 2009 Water Report (May 2010).

Groundwater levels in various parts of the basin historically have exhibited different responses to both pumpage and climatic fluctuations. During the last 20 to 30 years, depending on location, Alluvial groundwater levels have remained nearly constant (generally toward the western end of the basin), or have fluctuated from near the ground surface when the basin is full, to as much as 100 feet lower during intermittent dry periods of reduced recharge (generally toward the eastern end of the basin). For illustration of the various groundwater level conditions in the basin, the Alluvial wells have been grouped into areas with similar groundwater level patterns, as shown in Figure 3-3 of the 2009 Water Report (May 2010). The groundwater level records have been organized into hydrograph form (groundwater elevation vs. time) as illustrated in 2009 Water Report (Figures 3-4 and 3-5). Also shown on these plots is an annual marker indicating whether the year had a below average amount of rainfall. The wells shown on these plots are representative of the respective areas, showing the range of values (highest to lowest elevation) through each area, and containing a sufficiently long-term record to illustrate trends over time.

Situated along the eastern upstream end of the Santa Clara River channel, the "Mint Canyon" area, located at the far eastern end of the groundwater basin, and the nearby "Above Saugus WRP" area generally exhibit similar groundwater level responses to hydrologic and pumping conditions. (See 2009 Water Report [Figure 3-4].) As shown in 2009 Water Report Figure 3-6, the purveyors decreased total Alluvial pumping from the "Mint Canyon" area steadily from 2000 through 2003, and correspondingly increased pumping in the "Below Saugus WRP," and "Below Valencia WRP" areas. In spite of a continued period of below-average precipitation from 1999 to 2003, that progressive decrease in pumping resulted in a cessation of groundwater level decline in the "Mint Canyon Area." Subsequent wet conditions in late 2004, continuing into 2005, resulted in full recovery of groundwater storage. With such high groundwater levels, pumping in the "Mint Canyon" area was increased in 2005 and 2006, with no

significant change in groundwater levels in 2005 and a slight decrease in 2006. Over the last four years, precipitation has been average to below average. Accordingly, water levels have shown some decline, but this decline has been slowed by the reduction in pumpage in this easternmost part of the basin. Water levels remain within the historic range of levels over similar wet/dry periods. Just below the 'Mint Canyon' area, the 'Above Saugus WRP' has shown a similar decline, despite the steady rate of pumping over the last four years. Here the water levels also remain within the range of historical levels, as expected following a multi-year period without a significant wet year. These parts of the Valley have historically experienced a number of alternating wet and dry hydrologic conditions (2009 Water Report Figure 3-4) during which groundwater level declines have been followed by returns to high or mid-range historic levels. This trend has continued over the last four years where below-average hydrologic conditions in 2009 followed three average to below-average years, and groundwater levels remain within mid-range levels.

In the 'Bouquet Canyon' area, pumping has remained relatively constant for the last ten years, and water levels have fluctuated with consecutive wet or dry years. During and since the most recent wet conditions of 2004 and 2005, water levels returned to within historic mid-range levels. During 2009, groundwater level trends either leveled off or showed some increase with the onset of precipitation at the end of the year. This groundwater level response to wet/dry years and pumping is typical for this area of the basin and, for 2009, levels have remained within the range of historical levels. When water levels are low, well yields and pumping capacities in this and other eastern areas can be impacted. The affected purveyors typically respond by increasing use of Saugus Formation and imported (SWP) supplies, as shown in 2009 Water Report Table 2-3. The purveyors also shift a fraction of the Alluvial pumping that would normally be supplied by the eastern areas to areas further west, where well yields and pumping capacities remain fairly constant because of smaller groundwater level fluctuations.

In the western parts and lower elevations of the Alluvium, groundwater levels respond to pumping and precipitation in a similar manner, but to an attenuated or limited extent compared to those situated in the eastern, higher elevation areas. As shown in the western group of hydrographs in 2009 Water Report Figure 3-5, groundwater level fluctuations become more subtle moving westward and lower in the Valley. The "Below Saugus WRP" area, along the Santa Clara River immediately downstream of the Saugus Water Reclamation Plant, and the "San Francisquito Canyon" area generally exhibit similar groundwater level trends. In this middle part of the basin, historical groundwater levels were lower in the 1950s and 1960s than current levels. Groundwater levels in this area notably recovered as pumping declined through the 1960s and 1970s. They have subsequently sustained generally high levels for much of the last 30 years, with three dry-period exceptions: mid-1970s, late 1980s to early 1990s, and the late 1990s to early 2000s. Recoveries to previous high groundwater levels followed both of the short dry-

period declines in the 1970s and 1990s. More recently, groundwater levels recovered significantly in both areas, to historic highs, following a wetter-than-average year in 2004 and a significantly wet year in 2005. Since 2005, pumping has been increasing in the "Below Saugus WRP" area, while "San Francisquito Canyon" area pumping approximately doubled in 2005, and has since gradually declined and leveled off over the last three years. Despite the current multi-year period of average to below average precipitation, groundwater levels in these two areas remain in mid-range to high historical range.

The "Castaic Valley" area is located along Castaic Creek below Castaic Lake. Below that and along the Santa Clara River, downstream of the existing Valencia Water Reclamation Plant, is the "Below Valencia WRP" area, where discharges of treated effluent from the Valencia WRP to the Santa Clara River contribute to groundwater recharge. In the "Castaic Valley" area, groundwater levels continue to remain fairly constant, with slight responses to climatic and other fluctuations, since the 1950s (2009 Water Report Figure 3-5). Small changes in groundwater levels in 2007 and 2008 over the last four years are consistent with other short-term historical fluctuations. The long-term, generally constant trend remained through 2009. The "Below Valencia WRP" area groundwater levels exhibit slight, if any, response to climatic fluctuations, and have remained fairly constant since the 1950s despite a notable increase in pumping through the 1990s that has since remained relatively steady over the last seven years, through 2009 (2009 Water Report Figure 3-5 and 3-6).

In summary, depending on the period of available data, the history of groundwater levels in the Alluvium shows the same general picture: recent (last 30 years) groundwater levels have exhibited historic highs; in some locations, there are intermittent dry-period declines (resulting from use of some groundwater from storage) followed by wet-period recoveries (and associated refilling of storage space). On a long-term basis, whether over the last 29 years since importation of supplemental SWP water, or over the last 40 to 50 years (since the 1950s–1960s), the Alluvium shows no chronic trend toward decreasing water levels and storage, and thus shows no symptoms of water level-related overdraft. Consequently, pumping from the Alluvium has been and continues to be sustainable, well within the operational yield of that aquifer on a long-term average basis, and within the operating yield in almost every individual year.

Table 4.8-5
Pumping Rates Simulated for Individual Alluvial Aquifer Wells under the 2008 Groundwater Operating Plan

Well Name	Alluvial Subarea	2005 Operating Plan		2008 Operating Plan			Comments
		Normal	Dry	Normal	Dry Yr 1	Dry Yr 2+	
NCWD-Castaic 1	Castaic Valley	385	345	350	300	250	
NCWD-Castaic 2	Castaic Valley	166	125	100	100	100	
NCWD-Castaic 4	Castaic Valley	100	45	100	0	0	
NCWD-Castaic 7	Castaic Valley			300	200	200	Assume similar pumping as at NCWD-Castaic3 during early 1980s
NCWD-Pinetree 1	Above Mint Canyon	164	0	150	0	0	
NCWD-Pinetree 3	Above Mint Canyon	545	525	350	300	300	
NCWD-Pinetree 4	Above Mint Canyon	300	0	300	200	200	
NCWD-Pinetree 5	Above Mint Canyon			300	200	200	
NCWD Total		**1,660**	**1,040**	**1,950**	**1,300**	**1,250**	
NLF-161	Below Valencia WRP	485	485	1,000	1,000	1,000	
NLF-B10	Below Valencia WRP	344	344	500	350	350	
NLF-B11	Below Valencia WRP	232	232	100	200	200	
NLF-B14	Below Valencia WRP			300	1,000	1,000	
NLF-B20	Below Valencia WRP	584	584	350	500	500	Pumping was assigned to former B7 well in 2005 analysis.
NLF-B5	Below Valencia WRP	1,582	1,582	2,400	1,900	1,900	
NLF-B6	Below Valencia WRP	1,766	1,766	1,100	1,100	1,100	
NLF-C	Below Valencia WRP	1,373	1,373	1,100	1,000	1,000	
NLF-C3	Below Valencia WRP	192	192	100	200	200	
NLF-C4	Below Valencia WRP	809	809	200	450	450	
NLF-C5	Below Valencia WRP	850	850	900	850	850	
NLF-C7	Below Valencia WRP	1,107	1,107	350	300	300	
NLF-C8	Below Valencia WRP	594	594	400	400	400	
NLF-E5	Below Valencia WRP	750	750	100	150	150	
NLF-E9	Below Valencia WRP	814	814	900	350	350	
NLF-G45	Below Valencia WRP	390	390	350	400	400	
NLF Total		**11,872**	**11,872**	**10,150**	**10,150**	**10,150**	

Well Name	Alluvial Subarea	2005 Operating Plan		2008 Operating Plan			Comments
		Normal	Dry	Normal	Dry Yr 1	Dry Yr 2+	
SCWD-Clark	Bouquet Canyon	782	700	700	700	700	
SCWD-Guida	Bouquet Canyon	1,320	1,230	1,300	1,250	1,200	
SCWD-Honby	Above Saugus WRP	696	870	1,000	850	700	
SCWD-Lost Canyon 2	Above Mint Canyon	741	640	700	700	650	
SCWD-Lost Canyon 2A	Above Mint Canyon	1,034	590	700	650	600	
SCWD-Mitchell #5A	Above Mint Canyon	0	0	500	350	200	
SCWD-Mitchell #5B	Above Mint Canyon	557	0	800	550	300	
SCWD-N. Oaks Central	Above Mint Canyon	822	1,640	850	800	700	
SCWD-N. Oaks East	Above Mint Canyon	1,234	485	800	750	700	
SCWD-N. Oaks West	Above Mint Canyon	898	0	800	750	700	
SCWD-Sand Canyon	Above Mint Canyon	930	195	1,000	600	200	
SCWD-Sierra	Above Mint Canyon	846	0	1,100	900	700	
SCWD-Valley Center	Above Saugus WRP	800	800	800	800	800	Pumping transferred from former well SCWD-Stadium
SCWD Total		**10,660**	**7,150**	**11,050**	**9,650**	**8,150**	
VWC-D	Castaic Valley	690	690	880	880	880	
VWC-E15	Below Valencia WRP			800	800	800	
VWC-N	Below Saugus WRP	620	620	650	650	650	
VWC-N7	Below Saugus WRP	1,160	1,160	1,160	1,160	1,160	
VWC-N8	Below Saugus WRP	1,160	1,160	1,160	1,160	1,160	
VWC-Q2	Below Saugus WRP	985	985	1,100	1,100	1,100	
VWC-S6	Below Saugus WRP	865	865	1,000	1,000	1,000	
VWC-S7	Below Saugus WRP	865	865	500	500	500	
VWC-S8	Below Saugus WRP	865	865	500	500	500	
VWC-T7	Above Saugus WRP	920	920	750	750	750	Pumping transferred from former wells VWC-T2 and VWC-T4
VWC-U4	Above Saugus WRP	935	935	800	800	800	
VWC-U6	Above Saugus WRP	825	825	800	800	800	Pumping transferred from former well VWC-U3
VWC-W10	San Francisquito Canyon	865	865	1,000	1,000	1,000	Pumping was assigned to former W6 well in 2005 analysis.

Well Name	Alluvial Subarea	2005 Operating Plan		2008 Operating Plan			Comments
		Normal	Dry	Normal	Dry Yr 1	Dry Yr 2+	
VWC-W11	San Francisquito Canyon	600	600	800	800	800	
VWC-W9	San Francisquito Canyon	350	350	950	950	950	
VWC Total		**11,705**	**11,705**	**12,850**	**12,850**	**12,850**	
Robinson Ranch	Above Mint Canyon	932	400	600	550	450	
WHR	Castaic Valley	1,600	1,600	2,000	2,000	2,000	
Purveyor Alluvial Usage		**24,025**	**19,895**	**25,850**	**23,800**	**22,250**	**2008 Operating Plan:**
Other Alluvial Usage		**14,404**	**13,872**	**12,750**	**12,700**	**12,600**	**35,000 to 40,000 AF/yr in normal and wet years**
Total Alluvial Pumping		**38,429**	**33,767**	**38,600**	**36,500**	**34,850**	**30,000 to 35,000 AF/yr in dry years**

Notes:
All pumping volumes are listed in units of acre-feet per year (afy).
Wells that are not listed are assumed to not be pumping in the future.
NLF = Newhall Land & Farming Company; NCWD = Newhall County Water District
SCWD = Santa Clarita Division of Castaic Lake Water Agency; VWC = Valencia Water Company
WHR = Wayside Honor Rancho, whose wells are owned by the Los Angeles County Waterworks District No. 36
"Other Alluvial Usage" consists of pumping by NLF, WHR, and Robinson Ranch. An additional 500 afy of pumping by other private well owners is not included in this table.
Source: Analysis of Groundwater Supplies and Groundwater Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin, August 2009.

Table 4.8-6
Pumping Rates Simulated for Individual Saugus Formation Wells under the 2008 Groundwater Operating Plan

Owner	Well Name	Non-Drought Years	Drought Year 1	Drought Year 2	Drought Year 3
NCWD	12	1,765	2,494	2,494	2,494
	13	1,765	2,494	2,494	2,494
Total Pumping (NCWD Wells)		**3,530**	**4,988**	**4,988**	**4,988**
SCWD	Saugus1	1,772	1,772	1,772	1,772
	Saugus2	1,772	1,772	1,772	1,772
Total Pumping (SCWD Wells)		**3,544**	**3,544**	**3,544**	**3,544**
Private	Palmer Golf Course	500	500	500	500
Total Pumping (Future Golf)		**500**	**500**	**500**	**500**
VWC	159	50	50	50	50
	160 (Municipal)	500	830	830	830
	160 (Val. Ctry Club)	500	500	500	500
	201	300	300	3,777	3,777
	205	1,211	2,945	4,038	4,038
	206	1,175	2,734	3,500	3,500
	207	1,175	2,734	3,500	3,500
Total Pumping (VWC Wells)		**4,911**	**10,093**	**16,195**	**16,195**
	Future #1	0	0	0	3,250
	Future #2	0	0	0	3,250
	Future #3	0	0	0	3,250
Total Pumping (Future Wells)		**0**	**0**	**0**	**9,750**
Total Pumping (All Saugus Wells)		**12,485**	**19,125**	**25,227**	**34,977**

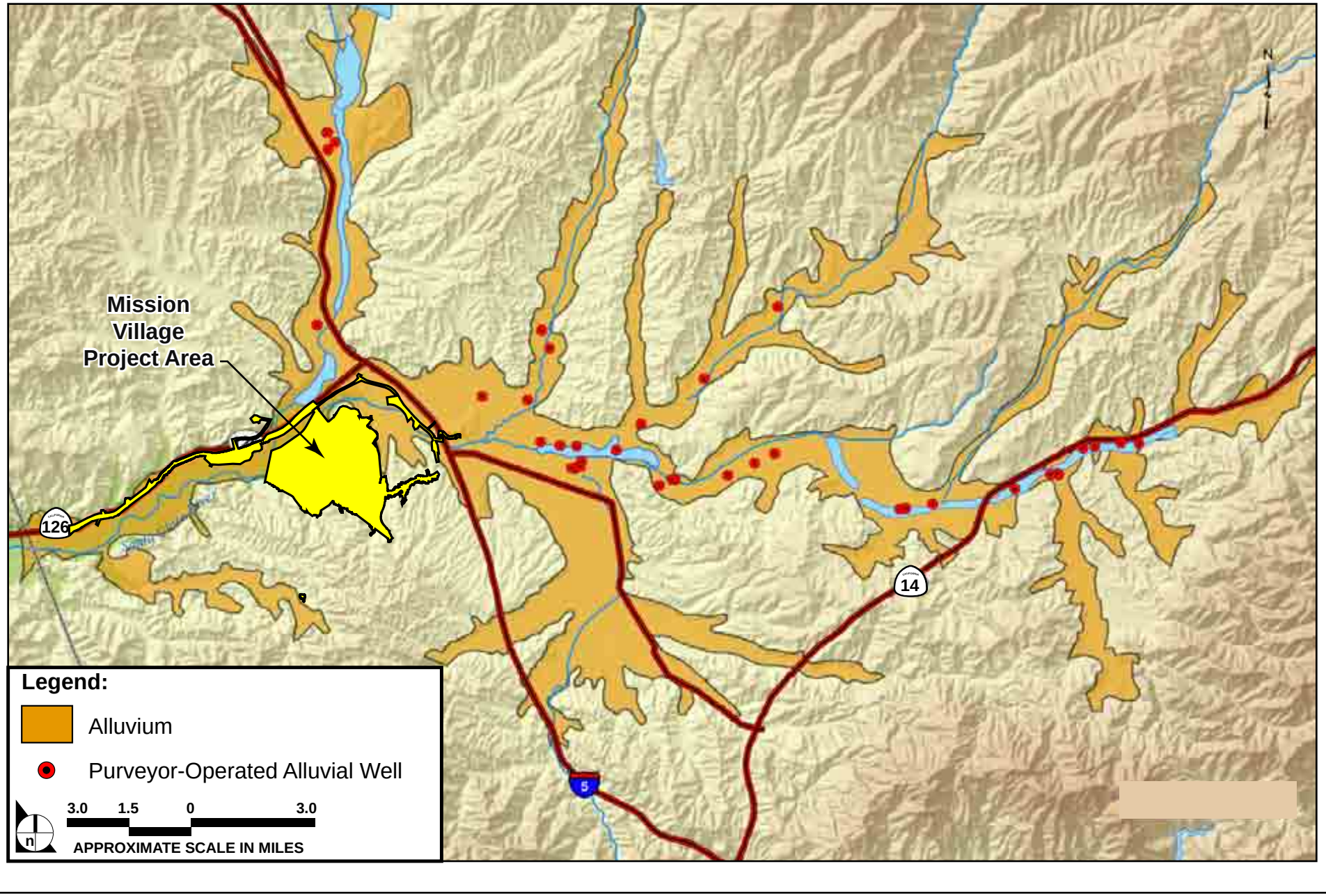
Notes:
All pumping volumes are listed in units of acre-feet per year (afy).
Wells that are not listed are assumed to not be pumping in the future.
NLF = Newhall Land & Farming Company; NCWD = Newhall County Water District;
SCWD = Santa Clarita Division of Castaic Lake Water Agency; VWC = Valencia Water Company
Source: Analysis of Groundwater Supplies and Groundwater Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin, August 2009.

Adequacy of Supply. For municipal water supply, with existing wells and pumps, the three retail water purveyors with Alluvial wells (NCWD, SCWD, and VWC) have a combined pumping capacity from active wells (not contaminated by perchlorate) of 38,600afy. Alluvial pumping capacity from all the active municipal supply wells is summarized in **Table 4.8-5, Pumping Rates Simulated for Individual Alluvial Aquifer Wells under the 2008 Groundwater Operating Plan**. The locations of the various municipal Alluvial wells throughout the Basin are illustrated on **Figure 4.8-4, Municipal Alluvial Well Locations; Santa Clara River Valley, East Groundwater Subbasin**. As indicated, the pumping capacity of the SCWD Stadium well (deactivated due to the perchlorate contamination), representing another 800 afy of pumping capacity, has been transferred to the Valley Center well.

In terms of adequacy and availability, the combined active Alluvial groundwater source capacity of municipal wells is approximately 38,600 afy. This is more than sufficient to meet the municipal, or urban, component of groundwater supply from the Alluvium.

Sustainability. Until recently, the long-term renewability of Alluvial groundwater was empirically determined from approximately 60 years of recorded experience. This empirical data confirmed long-term stability in groundwater levels and storage, with some dry period fluctuations in the eastern part of the Basin, over a historical range of total Alluvial pumpage from as low as about 20,000 afy to as high as about 43,000 afy. These empirical observations have been complemented by the development and application of a numerical groundwater flow model, which has been used to predict aquifer response to the planned operating ranges of pumping. The numerical groundwater flow model also has been used to analyze the control of perchlorate contaminant migration under selected pumping conditions that would restore, with treatment, pumping capacity inactivated due to perchlorate contamination detected in some wells in the Basin. The latter use of the model is described in Chapter 5 of the *2005 UWMP*, and the *2009 Basin Yield Update* which address the Saugus Formation and the overall approach to the perchlorate contamination found in four Saugus wells.

To examine the yield of the Alluvium or, the sustainability of the Alluvium on a renewable basis, the groundwater flow model was used to examine the long-term projected response of the aquifer to pumping for municipal and agricultural uses in the 30,000 to 40,000 afy range under average/normal and wet conditions, and in the 30,000 to 35,000 afy range under locally dry conditions (for modeling methodology, please see the 2009 Basin Yield Update presented in **Appendix 4.8**.). To examine the response of the entire aquifer system, the model also incorporated pumping from the Saugus Formation in accordance with the normal (7,500–15,000 afy) and dry year (15,000–35,000 afy) operating plan for that aquifer. The model was run over a 78-year hydrologic period, which was selected from actual historical precipitation to examine a number of hydrologic conditions expected to affect both groundwater pumping and groundwater recharge. The selected 78-year simulation period was assembled from an assumed recurrence of 1980 to 2003 conditions, followed by an assumed recurrence of 1950 to 2003 conditions. The 78-year period was analyzed to define both local hydrologic conditions (normal and dry), which affect the rate of pumping from the Alluvium, and hydrologic conditions that affect SWP operations, which in turn affect the rate of pumping from the Saugus. The resultant simulated pumping cycles included the distribution of pumping for each of the existing Alluvial aquifer wells, for normal and dry years, respectively, as shown in **Table 4.8-5**.



SOURCE: Luhdorff & Scalmanini Consulting Engineers – January 2006

FIGURE **4.8-4**

Municipal Alluvial Well Locations; Santa Clara River Valley, East Groundwater Subbasin

Simulated Alluvial aquifer response to the range of hydrologic conditions and pumping stresses is essentially a long-term repeat of the historical conditions that have resulted from similar pumping over the last several decades. The resultant response consists of (1) generally constant groundwater levels in the middle to western portion of the Alluvium and fluctuating groundwater levels in the eastern portion as a function of wet and dry hydrologic conditions; (2) variations in recharge that directly correlate with wet and dry hydrologic conditions; and (3) no long-term decline in groundwater levels or storage. The Alluvial aquifer is considered a sustainable water supply source to meet the Alluvial portion of the operating plan for the Basin. This is based on the combination of actual experience with Alluvial aquifer pumping at capacities similar to those planned for the future and the resultant sustainability (recharge) of groundwater levels and storage, and further based on modeled projections of aquifer response to planned pumping rates that also show no depletion of groundwater.

Aquifer Protection. The remaining key consideration related to current and future use of the Alluvium is the impact of perchlorate contamination. Extensive investigation of the extent of perchlorate contamination, combined with the groundwater modeling previously described, has led to the current plan by CLWA and the retail purveyors, which call for restoration of impacting pumping (well) capacity and integrated control of contamination migration. In the short term, the response plan for Alluvial production wells, located down gradient of the former Whittaker-Bermite site, was to promptly install wellhead treatment to ensure adequate water supplies. This plan was effectively implemented in 2005 by Valencia Water Company through the permitting and installation of wellhead treatment at Valencia Water Company's Well Q2. After returning the well to service with wellhead treatment in October 2005, followed by nearly two years of operation with wellhead treatment, during which there was no detection of perchlorate, Valencia Water Company was authorized by the California Department of Public Health to discontinue treatment. Since that time, Well Q2 has been operating without treatment and there has been no detection of perchlorate since the wellhead treatment was discontinued. As a result, Well Q2 remains a part of the Valley's active municipal groundwater source capability.

The purveyors' response plan also addressed the impacted Alluvial production well owned by SCWD (Stadium Well), which was shut down due to the detection of perchlorate in 2002. In response, SCWD recently drilled a replacement well (Valley Center Well) to the east, north-northeast of the former Whittaker-Bermite site. The Valley Center Well also will be a part the Valley's active municipal groundwater source capability.

As discussed below, the long-term plan includes the CLWA groundwater containment, treatment, and restoration project to prevent further downstream migration of perchlorate, the treatment of water extracted as part of that containment process, and the recovery of lost local groundwater production from the Saugus Formation.

(b) Saugus Formation

Based on historical operating experience and extensive recent testing and groundwater modeling analysis, the Saugus Formation can supply water on a long-term sustainable basis in a normal range of 7,500 to 15,000 afy, with intermittent increases to 25,000 to 35,000 af in dry years. The dry-year increases, based on limited historical observation and modeled projections, demonstrate that a small amount of the large groundwater storage in the Saugus Formation can be pumped over a relatively short (dry) period. This would be followed by recharge (replenishment) of that storage during a subsequent normal-to-wet period when pumping would be reduced.

Background. Total pumping from the Saugus in 2009 was about 7,700 af, or about 750 af more than in the preceding year. Of the total Saugus pumping in 2009, most (about 6,700 af) was for municipal water supply, and the balance (1,000 af) was for agricultural and other irrigation uses. Historically, groundwater pumping from the Saugus peaked in the early 1990s and then steadily declined through the remainder of that decade. Since then, Saugus pumping had been in the range of about 4,000 to 6,500 afy, with the increase to almost 7,700 af in 2007 and again in 2009. Over the last five years, the municipal use of Saugus water has been relatively unchanged; almost all of the relatively small fluctuations from year to year have been related to non-municipal usage. On a long-term average basis since the importation of SWP water, total pumping from the Saugus Formation has ranged between a low of about 3,700 afy (in 1999) and a high of nearly 15,000 afy (in 1991); average pumping from 1980 to present has been about 6,800 afy. These pumping rates remain well within, and generally at the lower end of, the range of Operational Yield of the Saugus Formation. The overall historic record of Saugus pumping is illustrated in Figure 3-8 of the 2009 Water Report (May 2010).

Unlike the Alluvium, which has an abundance of wells with extensive water level records, the water level data for the Saugus Formation are limited by both the distribution of the wells in that Formation and the periods of water level records. The wells that do have water level records extending back to the mid-1960s indicate that groundwater levels in the Saugus Formation were highest in the mid-1980s and are currently higher than they were in the mid-1960s (2009 Water Report Figure 3-9). Based on these data, there is no evidence of any historic or recent trend toward permanent water level or storage decline. There continue to be seasonal fluctuations in groundwater levels but the prevalent longer-term trend is one of general stability.

Consistent with the 2001 Update Report (Slade), the 2005 Basin Yield Report (CH2M Hill and LSCE), the Basin Yield Update, and the 2005 UWMP, the purveyors continue to maintain groundwater storage and associated water levels in the Saugus Formation so that supply is available during drought periods, when Alluvial pumping might be reduced and/or SWP or other supplemental supplies also decreased. The period of increased pumping during the early 1990s is a good example of this management strategy. Most notably, in 1991, when SWP deliveries were substantially reduced, increased pumping from the Saugus made up almost half of the decrease in SWP deliveries. The increased Saugus pumping over several

consecutive dry years (1991–1994) resulted in short-term declining groundwater levels, reflecting the use of water from storage. However, groundwater levels subsequently recovered when pumping declined, reflecting recovery of groundwater storage in the Saugus Formation.

Adequacy of Supply. For municipal water supply with existing wells, the three retail water purveyors with Saugus wells (NCWD, SCWD, and VWC) have a combined pumping capacity from active wells (accounting for those contaminated by perchlorate) of 12,485 afy in non-drought years, and up to 34,977 afy by the third year of a three-year drought. Saugus pumping capacity from all the active municipal supply wells is summarized in **Table 4.8-6**, **Pumping Rates Simulated for Individual Saugus Formation Wells under the 2008 Groundwater Operating Plan**, and the locations of the various active municipal Saugus wells are illustrated on **Figure 4.8-5, Saugus Well Locations; Santa Clara River Valley, East Groundwater Subbasin**. These capacities do not include the four Saugus wells contaminated by perchlorate, although they indirectly reflect the capacity of one of the contaminated wells, VWC's Well 157, which has been sealed and abandoned, and replaced by VWC's Well 206 in a non-impacted part of the Basin.

In terms of adequacy and availability, the combined active Saugus groundwater source capacity of municipal wells of up to 19,125 afy, is more than sufficient to meet the planned use of Saugus groundwater in normal years of 7,500 to 15,000 afy. This currently active capacity is more than sufficient to meet water demands, in combination with other sources, if both of the next two years are dry. At that time, the combination of currently active capacity and restored impacted capacity, through a combination of treatment at two of the impacted wells and replacement well construction, will provide sufficient total Saugus capacity to meet the planned use of Saugus groundwater during multiple dry-years of 35,000 af, if that third year is also a dry year.

Sustainability. Until recently, the long-term sustainability of Saugus groundwater was empirically determined from limited historical experience. The historical record shows fairly low annual pumping in most years, with one four-year period of increased pumping up to about 15,000 afy that produced no long-term depletion of the substantial groundwater storage in the Saugus. Those empirical observations have now been complemented by the development and application of the numerical groundwater flow model, which has been used to examine aquifer response to the operating plan for pumping from both the Alluvium and the Saugus and also to examine the effectiveness of pumping for both contaminant extraction and control of contaminant migration within the Saugus Formation. The latter aspects of Saugus pumping are discussed in further detail in the *2009 Basin Yield Update* (see **Appendix 4.8**).

To examine the yield of the Saugus Formation or, its sustainability on a renewable basis, the groundwater flow model was used to examine long-term projected response to pumping from both the Alluvium and the Saugus over the 78-year period of hydrologic conditions using alternating wet and dry periods as

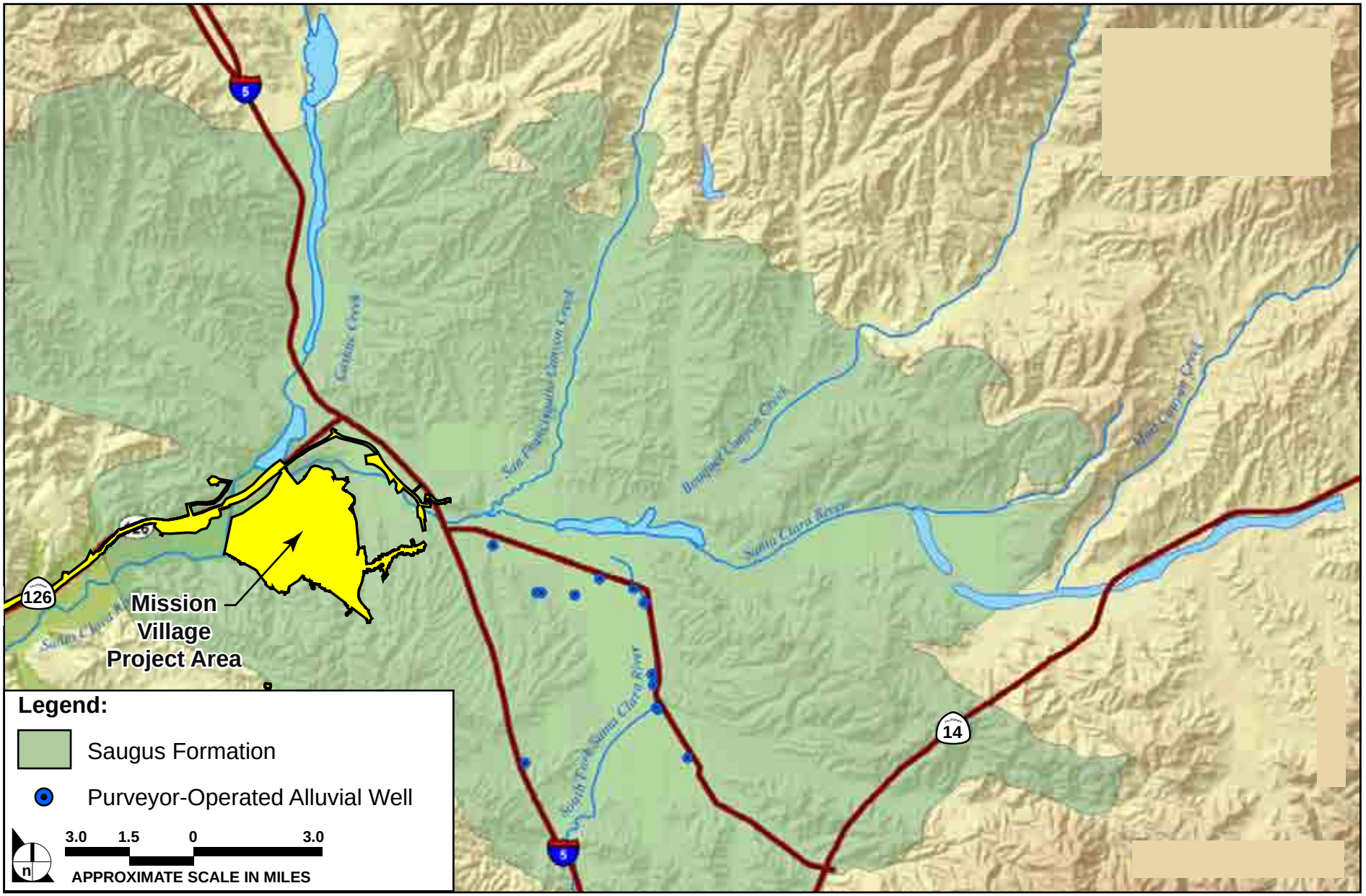
have historically occurred. The pumping simulated in the model was in accordance with the operating plan for the Basin. For the Saugus, simulated pumpage included the planned restoration of recent historic pumping from the perchlorate-impacted wells. In addition to assessing the overall recharge of the Saugus, that pumping was analyzed to assess the effectiveness of controlling the migration of perchlorate by extracting and treating contaminated water close to the source of contamination.

Simulated Saugus Formation response to the ranges of pumping under assumed recurrent historical hydrologic conditions is consistent with actual experience under smaller pumping rates. The response consists of: (1) short-term declines in groundwater levels and storage near pumped wells during dry-period pumping; (2) rapid recovery of groundwater levels and storage after cessation of dry-period pumping; and (3) no long-term decreases or depletion of groundwater levels or storage. The combination of actual experience with Saugus pumping and recharge up to about 15,000 afy, now complemented by modeled projections of aquifer response that show long-term utility of the Saugus at 7,500 to 15,000 afy in normal years and rapid recovery from higher pumping rates during intermittent dry periods, shows that the Saugus Formation can be considered a sustainable water supply source to meet the Saugus portion of the operating plan for the Basin.

Aquifer Protection. The operating plan for the Saugus Formation accounts for historical perchlorate detections and the resulting containment and remedial response activities that are being constructed at this time. As described in further detail below, in 1997, a total of four Saugus production wells were inactivated for water supply service due to the presence of perchlorate. The four Saugus wells removed from service were as follows: (a) two Saugus production wells owned by SCWD (Saugus wells 1 and 2); (b) one Saugus production well owned by NCWD (NCWD Well 11); and (c) one Saugus production well owned by Valencia Water Company (VWC Well 157).

As part of the ongoing implementation of perchlorate containment and restoration of impacted capacity, VWC Well 157 was abandoned in January 2005 and replaced by new Well VWC 206 in a non-impacted portion of the basin. Thus, the Saugus capacity analysis includes planned pumping from replacement Well VWC 206.

The longer range plan of CLWA and the purveyors has been to pursue a project to contain further downstream migration of perchlorate from the former Whittaker-Bermite site, treatment and subsequent use of the pumped water from the containment process for water supply, and installation of replacement wells in non-impacted portions of the basin to restore the remainder of groundwater supply impacted by perchlorate.



SOURCE: Luhdorff & Scalmanini Consulting Engineers – January 2006

FIGURE **4.8-5**

Saugus Well Locations; Santa Clara River Valley, East Groundwater Subbasin

(c) Impacted Alluvial and Saugus Wells

A small group of wells that have been impacted by perchlorate represent a temporary loss of well capacity within the CLWA service area. Of the six wells that were initially removed from active water supply service upon the detection of perchlorate, three wells remain out of service. However, CLWA and the purveyors have developed an implementation plan that would restore this well capacity. The implementation plan includes a combination of treatment facilities and replacement wells.

In 1997, the State of California conducted tests on a number of municipal water wells owned by Santa Clarita Water Division of Castaic Lake Water Agency (SCWD), Newhall County Water District (NCWD) and Valencia Water Company (VWC) located in the vicinity of the former Whittaker Bermite site. These and subsequent tests found perchlorate in four of the purveyors' deep Saugus Formation aquifer wells: NCWD-11, SCWD Saugus 1, SCWD Saugus 2 and VWC-157 at maximum levels ranging from 14 ppb to 47 ppb depending on the well.[16] These wells were removed from active service and have not been used for drinking water supplies since 1997. In November 2002, perchlorate was found in a shallow Alluvial aquifer groundwater well—SCWD Stadium—at levels up to 5.9 ppb. In April 2005, perchlorate contamination was found in another shallow Alluvial aquifer groundwater well—VWC-Q2. The source of the perchlorate is believed to be from the Whittaker-Bermite site given the proximity of all six impacted wells to the property and the fact that both groundwater and surface water flows from the property to the six wells.

In November, 2000 Castaic Lake Water Agency (CLWA), NCWD, SCWD, and VWC (collectively, "Plaintiffs") filed a complaint against past owner Whittaker and current owners SCLLC and Remediation Financial, Inc., (RFI)(Whittaker, SCLLC and RFI are collectively referred to as "Defendants") in the California Central District Court asserting that hazardous substances (including perchlorate) released from the Whittaker Bermite site contaminated some of Plaintiffs' water production wells. In July 2002, Plaintiffs moved the Court for partial summary judgment that Defendants were liable for response costs under the Comprehensive Environmental Response, Compensation, and Recovery Act (CERCLA). At the same time, Whittaker moved the Court to establish Plaintiffs' liability under CERCLA. In July 2003, the Court granted (in part) Plaintiffs' motion and found that Whittaker and SCLLC were liable for CERCLA response costs and denied Whittaker's motion. Castaic Lake Water Agency v. Whittaker Corporation, 272 F.Supp.2d 1053 (2003).

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16 Perchlorate is a regulated drinking water contaminand in California, with a maximum contaminant level (MCL) of 6 micrograms per liter (μg/l).

In September 2003, the parties entered into an interim settlement agreement that stayed litigation to allow the parties to, *inter alia,* develop an engineering solution to contain and abate the groundwater contamination and negotiate a final settlement agreement. As a condition for staying litigation activities, Defendants were required to reimburse CLWA for past monitoring and investigation costs and fund the development of the engineering solution. While the parties developed a groundwater abatement/containment plan, they were unable to reach a final settlement agreement. The interim settlement agreement expired on January 31, 2005.

In July 2004, Defendants SCLLC and RFI, the current owners of the Whittaker property filed a petition for chapter 11 bankruptcy protection and were subject to the automatic stay of litigation. The SCLLC and RFI bankruptcy filing complicated settlement negotiations because any proposed settlement offer that involved SCLLC and RFI insurance proceeds – a substantial and important source of settlement funds - required bankruptcy court approval.

The stay of litigation lapsed on January 31, 2005, without a final settlement and on March 23, 2005, the Court ordered the parties to mediate the matter before the Honorable Eugene Lynch (ret.). On April 19, 2005, Plaintiffs and Defendants reached an agreement in principle on damages that was subject to Defendants reaching a settlement funding agreement with their insurance carriers. During the April 2005 mediation, VWC informed Defendants of the perchlorate contamination found in VWC's groundwater well Q2. Whittaker agreed to provide $500,000 for the installation of a well head treatment unit. All capital as well as operating and maintenance costs for this treatment unit were funded by insurance companies representing the current and past owners of the property. Utilizing these funds, VWC installed a perchlorate removal system utilizing ion exchange technology. After only six months from the initial detection of perchlorate in the well, Q2 was returned to active service on October 12, 2005. Subsequently in October 2007, the California Department of Public Health approved a request by VWC to remove the treatment system as a result of two years of continuous operation without a detection of perchlorate in the untreated groundwater produced by Q2. Currently, Q2 remains in operation without any requirement for well head treatment.

In July 2005, the parties reported that settlement negotiations between Plaintiffs and Defendants had not progressed because Defendants and their insurance carriers had not reached an agreement on funding the settlement. The Court ordered the parties to resume litigation activities on August 16, 2005. In November 2005, Defendants and their insurance carriers reached an agreement on the allocation of environmental insurance proceeds for the site and funding of a potential settlement with the Plaintiffs and submitted the proposed settlement agreement to the bankruptcy court for approval. The Bankruptcy court approved the settlement agreement involving the insurance proceeds and in January 2006,

Defendants provided Plaintiffs with a draft plan to utilize the insurance proceeds to settle Plaintiffs' groundwater contamination claims.

In May 2007, the Water Purveyors announced a settlement of their lawsuit against Whittaker to contain and remove perchlorate from the Santa Clarita Valley's groundwater aquifers. The Water Purveyors estimate this settlement provides up to $100 million to address the problem. The underlying litigation was dismissed by the US District Court in August 2007. See Draft EIR **Appendix 4.8** which contains the following documents: (1) *Castaic Lake Water Agency Litigation Settlement Agreement*, (2) *Order Granting Joint Motion for Court Approval, Good Faith Settlement Determination and Entry of Consent Order* July 16, 2007, and (3*) Stipulation to Dismiss Plaintiffs' Claims and Defendants' Counterclaim*, August 20, 2007.

The Settlement Agreement provides funding to construct replacement wells, pipelines, and a treatment plant to remove perchlorate. The Settlement Agreement also provides funds to operate and maintain the treatment system for up to 30 years, which is estimated to cost as much as $50 million over the life of the project. The treatment plant has been designed by CLWA and the Settlement Agreement provides $1.7 million to reimburse CLWA for past expenditures. In addition, a $10 million "rapid response fund" will be established to allow the water purveyors to immediately treat threatened wells that could become impacted by perchlorate contamination in the future. VWC received a total of $3.5 million under the Settlement Agreement which included $2.5 million for past environmental claims and $1.0 million to close and abandon V-157 and drill replacement well V-206.

Following the settlement of the litigation, VWC and the other water purveyors entered into two separate agreements, each formally prepared as a Memorandum of Understanding (MOU). These MOUs were necessary to implement the various obligations under the Settlement Agreement. The first MOU sets forth the rights among the water purveyors to receive payments pursuant to the Settlement Agreement and clarifies project administration which includes such things as project modification, future perchlorate detections, monitoring, payment of ongoing legal fees, dispute resolution and other provisions described in the Settlement Agreement. The second MOU sets forth the operational plan and financial arrangements to deliver certain quantities of groundwater from the perchlorate treatment system and a future replacement well field that in total, would restore the water supply capacity impacted by perchlorate to SCWD and NCWD. Both MOUs are included in Draft EIR **Appendix 4.8**.

b. Water Quality in the Alluvial Aquifer and Saugus Formation

Given that the source of potable water for the Mission Village project is from the local basin, in particular the Alluvial aquifer, local groundwater quality is an important consideration.

(1) Overview

The groundwater quality of the Alluvial aquifer and the Saugus Formation consistently meets drinking water standards set by the U.S. Environmental Protection Agency (U.S. EPA) and DPH. The water is delivered by the local retail purveyors in the CLWA service area for domestic use without treatment, although the water is disinfected by the retail purveyors prior to delivery. Existing water quality conditions for urban water uses in the CLWA service area are documented in the Santa Clarita Valley Water Quality Reports. The latest report is the 2010 Santa Clarita Valley Water Report. This report provides the cumulative results of thousands of water quality tests performed each year in the Santa Clarita Valley on CLWA's and the local purveyors' water supplies.

An annual Consumer Confidence Report (CCR) also is provided to all Santa Clarita Valley residents who receive water from the local retail water purveyors in the CLWA service area. The latest CCR is the 2007 Santa Clarita Valley Consumer Confidence Report. In that report, there is detailed information about the results of the testing of groundwater quality and treated SWP water supplied to the residents of the Santa Clarita Valley. Water quality regulations are constantly changing as contaminants that are typically not found in drinking water are discovered and new standards are adopted. In addition, existing water quality standards are becoming more stringent in terms of allowable levels in drinking water. However, all groundwater produced by the retail water purveyors in the Santa Clarita Valley meets or exceeds stringent drinking water quality regulations set by USEPA, the Department of Public Health (DPH), and the continuing oversight of the California Public Utilities Commission (CPUC).

(2) Groundwater Quality – Alluvium

Groundwater quality is, of course, a key factor in assessing the Alluvial aquifer as a municipal and agricultural water supply. Groundwater quality details and long-term conditions, examined by integration of individual records from several wells completed in the same aquifer materials and in close proximity to each other, have been discussed in previous annual Water Reports and in the 2005 UWMP. There were some changes in groundwater quality in 2009 that reflect fluctuations, trends, or other groundwater quality conditions as illustrated in 2009 Water Report Figures 3-11 and 3-12. These graphs show historical specific conductance values for representative wells in the Valley with the California Department of Public Health Secondary Maximum Levels included for reference. Most of the trends show a significant lowering of the specific conductance values by half following the wet years of 2004-2005. Since then, those trends have returned to 2004 levels but do not exceed historical levels. In summary, those conditions include: no long-term overall trend and, most notably, no long-term decline in Alluvial groundwater quality; a general groundwater quality "gradient" from east to west, with lowest dissolved mineral content to the east, increasing in a westerly direction; and periodic fluctuations in some

parts of the basin, where groundwater quality has inversely varied with precipitation and stream flow. Those variations are typically characterized by increased mineral concentrations through dry periods of lower stream flow and lower groundwater recharge, such as is currently occurring, followed by lower mineral concentrations through wetter periods of higher stream flow and higher groundwater recharge. The presence of long-term consistent water quality patterns, although intermittently affected by wet and dry cycles, supports the conclusion that the Alluvial aquifer remains a viable ongoing water supply source in terms of groundwater quality.

Perchlorate. The most notable groundwater quality issue in the Alluvium is perchlorate contamination. In 2002, one Alluvial production well owned by SCWD (Stadium Well), located near the former Whittaker-Bermite site, was inactivated for municipal water supply due to detection of perchlorate slightly below the Notification Level.[17] SCWD has recently drilled a replacement well (Valley Center Well) further to the east, north-northeast of the former Whittaker-Bermite site in a non-impacted portion of the basin. As a result, the Valley Center Well capacity is part of the purveyors' operating plan.

Wells with perchlorate concentrations exceeding the then-applicable Action Level (18 μg/l) or, more recently, the then-applicable Notification Level (6 μg/l)3 were removed from active water supply service. In early 2005, perchlorate was detected in a second Alluvial production well owned by Valencia Water Company (Well Q2). Valencia Water Company's response was to remove the well from active water supply service and to rapidly seek approval for installation of wellhead treatment and return of the well to service. As part of outlining its plan for treatment and return of the well to service, Valencia Water Company analyzed the impact of the temporary inactivation of the well on its water supply capability; and the analysis determined that Valencia Water Company's other sources are sufficient to meet demand and the inactivation of Well Q2 thus had no impact on Valencia Water Company's water supply capability.[18] Valencia Water Company proceeded through mid-2005 to gain approval for installation of wellhead treatment (ion-exchange as described below), including environmental review, and completed installation of the wellhead treatment facilities in September 2005. Well Q2 was returned to active water

17 "Notification level" means the concentration level of a contaminant in drinking water delivered for human consumption that the state DPH has determined, based on available specific information, does not pose a significant health risk but warrants notification pursuant to applicable law. Notification levels are non-regulatory, health-based advisory levels established by the state DPH for contaminants in drinking water for which maximum contaminant levels have not been established. Notification levels are established as precautionary measures for contaminants that may be considered candidates for establishment of maximum contaminant levels, but have not yet undergone or completed the regulatory standard setting process prescribed for the development of maximum contaminant levels. Notification levels are not drinking water standards.

18 See, *Impact and Response to Perchlorate Contamination, Valencia Water Company, Well Q2*, prepared for Valencia Water Company by Luhdorff & Scalmanini Consulting Engineers, April 2005. This report is available for public review and inspection in EIR **Appendix 4.8**.

supply service with wellhead treatment in October 2005. After nearly two years of operation with wellhead treatment, during which there was no detection of perchlorate, Valencia Water Company was authorized by DPH to discontinue wellhead treatment. Since that time, Well Q2 has been operated without wellhead treatment and without detection of perchlorate. As a result, Well Q2's capacity is part of the purveyors' operating plan. The other impacted wells remain out of service; two wells (VWC's Well 157 and SCWD's Stadium Well) have been sealed and replaced by new wells, and two wells (SCWD's Saugus 1 & 2 Wells) are being returned to service as described below.

Ongoing monitoring of all active municipal wells near the Whittaker-Bermite site has shown no detections of perchlorate in any active Alluvial wells. However, based on a combination of proximity to the Whittaker-Bermite site and prevailing groundwater flow directions, complemented by findings in the ongoing on-site and off-site investigations by Whittaker-Bermite and the Army Corps of Engineers (Corps), there is logical concern that perchlorate could impact nearby, down-gradient Alluvial wells (see, *2005 UWMP*, Appendix D, in **Appendix 4.8**). As a result, provisions are in place to respond to perchlorate contamination if it should occur. The groundwater model was used to examine capture zones around Alluvial wells under planned operating conditions (pumping capacities and volumes) for the period through currently scheduled restoration of impacted wells in 2006.[19] The capture zone analysis of Alluvial wells generally near the Whittaker-Bermite site, shown on **Figure 4.8-6, Forecasted Two-Year Groundwater Capture Zones for Active Alluvial Production Wells Located Closest to the Whittaker-Bermite Property Santa Clarita, California**, suggests that inflow to those wells (depicted by the color bands) will either be upgradient of the contamination site, or will be from the Alluvium beyond where perchlorate is most likely to be transported, with the possible exception of the Valencia Water Company's Pardee wellfield, which includes Wells N, N7, and N8. Although the capture zone analysis does not show the Pardee wells to be impacted, they are considered to be at some potential risk due to the proximity of their capture zone to the Whittaker-Bermite site.

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19 See, Technical Memorandum entitled, *Analysis of Near-Term Groundwater Capture Areas for Production Wells Located Near the Whittaker-Bermite Property (Santa Clarita, California)*, prepared by CH2MHill, for the Santa Clarita Valley Water Purveyors, December 21, 2004. This memorandum is available for public review and inspection in **Appendix 4.8** of this EIR.

LEGEND

CONTAMINATED PRODUCTION WELL
- ALLUVIUM
- SAUGUS

UNCONTAMINATED PRODUCTION WELL
- ALLUVIUM
- SAUGUS

MONITORING WELL
- ALLUVIUM
- SAUGUS

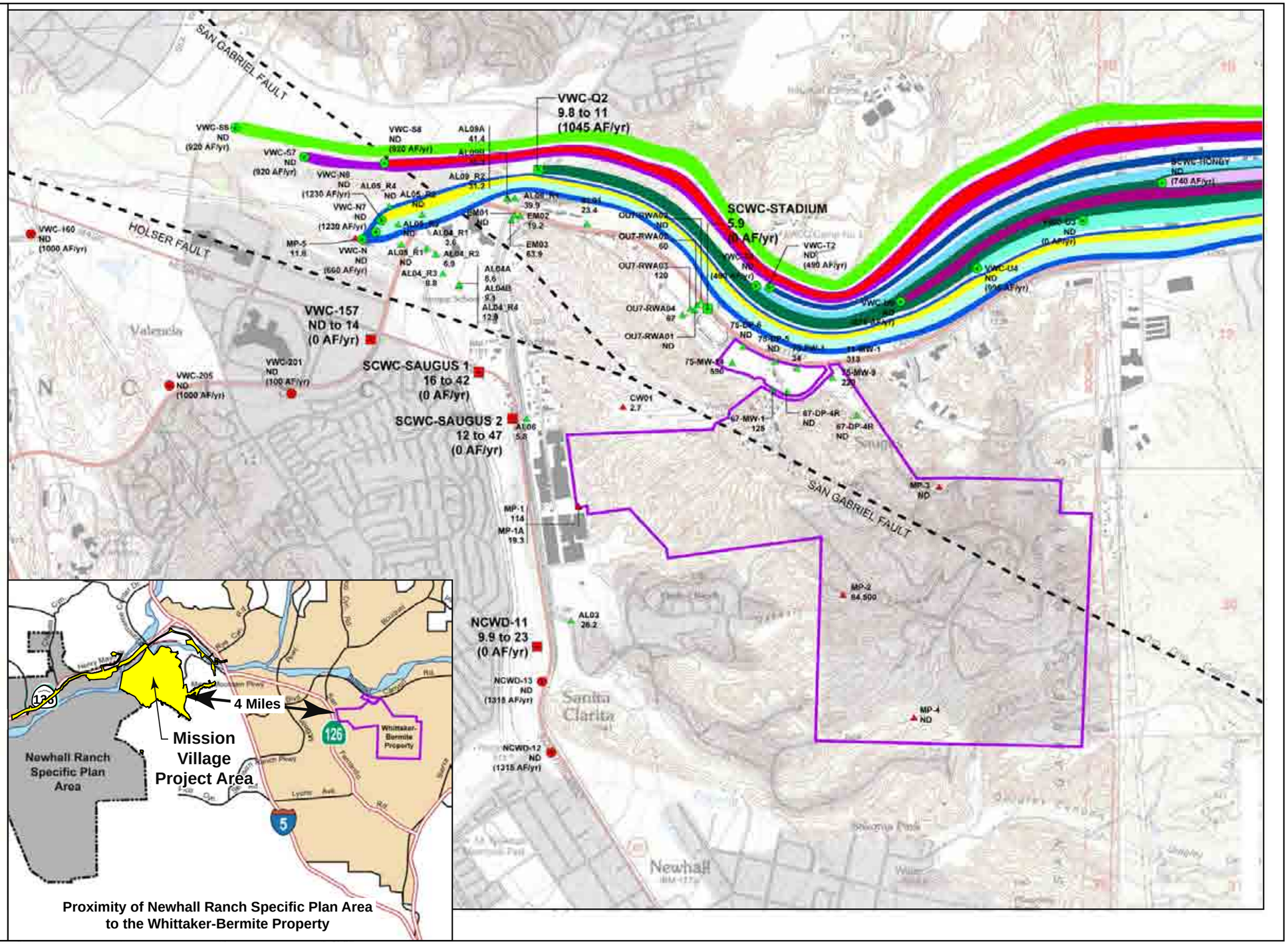
TWO-YEAR GROUNDWATER CAPTURE ZONE
- SCWC-HONBY
- VWC-N
- VWC-N7
- VWC-N8
- VWC-Q2
- VWC-S6
- VWC-S7
- VWC-S8
- VWC-T2
- VWC-T4
- VWC-U4
- VWC-U6
- WHITTAKER-BERMITE PROPERTY BOUNDARY

NOTES:

1. VALUES PRESENTED UNDER WELL SYMBOLS REPRESENT PERCHLORATE CONCENTRATION IN GROUNDWATER (µg/L).
2. PUMPING VALUES IN PARENTHESES ARE ANNUAL PUMPING VOLUMES
3. ND = PERCHLORATE NOT DETECTED IN GROUNDWATER SAMPLE.
4. µg/L = MICROGRAMS PER LITER; AF/yr = acre feet per year
5. FLOWPATHS ARE DELINEATED USING AN EFFECTIVE POROSITY OF 0.10 IN THE ALLUVIAL AQUIFER AND 0.05 IN THE SAUGUS FORMATION

2000 1000 0 2000

APPROXIMATE SCALE IN FEET



Proximity of Newhall Ranch Specific Plan Area to the Whittaker-Bermite Property

SOURCE: Luhdorff & Scalmanini Consulting Engineers – January 2006

FIGURE **4.8-6**

Forecasted Two-Year Groundwater Capture Zones for Active Alluvial Production Wells Located Closest to the Whittaker-Bermite Property Santa Clarita, California

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The combined pumping capacity of Valencia Water Company's Pardee wells is 6,200 gpm, which equates to about 10,000 af of maximum annual capacity. However, in the operating plan for both normal and dry year Alluvial pumping, the planned use of those wells represents 2,940 afy of the total 30,000 to 40,000 afy Alluvial groundwater supply. Thus, if the wells were to become contaminated with perchlorate, they would represent an amount of the total Alluvial supply that could be readily replaced, on a short-term interim basis, by utilizing an equivalent amount of imported water from CLWA or by utilizing existing capacity from other Alluvial wells (see **Table 4.8-5**, above). Furthermore, if the Pardee wells were to become contaminated by perchlorate contamination, Valencia Water Company has made site provisions at its Pardee wellfield for installation of wellhead treatment. Such treatment would be the same as once installed at Valencia's Well Q2, and would likely result in the impacted Pardee wells being promptly returned to active service.

In 2009, additional significant progress has been made with respect to perchlorate remediation. For example, in September 2009, CLWA, in partnership with other local retail purveyors and the City of Santa Clarita, completed construction of CLWA's Rio Vista Intake Pump Station, which is CLWA's new perchlorate treatment facility. The facility is designed to restore groundwater production capacity impacted by perchlorate contamination and stop migration of perchlorate from the former Whittaker-Bermite site. Treatment for perchlorate is now in the testing phase and is expected to be operational by or before the end of the 2010 calendar year. Through constructed pipelines, perchlorate-impacted water from Saugus Wells 1 and 2 will be pumped and treated at the plant, restoring approximately 3,400 afy of groundwater. Pumping and treatment operations are expected to occur on a continuous basis for several years. The new facility will remove perchlorate from the groundwater using ion-exchange technology.

As of August 31, 2009, approximately 23 million gallons of perchlorate-impacted groundwater have been treated and discharged under the NPDES permit authorizing such activities. Routine weekly and monthly NPDES sampling, treatment, and discharge is continuing in compliance with NPDES permit requirements. An additional 12 to 14 wells also are being installed on the Whittaker property to pump and treat contaminated perchlorate on site.

Additional perchlorate-related remediation activities continue to move forward at the former Whittaker-Bermite site. For example, soil remediation operations are continuing on site, including completion of the third draft Remedial Action Plan (RAP) for site-wide soils remediation. The revised draft RAP was submitted to DTSC on August 14, 2009. DTSC's preliminary review comments were incorporated and a revised draft RAP was resubmitted to DTSC on August 31, 2009. Groundwater and surface water issues also continue to be addressed and reported to DTSC. (See **Appendix 4.8** [Progress Letter Report from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, September 15, 2009].)

In short, work continues on multiple tasks to address groundwater contaminated by perchlorate stemming from past manufacturing activities on the former Whittaker-Bermite site. CLWA and the local retail purveyors are proceeding to restore the production capacity of the few remaining groundwater supply wells contaminated by perchlorate, while working on the objectives of containing the downgradient migration of perchlorate. For technical information regarding these up-to-date activities, please refer to the following documents in the Draft EIR, **Appendix 4.8**: (a) letter from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, June 8, 2009; (b) CLWA News Release, September 14, 2009; (b) Progress Letter Report from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, September 15, 2009; and (c) CLWA Memorandum from Brian J. Folsom to CLWA Board of Directors, October 1, 2009.

(3) Groundwater Quality – Saugus Formation

As discussed above for the Alluvium, groundwater quality is a key factor in assessing the Saugus Formation as a municipal and agricultural water supply. As with groundwater level data, long-term Saugus groundwater quality data are not sufficiently extensive to permit any sort of basin-wide analysis or assessment of pumping-related impacts on quality. However, integration of individual records from several wells has been used to examine general water quality trends. Based on those records, water quality in the Saugus Formation has not historically exhibited the precipitation-related fluctuations seen in the Alluvium. Based on available data over the last 50 years, groundwater quality in the Saugus has exhibited a slight overall increase in dissolved mineral content as illustrated in 2009 Water Report Figure 3-13. More recently, several wells within the Saugus Formation have exhibited an additional increase in dissolved mineral content, similar to short-term changes in the Alluvium, possibly as a result of recharge to the Saugus Formation from the Alluvium. Since 2005, however, these levels have been steadily dropping or remaining constant. Dissolved mineral concentrations in the Saugus Formation remain below the Secondary (aesthetic) Upper Maximum Contaminant Level. Groundwater quality within the Saugus will continue to be monitored to ensure that degradation to the long-term viability of the Saugus as a component of overall water supply does not occur.

Perchlorate. As with the Alluvium, the most notable groundwater quality issue in the Saugus Formation is perchlorate contamination. Under oversight by the California Department of Toxic Substances Control (DTSC), and with ultimate approval by DPH, in accordance with its Policy 97-005 (for restoration of water supply from "severely impaired" water sources), the purveyors have developed a remedial strategy that entails pumping of two impacted wells for containment of perchlorate migration; treatment, and subsequent use of the pumped water for water supply; and installation of replacement wells in non-impacted portions of the basin to restore the remainder of groundwater supply impacted by perchlorate. A noteworthy detail of these activities is that the groundwater flow model was used to

identify the design of a pumping scheme that would meet the purveyors' objectives for perchlorate containment in the Saugus Formation (see **Appendix 4.8** [2009 Basin Yield Update, p. III-7]).

The final containment plan specifies that wells SCWD-Saugus 1 and SCWD-Saugus 2 operate at an instantaneous pumping rate of 1,200 gallons per minute (gpm) at each well (for a combined total of 2,400 gpm from the two wells). The annual pumping volume of 1,772 afy per well is based on this rate and also on the assumption that pumping will occur continuously, except for up to four weeks per year for maintenance purposes. Construction of facilities and pipelines necessary to implement the containment program and to restore inactivated well capacity was completed, and in operational start-up, at the time of this writing.

Under the direction of DTSC, Whittaker has submitted a comprehensive sitewide remediation plan for the contaminants of concern in soil and groundwater detected on the property. A Draft Remedial Action Plan for Operable Units 2 through 6 that is focused on soil remediation was submitted to DTSC in 2009. The plan contains a number of recommended technologies to remove contaminants from the soil, in addition to a proposed clean-up schedule for the site. Whittaker has also completed a Draft Operable Unit 7 Feasibility Study to identify and select treatment technologies for both on-site and off-site groundwater. Final approval by DTSC of soil and groundwater clean-up plans is expected by the end of 2010. The question of whether existing active Saugus wells are likely to be contaminated by perchlorate migration prior to the installation of treatment and pumping for perchlorate contamination control has been evaluated by using the groundwater flow model to analyze capture zones of existing active wells through 2006, the scheduled period for permitting, installation of treatment, and restoration of impacted capacity. For that analysis, recognizing current hydrologic conditions and available supplemental SWP supplies, the rate of Saugus pumping was conservatively projected to be in the normal range (7,500 to 15,000 afy) for the near-term. The results of the capture zone analysis, illustrated on **Figure 4.8-7, Forecasted Two-Year Groundwater Capture Zones for Active Saugus Production Wells Located Closest to the Whittaker-Bermite Property Santa Clarita, California**, were that the two nearest downgradient Saugus wells, Valencia Water Company's Wells 201 and 205, would draw water from very localized areas around the wells and would not draw water from locations where perchlorate has been detected in the Saugus Formation. As shown on the figure, the capture zone analysis projected Well 201 would potentially draw Saugus groundwater from areas located up to 450 feet east of the well, but was unlikely to draw water from areas farther to the east through that period. During the same time, Well 205 would potentially draw Saugus groundwater from areas as much as 650 feet to the east and northeast of this well.

As a result, the currently active downgradient Saugus wells are expected to remain active as sources of water supply in accordance with the overall operating plan for the Saugus Formation, given the generally

low planned pumping from the nearest downgradient Saugus wells in the operating plan through 2006, after which restored capacity and resultant aquifer hydraulic control are scheduled to be in place.

(4) Perchlorate Treatment Technology

Effective technologies presently exist to treat perchlorate in water in order to meet drinking water standards. In a publication from the U.S. EPA, *Region 9 Perchlorate Update*,[20] the U.S. EPA discussed the current state of perchlorate treatment technology, and the current and planned treatment development efforts being carried out as part of U.S. EPA Superfund program studies, U.S. Air Force research, water utility-funded studies, and the federally funded research effort underway by the East Valley Water District, California and the American Water Works Association Research Foundation (AWWARF). The U.S. EPA also summarized two of the technologies that are in use today, which are capable of removing perchlorate from groundwater supplies: the ion exchange and biological treatment methods.

A number of full-scale perchlorate treatment systems have been implemented in California and other states. In an effort to evaluate the various available treatment technologies, CLWA commissioned an investigation to identify and evaluate alternative treatment processes effective in removing perchlorate. The scope of that investigation included resolving permitting issues pertaining to the construction and certification of a treatment facility, conducting bench-scale and pilot-scale tests to determine treatment process performance, and preparing preliminary capital and operations and maintenance cost estimates.

Three treatment technologies, an ion exchange system and two biological systems, were selected for study. All three systems were determined to be effective in removing perchlorate.[21] However, there was considerable uncertainty with respect to the capital and operations and maintenance costs associated with each process. Therefore, a technical group comprised of representatives from CLWA, the retail water purveyors, and consultants retained by Whittaker-Bermite agreed to solicit competitive bids for the design, construction, and operation of both ion exchange and biological treatment systems. After thorough evaluation of several bids, the technical group determined that ion exchange is the preferred technology based upon treatment performance, ease of regulatory compliance, and comparison of costs associated with construction and operations and maintenance.

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20 See, U.S. EPA Internet website, *Perchlorate*, and *Region 9 Perchlorate Update*, found at http://www.epa.gov/ogwdw/ccl/perchlor/perchlo.html, and included in **Appendix 4.8** of this EIR.

21 See, *Treatment of Perchlorate Contaminated Groundwater from the Saugus Aquifer, TM 3 Bench and Pilot Test Results*, Carollo Engineers, February 2004. A copy of this report is available for public review and inspection in **Appendix 4.8** of this EIR.

LEGEND

CONTAMINATED PRODUCTION WELL
- ALLUVIUM
- SAUGUS

UNCONTAMINATED PRODUCTION WELL
- ALLUVIUM
- SAUGUS

MONITORING WELL
- ALLUVIUM
- SAUGUS

TWO-YEAR GROUNDWATER CAPTURE ZONE
- NC-12
- NC-13
- VWC-160
- VWC-201
- VWC-205
- WHITTAKER-BERMITE PROPERTY BOUNDARY

NOTES:

1. VALUES PRESENTED UNDER WELL SYMBOLS REPRESENT PERCHLORATE CONCENTRATION IN GROUNDWATER (µg/L).
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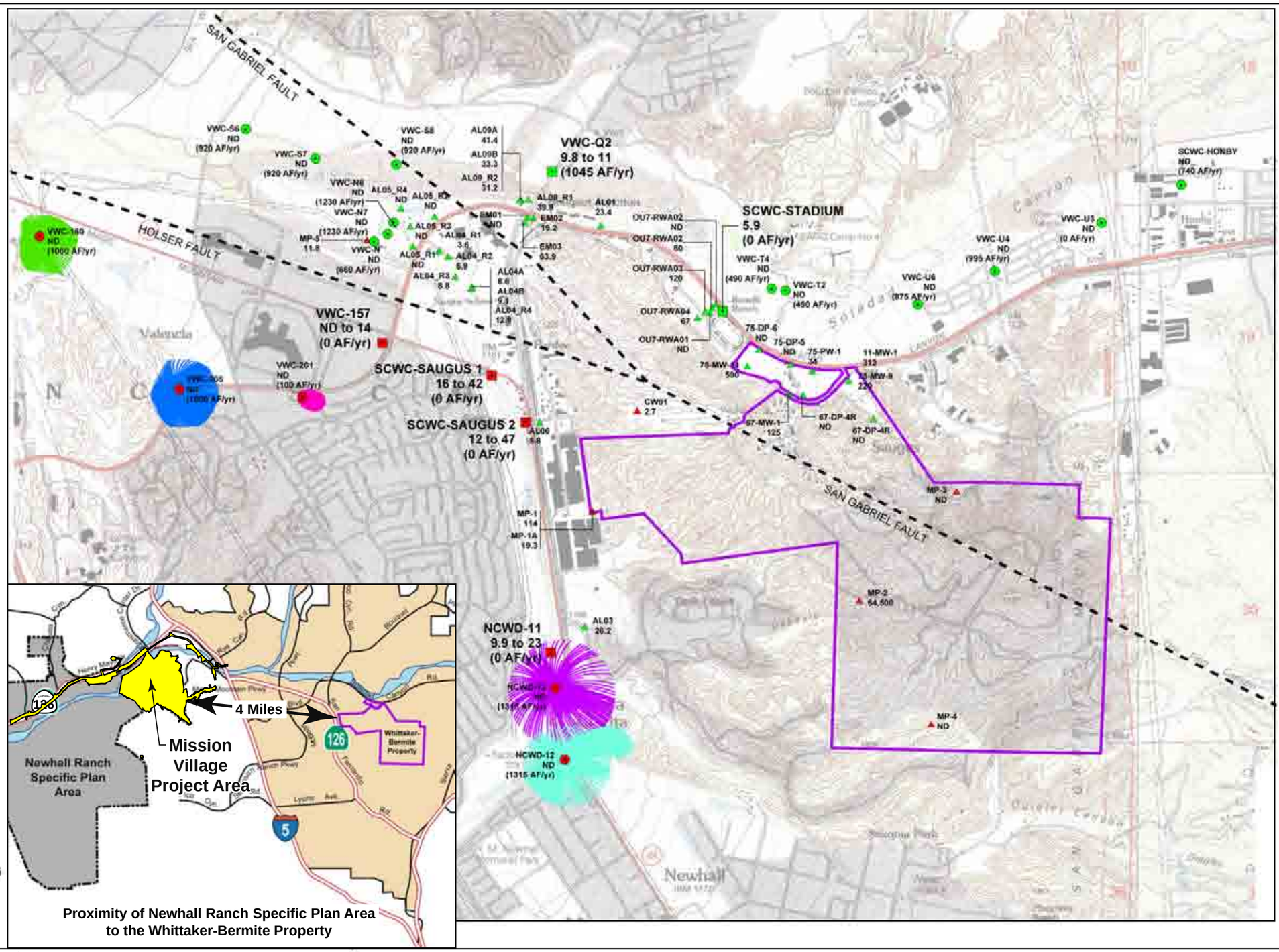
2000 1000 0 2000

APPROXIMATE SCALE IN FEET



Proximity of Newhall Ranch Specific Plan Area to the Whittaker-Bermite Property

SOURCE: Luhdorff & Scalmanini Consulting Engineers – January 2006

FIGURE **4.8-7**

Forecasted Two-Year Groundwater Capture Zones for Active Saugus Production Wells Located Closest to the Whittaker-Bermite Property Santa Clarita, California

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The preferred single-pass ion exchange treatment technology does not generate a concentrated perchlorate waste stream that would require additional treatment before discharge to a sanitary sewer or a brine line (if one is available). This technology incorporates an active resin (a material that attracts perchlorate molecules) that safely removes the perchlorate from water. The resin is contained in pressure vessels and the water is pumped through the vessel. The resin is eventually replaced with new resin after a period of time. The old resin is removed and transported by truck to an approved waste disposal site where it is safely destroyed. This technology is robust and reliable for use in drinking water systems.

DPH has approved operation of perchlorate treatment plants, and those plants currently in operation are listed in **Table 4.8-7**, **Perchlorate Treatment Summary**.

Table 4.8-7
Perchlorate Treatment Summary

Location	Treatment Plant Capacity (gallons per minute)	Concentration of Perchlorate in Groundwater (parts per billion)	Concentration of Perchlorate after Treatment (parts per billion)
1) Valencia Water Company (Santa Clarita Valley – Well Q2)	1,300	<11	ND
2) La Puente Valley County Water District (Baldwin Park)	2,500	<200	ND
3) San Gabriel Valley Water Company (El Monte)	7,800	<80	ND
4) Lincoln Avenue Water Company (Altadena)	2,000	<20	ND
5) City of Riverside	2,000	<60	ND
6) City of Rialto	2,000	<10	ND
7) City of Colton	3,500	<10	ND
8) Fontana Union Water Company	5,000	<15	ND

ND = non-detect. The non-detect level represents concentrations less than 4 parts per billion.
Source: Perchlorate Contamination Treatment Alternatives, prepared by the Office of Pollution Prevention and Technology Development, DTSC, California Environmental Protection Agency, Draft January 2004.

Based on: (1) the results of CLWA's investigation of perchlorate removal technologies; (2) the technical group's evaluation; and (3) DPH approval of single-pass ion exchange for treatment in other settings, CLWA and the local retail water purveyors are planning single-pass ion exchange for the treatment technology for restoration of impacted capacity (wells) in accordance with the permitting, testing, and installation process described in the *2005 UWMP*. The wellhead treatment installed at Valencia Water

Company's Well Q2 in October 2005 is the same single-pass ion exchange as is planned for restoration of impacted Saugus well capacity.

(5) Groundwater Quality Near the Mission Village Site

The quality of the groundwater available from the Alluvial aquifer near the Mission Village project site has been tested. Results from laboratory testing conducted for Valencia Water Company wells expected to serve the Mission Village project site or very near the Mission Village site are provided in Draft EIR **Appendix 4.8**. The tested well are approved by DPH and are located north of the Mission Village site in the Valencia Commerce Center. Laboratory testing conducted in July 2009 indicates that all constituents tested were at acceptable levels for drinking water under Title 22. This Draft EIR also includes a summary of water quality compliance monitoring results for Valencia Commerce Center Well E-15 from 2006 to 2009. This information indicates that water in this well complies with all federal and state drinking water regulations (see **Appendix 4.8** for 2009 laboratory test water well results). Tests conducted for perchlorate indicated non-detect. *The Santa Clarita Valley 2010 Water Quality Report* also shows that water supplies provided by the Valencia Water Company, including water from the Commerce Center wells, meet Title 22 standards for drinking water.

VWC also investigated the future risk of perchlorate contamination on its new wells. In summary, the approach used to investigate the potential capture of perchlorate-impacted groundwater by the new wells involved three sequential steps: identification of local and regional groundwater flow patterns in the Alluvium, the aquifer in which all four wells are located; application of a single layer groundwater flow model to examine the capture zone of the four-well "well field" under planned operating conditions; and interpretation of potential capture of perchlorate via examination of the wells' theoretical independent capture zone relative to the known occurrence of perchlorate in the Alluvium. The latter step was subsequently augmented by considering other factors, such as the locations and magnitude of pumping between the new wells and the known occurrence of perchlorate, which affect the potential capture of perchlorate by the new wells.

Given that the groundwater resources from the Alluvial aquifer for the Mission Village project would be produced from wells located along Castaic Creek and over 4 miles west of the area known to be perchlorate-contaminated (i.e., the former Whittaker-Bermite facility), the groundwater supplies for this

project are not considered to be at risk due to perchlorate contamination released from the former Whittaker-Bermite facility.[22]

(6) Groundwater Pollutants of Concern

Research conducted on the effects on groundwater from stormwater infiltration by Pitt et al. (1994) indicate that the potential for contamination is dependent on a number of factors, including the local hydrogeology and the chemical characteristics of the pollutants of concern. Chemical characteristics that influence the potential for groundwater impacts include high mobility (low absorption potential), high solubility fractions, and abundance in runoff and dry weather flow. As a class of constituents, trace metals tend to adsorb onto soil particles and are filtered out by the soils. This has been confirmed by extensive data collected beneath stormwater detention/retention ponds in Fresno (conducted as part of the Nationwide Urban Runoff Program) that showed trace metals tended to be adsorbed in the upper few feet in the bottom sediments. Bacteria also are filtered out by soils. More mobile constituents, such as chloride and nitrate, would have a greater potential for infiltration.

The pollutants of concern for the groundwater quality analysis are those that are anticipated or that have the potential to be generated by the land uses associated with the Specific Plan, including Mission Village. The pollutants specific to each land use have been identified based on water quality data collected in Los Angeles County. Pollutants generated by land uses in the Specific Plan have the potential to impact groundwater via infiltration of runoff in PDF, direct infiltration of irrigation water and stormwater, exfiltration or seepage from sewers or stormwater drains, and direct discharges of treated wastewater to the Santa Clara River.

Nitrate. Nitrate+nitrite-N is a pollutant of concern for purposes of evaluating groundwater quality impacts based upon the potential use of nitrogen fertilizers and nitrates high mobility in groundwater.

Bacteria. The Basin Plan contains numeric criteria for bacteria in drinking water sources. Bacteria are not highly mobile in groundwater and are easily removed through filtration in soils (for example, as with septic tank discharges). Bacteria in stormwater originating from pets and wildlife is not expected to exceed the numeric criteria and, therefore, is not a pollutant of concern.

Taste and Odor. The Basin Plan contains a narrative objective for taste and odors that cause a nuisance or adversely affect beneficial uses. Undesirable tastes and odors in groundwater may be a nuisance and may

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22 See, *Potential Capture of Perchlorate Contamination*, Valencia Water Company's Wells E14 – E17, Prepared by Luhdorff and Scalmanini for the Valencia Water Company, April 26, 2006. This report is found in **Appendix 4.8** of this EIR.

indicate the presence of a pollutant(s). Odor associated with water can result from natural processes, such as the decomposition of organic matter or the reduction of inorganic compounds, such as sulfate. Other potential sources of odor causing substances, such as industrial processes, will not occur as part of the proposed project. Therefore, taste and odor-producing substances are not pollutants of concern for the proposed project.

Mineral Quality: TDS, Sulfate, Chloride, and Boron. Mineral quality in groundwater is largely influenced by the mineral assemblage of soils and rocks that it comes into contact with. Elevated mineral concentrations could impact beneficial uses; however, the minerals listed in the Basin Plan are not believed to be pollutants of concern due to the anticipated runoff concentrations and the typical mineral concentrations in irrigation water (Castaic Lake Water Agency), which are below the Basin Plan objectives (**Table 4.8-8**). Therefore, these constituents are not considered pollutants of concern for the proposed project.

Table 4.8-8
Comparison of Basin Plan Mineral Groundwater Objectives with Mean Measured Values in Los Angeles County and SWP Water Quality at Castaic Lake

Mineral	Los Angeles Basin Plan Groundwater Quality Objective[1] (mg/L)	Range of Mean Concentrations in Urban Runoff[2] (mg/L)	Typical Concentration in CLWA Water[3] (mg/L)
Total Dissolved Solids	700	53–237	333
Sulfate	250	7–35	56
Chloride	100	4–50	76

[1] *Santa Clara-Bouquet and San Francisquito Canyons Subbasin*
[2] *Source: Los Angeles County, 2000. Includes all monitored land uses.*
[3] *Source: The Santa Clarita Valley Water Quality Report (2010)*

(7) Other Groundwater Quality Issues

Methyl-Tertiary Butyl Ether (MTBE). MTBE has been a concern for the past several years, and on May 17, 2000, DPH adopted a primary MCL for MTBE of 0.013 mg/L. CLWA and the local retail purveyors have been testing for MTBE since 1997 and, to date, have not detected it in any of the production wells.

Total Trihalomethanes (TTHMs). In 2002, the U.S. EPA implemented the new Disinfectants and Disinfection Byproducts Rule. In part, this rule establishes a new MCL of 80 ug/L (based on an annual running average) for TTHM. TTHMs are byproducts created when chlorine is used as a means for disinfection. In 2005, CLWA and the local retail purveyors implemented an alternative method of disinfection, chloramination, to maintain compliance with the new rule and future regulations relating to

disinfection byproducts.[23] TTHM concentrations have remained significantly below the MCL since implementation of the alternative disinfection method.

Arsenic. The U.S. EPA revised the federal MCL for arsenic from 50 µg/l to 10 µg/l. Naturally occurring arsenic has historically only been detected at concentrations of less that 5 µg/l in local groundwater supplies and at concentrations of less than 3 µg/l in SWP water supplies. The analytical results for arsenic for most groundwater wells in the Valley have been non-detect where the detection limit was 2 µg/l (Luhdorff and Scalmanini, 2004).

c. Santa Clara River

The Memorandum of Understanding (MOU) between the Santa Clarita Valley Purveyors and the United Water Conservation District, which manages surface and groundwater resources in seven groundwater basins in the Lower Santa Clara River Valley Area, was a significant accomplishment when it was prepared and executed in 2001. The MOU initiated a collaborative and integrated approach to data collection; database management; groundwater flow modeling; assessment of groundwater basin conditions, including determination of basin yield amounts; and preparation and presentation of reports, including continued annual reports such as this one for current planning and consideration of development proposals, and also including more technically detailed reports on geologic and hydrologic aspects of the overall stream aquifer system. Meetings of the MOU participants have continued, and integration of the Upper (Santa Clarita Valley) and Lower (United WCD) Santa Clara River databases has been accomplished. As discussed above, a numerical groundwater flow model of the entire Santa Clarita groundwater basin was developed and calibrated in 2002-2004. Subsequent to its initial use in 2004 for assessing the effectiveness of various operating scenarios to restore pumping capacity impacted by perchlorate contamination (by pumping and treating groundwater for water supply while simultaneously controlling the migration of contaminated groundwater), the model was used in 2005 for evaluation of basin yield under varying management actions and hydrologic conditions. The results completed the determination of sustainable operating yield values for both the Alluvium and the Saugus Formation, which were incorporated in the 2005 UWMP. The updated analysis of basin yield, completed in 2009, indicates that the 2008 Operating Plan will maintain river flows at higher levels than occurred prior to urbanization of the Valley.

On occasion, issues have been raised about whether use and management of groundwater in the Santa Clarita Valley have adversely impacted surface water flows into Ventura County. Part of the

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23 See EPA site: http://www.epa.gov/region09/water/drinking/files/dwsha_0607.pdf.

groundwater modeling work has addressed the surface water flow question as well as groundwater levels and storage. While the sustainability of groundwater has logically derived primarily from projected long-term stability of groundwater levels and storage, it has also derived in part from modeled simulations of surface water flows and the lack of streamflow depletion by groundwater pumping. In addition, the long-term history of groundwater levels in the western and central part of the basin, as illustrated in 2009 Water Report Figures 3-4 and 3-5, supports the modeled analysis and suggests that groundwater has not been lowered in such a way as to induce infiltration from the river and thus impact surface water flows.

Historical annual stream discharge in the Santa Clara River, into and out of the Santa Clarita Valley, is shown on 2009 Water Report Figure 3-14. The upstream gauge at Lang Station was reinstated in 2002 and shows a wide range of average annual inflow over the last seven years. The downstream gauge was moved in 1996 to its present location near Piru, about two miles down**stream** from the former County Line Gauge. The combined record (1953-2009) of these two downstream gauges indicates an annual stream discharge of about 47,000 afy. These data gauged near the County line show notably higher flows from the Santa Clarita Valley into the uppermost downstream basin, the Piru Basin, over the last 30 to 35 years.

d. Imported Water Supplies

Imported water supplies from CLWA are not needed to serve the Mission Village project's water demand. Mission Village will use local groundwater and recycled water from local water reclamation plants. Because these two independent water sources (i.e., groundwater and recycled water) meet the potable and non-potable water demands of the Mission Village project, no potable water would be used or relied upon from CLWA's existing or planned SWP supplies, including the 41,000 af water transfer, which is part of those supplies. Because the Mission Village project relies only upon local groundwater and recycled water to meet its potable and non-potable water demands, it does not contribute any significant cumulative water impacts in the Santa Clarita Valley. However, the following discussion of imported water supplies is presented in this EIR for information purposes.

(1) State Water Project and Associated Facilities

The SWP is a water supply, storage, and distribution system that includes 28 storage facilities, reservoirs, and lakes; 20 pumping plants; six pumping-generating plants and hydroelectric power plants; and about 660 miles of aqueducts and pipelines.[24] Principal SWP facilities are shown on **Figure 4.8-8.**

Summary Description. In the southern Sacramento-San Joaquin Delta (Delta), water is pumped into the 444-mile-long California Aqueduct at the Clifton Court Forebay by the Banks Pumping Plant (or by agreement with the U.S. Bureau of Reclamation, at the Central Valley Project's (CVP) Tracy Pumping Plant).From the southern Delta facilities, water in the California Aqueduct travels along the west side of the San Joaquin Valley and is delivered directly to SWP Contractors or is stored in San Luis Reservoir, the SWP's main storage facility south of the Delta. Water is conveyed via the California Aqueduct to the urban region of the Bay area, and south of San Luis Reservoir, to the primarily agricultural regions in the San Joaquin Valley and the primarily urban regions of the Central Coast and Southern California. Water is diverted from the California Aqueduct and delivered directly to SWP Contractors in the central and southern San Joaquin Valley at various locations along the California Aqueduct. The California Aqueduct traverses the west side of the San Joaquin Valley, and water is pumped through a series of four pumping plants (Dos Amigos, Buena Vista, Teerink, and Chrisman) before reaching the Edmonston Pumping Plant. The Edmonston Pumping Plant pumps water over the Tehachapi Mountain Range, and the California Aqueduct then divides into the East Branch and the West Branch. Water intended for use by CLWA is conveyed through the West Branch to Quail and Pyramid Lakes and then to Castaic Lake, the terminus for the West Branch.

SWP Operations, Deliveries, and Constraints. In the early 1960s, DWR began entering into individual water supply contracts with various urban and agricultural public water supply agencies (i.e., SWP Contractors). The total planned annual delivery capability of the SWP and the sum of all SWP Contractors' maximum Table A[25] amounts specified in the water supply contracts were approximately 4.2 million acre-feet (maf). The initial SWP storage facilities were designed to meet SWP Contractors' water demands in the early years of the project, with construction of additional storage facilities planned as demands increased. Conveyance facilities were generally designed and constructed to deliver full

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24 Bulletin 132-06, Management of the California State Water Project (December 2007), is the most recent published data by DWR describing the status of SWP operations and water deliveries to SWP Contractors. Because Bulletin 132-06 covers SWP activities through calendar year 2005, some of the SWP delivery information presented in this EIR is through calendar year 2005, which is the latest year available. (See this EIR, **Appendix 4.8** [Bulletin 132-06, Management of the California State Water project (December 2007)].)

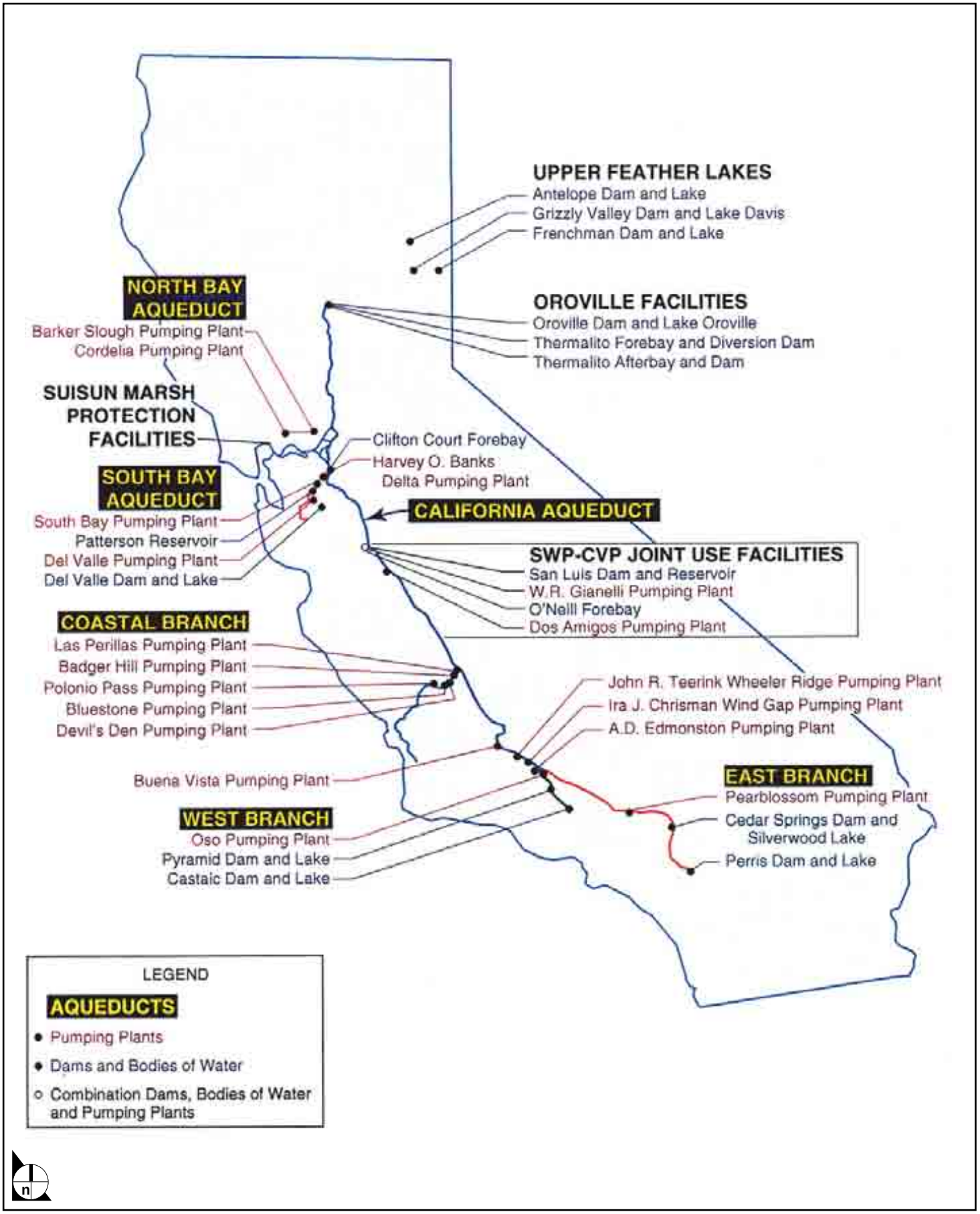
25 Table A is used to define each contractor's portion of the available water supply that DWR will allocate and deliver to each contractor.

Table A Amounts to SWP Contractors. Water deliveries to SWP Contractors began as initial SWP facilities were completed in the late 1960s and early 1970s; however, no additional SWP storage facilities have been constructed since that time. (See **Appendix 4.8** [DWR Bulletin 132-06, Management of the California State Water Project, December 2007].)

From 1990 to 2003, actual SWP annual deliveries of Table A supplies to SWP Contractors ranged from approximately 550,000 af in 1991 to approximately 3.2 maf in 2000 and 2003 (excluding Article 21 deliveries). The amount of water DWR determines is available and allocates for delivery in a given year is based on that year's hydrologic conditions, the amount of water in storage in the SWP system, current regulatory, operational, and environmental constraints, the SWP Contractors' requests for SWP supplies, and other factors. These factors can significantly alter and reduce the availability of SWP water in any given year. Since historically low SWP Contractor demands have limited deliveries in wetter years when additional supplies were available, historic deliveries only provide an indication of actual SWP delivery capability in supply limited dry years.

To determine the SWP delivery capability under current and future conditions, DWR uses a computer model (currently, CALSIM II) that simulates operations of the SWP and CVP. DWR's most recently published estimates of SWP delivery reliability are included in DWR's State Water Project Delivery Reliability Report, August 2010 (2009 DWR Delivery Reliability Report).[26]

[26] A copy of this report is incorporated into this EIR by reference and is available for public review on the State's website at, http://baydeltaoffice.water.ca.gov.



SOURCE: DWR (1997a)

FIGURE **4.8-8**

Principal State Water Program Facilities

As background, DWR has assessed the impact of various conditions on SWP supply reliability since 2003. (See DWR Reliability Report, May 2003). The report assisted SWP contractors in assessing the reliability of the SWP component of their overall supplies. DWR subsequently issued its 2005 SWP Delivery Reliability Report (April 2006). This updated analysis estimated that the SWP, using existing facilities operated under current regulatory and operational constraints, and with all contractors requesting delivery of their full Table A Amounts in most years, could deliver 77 percent of total Table A Amounts on a long-term average basis. The 2005 UWMP's discussion of SWP supply reliability is based on the analysis contained in the DWR 2005 Delivery Reliability Report, April 2006. Since that time, DWR released the 2007 Delivery Reliability Report (August 2008) and the 2009 DWR Delivery Reliability Report (August 2010). The 2007 Delivery Reliability Report estimated that the SWP, with all contractors requesting delivery of their full Table A Amounts in most years, could deliver 66 to 69 percent of total Table A Amounts on a long-term average basis.

The 2009 DWR Delivery Reliability Report updated the 2007 Delivery Reliability Report (DWR released a draft of the 2009 DWR Delivery Reliability Report for public review and comment on January 26, 2010). The latest report updates estimates of the current (2009) and future (2029) SWP delivery reliability and incorporates regulatory requirements for SWP and Central Valley Project (CVP) operations in accordance with a U.S. Fish and Wildlife Service biological opinion for the Delta smelt (December 2008) and a National Marine Fisheries Service biological opinion for salmon (June 2009). Estimates of future SWP delivery reliability also reflect potential impacts of climate change, sea level rise and the vulnerability of Delta levees to failure due to floods and earthquakes.[27]

The 2009 DWR Delivery Reliability Report represents the state of water affairs if no actions for improvement are taken. It shows continued erosion of SWP water delivery reliability under the current method of moving water through the Delta. The updated analysis shows that the primary component of the annual SWP deliveries (referred to as Table A deliveries) will be less under current and future conditions, when compared to the preceding report (*2007 DWR Delivery Reliability Report)*. As in previous reports, estimates of SWP deliveries are based upon operation simulations with DWR's CalSim II model using an extended record of runoff patterns. These patterns have been adjusted to reflect the levels of development in the source areas and, for future conditions, possible impact due to climate change and accompanying sea level rise. Potential deliveries under current conditions are estimated at the 2009 level and assume current methods of conveying water across the Delta and the current operational rules contained in the federal biological opinions. Potential deliveries under future conditions are estimated at

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27 Because DWR just issued this latest delivery reliability report, and because it is still in draft form with public comments due by March 4, 2010, the County anticipates that further information will be provided in the Final EIR with respect to this report.

the 2029 level and are also based on the assumptions that no changes will be made in either the way water is conveyed across the Delta or in the operational rules. The analysis of future conditions incorporates a climate change scenario from DWR's 2009 report, *Using Future Climate Projections to Support Water Resources Decision Making in California*, which represents the median effects of the 12 scenarios contained in the report (this report is incorporated by reference and is available on the State's website, at: http://www.energy.ca.gov/2009publications/CEC-500-2009-052/CEC-500-2009-052-D.PDF). The 2009 draft report shows greater reductions in water deliveries on average when compared to the 2007 report. The 2007 report incorporates the interim operation rules established by Judge Wanger in the federal court in 2007. It shows very significant reductions in SWP deliveries when compared to the 2005 report, which assumes operation rules that were less restrictive. The 2007 report shows current SWP annual Table A deliveries averaging 63 percent (2595 thousand acre-feet [taf]) of the maximum contract amount of 4,133 taf per year. The 2009 report shows a corresponding value of 60 percent (2485 taf). The 2007 report projects an annual average of 66 to 69 percent (2725-2850 taf) for the future condition, whereas the updated report has 60 percent.

The 2009 DWR Delivery Reliability Report (August 2010) included the information presented in **Table 4.8-9**, **Average and Dry Period SWP Table A Deliveries From The Delta Under Current Conditions**, and **Table 4.8-10, Average and Dry Period SWP Table A Deliveries From The Delta Under Future Conditions**, below, which provide average and dry period estimated deliveries for current conditions (2009) and future conditions (2029), and compares those figures to those in the 2007 DWR Delivery Reliability Report.

Table 4.8-9
Average and Dry Period SWP Table A Deliveries from The Delta Under Current Conditions

SWP Table A Delivery from the Delta (in percent of maximum Table A[1])						
Study of Current Conditions	**Long-term Average[2]**	**Single dry-year (1977)**	**2-year drought (1976–1977)**	**4-year drought (1931–1934)**	**6-year drought (1987–1992)**	**6-year drought (1929–1934)**
2007 DWR Delivery Reliability Report, Study 2007	63%	6%	34%	35%	35%	34%
2009 DWR Delivery Reliability Report, 2009 Studies[3]	60%	7%	36%	34%	35%	34%

Notes:

[1] Maximum Table A Amount is 4,133 thousand acre-feet/year.

[2] 1922-2003 for Update with 2007 and 2009 studies.

[3] Values reflect averaging annual deliveries from the two scenarios of Old and Middle River flow targets described in the 2009 DWR Delivery Reliability Report.

Source: 2009 DWR Delivery Reliability Report.

As shown, under the updated Future Conditions (2029), average SWP delivery amounts may decrease from 6 to 9 percent of maximum Table A Amounts as compared to earlier estimates in the 2007 DWR Delivery Reliability Report. This decrease in reliability results in an estimated average delivery of 60 percent versus 66 percent to 69 percent as identified in the 2007 DWR Delivery Reliability Report).

Table 4.8-10
Average and Dry Period SWP Table A Deliveries From The Delta Under Future Conditions

SWP Table A Delivery from the Delta (in percent of maximum Table A[1])						
Study of Future Conditions	**Long-term Average[2]**	**Single dry-year (1977)**	**2-year drought (1976–1977)**	**4-year drought (1931–1934)**	**6-year drought (1987–1992)**	**6-year drought (1929–1934)**
2007 DWR Delivery Reliability Report, Study 2027	66–69%	7%	26–27%	32–37%	33–35%	33–36%
2009 DWR Delivery Reliability Report, Study 2029 [3]	60%	11%	38%	35%	32%	36%

Notes:
[1] *Maximum Table A Amount is 4,133 thousand acre-feet/year.*
[2] *1922-2003 for 2007 and 2009 DWR Delivery Reliability Reports with 2027 and 2029 studies.*
[3] *Range in values reflects four modified scenarios of climate change: annual Table A deliveries were first interpolated between full 2050 level and no climate change scenarios, then averaged over the two scenarios of Old and Middle River flow targets.*
Source: 2009 DWR Delivery Reliability Report.

Applying the 60 percent figure to CLWA's Table A Amount of 95,200 af, results in approximately 57,100 af expected under average Future Conditions (2029) according to the 2009 DWR Delivery Reliability Report. This is compared to the 77 percent, or 73,300 af, included in the water supply planning in the 2005 UWMP in 2030 in an average year.

Global Climate Change Constraints. A topic of growing concern for water planners and managers is global climate change and the potential impacts it could have on California's future water supplies. DWR's California Water Plan Update 2005 contains the first-ever assessment of such potential impacts in a California Water Plan. Volume 1, Chapter 4 of the Water Plan, *Preparing for an Uncertain Future*, lists the potential impacts of global climate change, based on more than a decade of scientific studies on the subject. In addition, please refer to this EIR, **Section 4.23**, **Global Climate Change**, which contains the best available information on the subject of global climate change and its effects on California's water supplies.

Reduction of snowpack patterns (the source of the SWP's water supply in Lake Oroville), changes in hydrologic patterns, sea level, rainfall intensity and statewide water demands are all possible should

global climate change prove to be increasing through time. Computer models (such as CALVIN) have been developed to show water planners what types of effect climate change could have on the water supply. DWR has committed to continue to update and refine these models based on ongoing scientific data collection, and to incorporate this information into future California Water Plans, so that agencies like CLWA and the purveyors can plan accordingly.

The 2009 DWR Delivery Reliability Report (August 2010) also addressed global climate change and its effects on the state's water resources, particularly the SWP's ability to deliver water. For the SWP, climate change has the potential to simultaneously affect the availability of source water, the ability to convey water, and users' demands for water. These potential effects are described further in the 2009 DWR Delivery Reliability Report, pp. 19–23.

Regulatory and Litigation Constraints. SWP water exports for users south of the Banks and Tracy pumping plants are currently limited by a series of water quality and operational constraints, governed primarily by the SWRCB Water Right Decision 1641 (D-1641), as amended. D-1641 was adopted by the SWRCB in 1999; prior to that time, SWP water exports from the Delta were limited by the SWRCB's Water Right Decision 1485 (adopted in 1978), Order Water Right (WR) 95-6 (adopted in 1995), and Order WR 98-09 (adopted in 1998).

In addition, DWR has acknowledged constraints on the SWP system due to recent federal court litigation (*Natural Resources Defense Council v. Kempthorne*, 506 F.Supp.2d 322 (E.D. Cal. 2007) (*Wanger* Decision - Delta smelt); and *Pacific Coast Federation of Fishermen's Associations, et al. v. Gutierrez, et al.*, No. 06-CV-00245-OWW-GSA (E.D. Cal. 2008) (*Wanger* Decision - Chinook salmon/steelhead) and two Biological Opinions addressing the effects of the proposed coordinated operations of the Central Valley Project and State Water Project (CVP/SWP).

The first Biological Opinion, issued by the U.S. Fish and Wildlife Service (USFWS) on December 15, 2008, addressed the effects of the CVP/SWP operations on the threatened Delta smelt and its designated habitat (2008 BO).[28] The second Biological Opinion, issued by the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), on June 4, 2009, addressed the effects of the CVP/SWP operations on the federally listed Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, green sturgeon, and Southern Resident killer whales, and the designated critical habitats of the salmon, steelhead, and sturgeon

28 Please refer to **Appendix 4.8** of this for a copy of the 2008 BO for the Delta smelt.

(2009 BO).[29] (The current status of the federal court litigation and the two Biological Opinions is provided below.)

On November 14, 2008, the California Fish and Game Commission listed the longfin smelt as a threatened species under the California Endangered Species Act. The Commission also voted to change the state-protected status of the Delta smelt from threatened to endangered. In response, on December 9, 2008, the State Water Contractors and other water agencies filed litigation challenging the Commission's decision on the longfin smelt under the California Endangered Species Act. The litigation is still pending, and the outcome of the litigation cannot be predicted as of this writing.

State/Federal Court Litigation. Recent state and federal court litigation has had an impact upon the availability and reliability of imported SWP supplies. For example, in October 2006, plaintiff, Watershed Enforcers, a project of the California Sportfishing Protection Alliance, filed a lawsuit in Alameda County Superior Court alleging that DWR was not in compliance with the CESA and did not have the required state incidental take permit to protect the Delta smelt as part of DWR's pumping operations at the Harvey O. Banks Pumping Plant located near the town of Tracy (*Watershed Enforcers, et al. v. California Department of Water Resources, et al.* Alameda County Superior Court No. RG06292124 [*Watershed* decision]). In April 2007, the court agreed with the plaintiff and ordered a shutdown of pumping from the Delta if appropriate permits could not be obtained in 60 days. In May 2007, DWR filed an appeal of the trial court's decision, which automatically stayed the decision pending the outcome of the appeal. At the same time, DWR entered into a Memorandum of Understanding with CDFG to jointly work with the appropriate federal agencies to develop a federal Biological Opinion that complies with CESA. During preparation of the new Biological Opinion, DWR committed itself to actions related to protecting the Delta smelt and other species through adaptive management provisions. Upon completion of this effort, DWR plans to submit a request to CDFG for a consistency determination under CESA that would allow for incidental take based on the new federal Biological Opinion.

The *Wanger* Decisions also have affected imported SWP supplies.[30] The background of the *Wanger* Decisions and their implications are discussed further below.

2007 *Wanger* Decision. On February 16, 2005, the USFWS issued its Biological Opinion, determining that the operations and criteria for both the CVP and SWP would not result in jeopardy to the Delta smelt. On May 20, 2005, the Natural Resources Defense Council (NRDC) and others filed a supplemental complaint in federal court against the Secretary of the Interior and the Director of USFWS, challenging the adequacy

29 Please refer to **Appendix 4.8** of this for a copy of the 2009 BO for the Chinook salmon/sturgeon.

30 Ibid.

of the 2005 Biological Opinion. On June 9, 2006, plaintiffs filed their motion for summary judgment. On July 6, 2006, in light of new information, the U.S. Bureau of Reclamation (Bureau), operator of CVP, requested that USFWS reinitiate consultation on the operations plan and criteria for the CVP. Notwithstanding the request for reinitiation of consultation, the parties proceeded with briefing their cross-motions for summary judgment and, on May 25, 2007, the U.S. District Court for the Eastern District, the Honorable Oliver W. Wanger, presiding, found that the 2005 Biological Opinion was inadequate and that the no-jeopardy determination was arbitrary, capricious, and contrary to the law.[31]

Thereafter, on August 31, 2007, Judge Wanger announced an initial ruling, which outlined an operational plan calling for reductions in water supplies to protect the Delta smelt. The Court specified that reduced operations would last until the fall of 2008, while federal agencies develop a revised Biological Opinion for Delta smelt that will ensure the SWP's and CVP's compliance with the requirements of the federal ESA.

On December 14, 2007, Judge Wanger issued a final court order, which curtailed Delta pumping to protect the Delta smelt. The range of reduced operations is consistent with earlier estimates made by DWR following the Court's initial ruling in August 2007. Following Judge Wanger's final ruling, DWR performed additional modeling and analysis of the impacts of the *Wanger* Decision on Delta pumping. According to DWR, the final ruling will primarily affect export pumping between January and June 2008, when juvenile Delta smelt are at greatest risk of entrainment in pumps. Further, DWR has stated that the actual impact on SWP water supply will depend on a number of factors, including the locations where adult smelt spawn and off-spring hatch, levels of precipitation for the year, and water temperatures affecting how quickly the fish migrate. The Court's restrictions on SWP/CVP operations lasted until the fall of 2008, while the revised Biological Opinion for Delta smelt was completed.

2008 *Wanger* Decision. U.S. District Court Judge Oliver Wanger also recently invalidated a 2004 biological opinion issued by the NMFS. The 2004 NMFS Biological Opinion determined that, pursuant to section 7 of the federal ESA, the operations of the CVP/SWP would not jeopardize the continued existence of three listed Delta fish species protected under the federal ESA, namely, the Sacramento River winter-run Chinook salmon, the Central Valley spring-run Chinook salmon, the Central Valley steelhead, and green sturgeon. Judge Wanger invalidated this biological opinion, relying on several of the factual findings made by NMFS in that opinion. Judge Wanger also faulted the

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31 The 2007 *Wanger* decision (*Natural Resources Defense Council v. Kempthorne*, 506 F.Supp.2d 322 (E.D. Cal. 2007)) is found in **Appendix 4.8** of this EIR.

biological opinion for, among other issues, failing to adequately analyze the impact of the operations plan on the critical habitat of the three species.[32]

After Judge Wanger's ruling, the court held hearings in June and July 2008 on possible remedies; however, no further remedies were imposed beyond the curtailments already issued with respect to the Delta smelt in the prior 2007 *Wanger* Decision.

2008 BO. On December 15, 2008, USFWS issued the new Biological Opinion for Delta smelt (2008 BO). The Opinion continues restrictions on the CVP/SWP operations that have been in place under Judge Wanger's order concerning Delta smelt. However, the 2008 BO also imposed new requirements for Delta outflows under certain conditions and requires increased reservoir releases in the fall of some years to reduce salinity. DWR recently (January 26, 2009) issued the 2009 DWR Delivery Reliability Report, which addresses the ramifications of the new 2008 BO, and its effects on SWP supplies and deliveries. In cooperation with USBR, NMFS, USFWS, and CDFG, DWR has developed new assumptions for implementation of both the USFWS BO (December 15, 2008) and NMFS BO (June 4, 2009) in CALSIM II. The USFWS BO and NMFS BO assumptions are included in Appendix A of the 2009 DWR Delivery Reliability Report. The DWR State Water Project Delivery Reliability Report (DWR Delivery Reliability Report) has been issued biennially since 2003. It is specifically intended to assist SWP Contractors in assessing the delivery reliability of the SWP component of their overall water supplies. In response to the 2008 BO, on March 5, 2009, the State Water Contractors filed litigation challenging the new 2008 BO for the Delta smelt under provisions of the federal Endangered Species Act. Additional litigation, brought by the Coalition for a Sustainable Delta and Kern County Water Agency, also challenged the regulatory restrictions placed on SWP operations in the 2008 BO under the federal ESA. The litigation is still pending, and the outcome of the litigation cannot be predicted as of this writing.

2009 BO. On June 4, 2009, NOAA/NMFS released the 2009 BO addressing the effects of the CVP/SWP operations on the salmon, steelhead, and sturgeon. Federal biologists and hydrologists concluded that current water pumping operations in the CVP/SWP should be changed to ensure survival of the fish species. According to the NMFS, the 2009 BO's restrictions on CVP/SWP operations will impact an estimated five to 7 percent of the available annual water on average moved by the federal and state pumping plants, or about 330,000 acre-feet per year (afy); however, water operations will not be affected

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32 The 2008 *Wanger* decision (*Pacific Coast Federation of Fishermen's Associations, et al. v. Gutierrez, et al.*, No. 06-CV-00245-OWW-GSA (E.D. Cal. 2008)) is found in **Appendix 4.8** of this EIR.

by the 2009 BO immediately and will be tiered to water year type. The 2009 BO also includes exception procedures for drought and health and safety issues.[33]

DWR issued an initial response to the new 2009 BO on June 4, 2009. According to DWR, the 2009 BO "reaffirms the need for a comprehensive solution to the water and environmental conflicts in the Delta."[34] DWR's initial estimates show the average year impacts closer to 10 percent, which could reduce Delta export on average by about 300,000 to 500,000 acre-feet, which is in addition to current pumping restrictions imposed by the 2008 BO to protect the Delta smelt. Again, in cooperation with USBR, NMFS, USFWS, and CDFG, DWR has developed new assumptions for implementation of both the USFWS BO (December 15, 2008) and NMFS BO (June 4, 2009) in CALSIM II. The USFWS BO and NMFS BO assumptions are included in Appendix A of the 2009 DWR Delivery Reliability Report.

After issuance of the 2009 BO, on August 6, 2009, the SWP Contractors filed a lawsuit against federal agencies challenging the 2009 BO on federal ESA grounds. According to the litigation, the BO failed to take into account the many other factors contributing to the fish population decline, and failed to consider the impacts that the 2009 BO would have on people, a requirement of the National Environmental Policy Act (NEPA).[35] In addition, on August 28, 2009, the Coalition for a Sustainable Delta and Kern County Water Agency jointly filed suit against federal agencies challenging the 2009 BO under the federal ESA.[36] This litigation is still pending and the outcome of the litigation cannot be predicted as of this writing.

Implications of Regulatory/Litigation Constraints. The *Watershed* decision, the two *Wanger* Decisions, and the recent actions taken by USFWS, NMFS, and California Fish and Game Commission, as well as the associated litigation, have serious implications on imported SWP/CVP water supplies throughout California. These implications are outlined below based on the best available information.

In terms of short-term water supply availability, there have been short-term effects related to issues presented in the *Watershed* and *Wanger* Decisions. For example, pumping operations were shut down for approximately nine days in June 2007 due to concerns over the declining number of Delta smelt. DWR then operated the pumps at limited levels for several weeks while waiting for the smelt to migrate to cooler waters. DWR then resumed normal operations in July 2007. There is also concern that the remedy adopted by the District Court could ultimately become part of the conditions in the new incidental take

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33 Please refer to this EIR, **Appendix 4.8**, for the NOAA/NMFS release, June 4, 2009, summarizing the 2009 BO.

34 Please refer to this EIR, **Appendix 4.8**, for the DWR release, June 4, 2009, responding to the new 2009 BO.

35 Please refer to this EIR, **Appendix 4.8**, for the SWP Contractors release, August 6, 2009, concerning the litigation filed challenging the 2009 BO.

36 Please refer to this EIR, **Appendix 4.8**, for the Coalition for a Sustainable Delta/ Kern County Water Agency release, August 28, 2009, concerning the litigation filed challenging the 2009 BO.

permit, which is currently subject to litigation. These concerns, if they materialize, could limit the percentage of SWP water that can be delivered to SWP Contractors, including CLWA. If such remedies are not ultimately part of the incidental take permit, the permit itself may contain conditions that would lower the percentage of SWP water made available for delivery to Southern California, including the Santa Clarita Valley. The 2009 DWR Delivery Reliability Report updates the information contained in the 2007 DWR Delivery Reliability Report by estimating the amounts of water deliveries for current (2009) conditions and conditions 20 years in the future (2029). These estimates incorporate restrictions of SWP and CVP operations in accordance with the BOs of the USFWS (2008) and NMFS (2009), respectively.

Executive/Legislative Response. Because of these concerns, Governor Schwarzenegger directed DWR to take immediate action to improve conditions in the Delta.[37] According to the Office of the Governor, the Governor is building on his Strategic Growth Plan from last year, which consists of approximately $6 billion to upgrade California's water systems. The Governor's plan invests $4.5 billion to develop additional surface and groundwater storage. The plan also includes $1 billion toward restoration of the Delta, including development of a new conveyance system, $250 million to support restoration projects on the Kalamath, San Joaquin, and Sacramento rivers, and the Salton Sea project, and $200 million for grants to California communities to help conserve water. Using existing resources, DWR will implement numerous actions, including screening Delta agriculture intake pumps to protect smelt, restoring the North Delta's natural habitat, improving the Central Delta water flow patterns, and improving DWR's ability to respond to Delta emergencies, such as levee failures.

The Governor also has directed the Delta Vision Blue Ribbon Task Force to develop a delta management plan. The Task Force presented its findings and recommendations in early 2008, and its strategic plan was issued at the end of 2008. The final report includes a suite of strategic recommendations for long-term, sustainable management of the Bay-Delta. Please refer to the Delta Vision website for the final report and associated information (http://deltavision.ca.gov/[last visited March 20, 2009]). The Bay-Delta Conservation Plan is also underway. The Plan is intended to ensure compliance with federal and state Endangered Species Act requirements in the Delta. The $1 billion proposed in the Governor's comprehensive plan will be used to fund recommendations from both the Delta Vision Task Force and the Conservation Plan.[38]

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37 For the Governor's release issued July 17, 2007, please refer to http://gov.ca.gov/ index.php?/print-version/press-release/6972/, which is included in **Appendix 4.8** of this EIR.

38 Please refer to the 2009 DWR Delivery Reliability Report (August 2010) for the current status of planning activities that may affect SWP delivery reliability, pages 25-28, incorporated by reference.

Over the long-term, water supply availability and reliability will continue to be assessed by DWR in DWR's biennial State Water Project Delivery Reliability Reports. These reports take into account a myriad of factors in evaluating long-term water supply availability and reliability. These factors include multiple sources of water, a range of water demands, timing of water uses, hydrology, available facilities, regulatory restraints, including pumping constraints due to impacts on listed fish species, water conservation strategies, and future weather patterns. The *Watershed* Decision, the two *Wanger* Decisions, and the two Biological Opinions, highlight the regulatory restraints applicable to SWP supplies, which have impacted DWR deliveries of SWP supplies in the past, and could curtail such deliveries in the future.

2009 California Legislation. Governor Schwarzenegger and the California legislature successfully crafted a comprehensive package of bills aimed at ensuring a reliable water supply in the future, as well as restoring the Delta and other ecologically sensitive areas. This comprehensive legislation places water supply and the Delta environment on an equal footing, establishing those principles as the State of California's fundamental and co-equal goals for the Delta. In summary, the plan is comprised of four policy bills and an $11.14 billion bond. The package establishes a Delta Stewardship Council, sets ambitious water conservation policy, ensures better groundwater monitoring, and provides funds for the State Water Resources Control Board for increased enforcement of illegal water diversions. The bond, if approved in the November 2010 general election, will fund, with local cost-sharing, drought relief, water supply reliability, Delta sustainability, statewide water system operational improvements, conservation and watershed protection, groundwater protection, and water recycling and water conservation programs.[39]

(a) Summary of the Four Bills

SB 1 - Delta Governance/Delta Plan: SB 1 establishes the framework to achieve the co-equal goals of providing a more reliable water supply to California and restoring and enhancing the Delta ecosystem. The co-equal goals will be achieved in a manner that protects the unique cultural, recreational, natural resource, and agricultural values of the Delta. Specifically, this bill:

1. Creates the Delta Stewardship Council, consisting of seven members with diverse expertise providing a broad statewide perspective. The Chairperson of the Delta Protection Commission is a permanent member of the Council. The Council is also tasked with:

   (a) Developing a Delta Plan to guide state and local actions in the Delta in a manner that furthers the co-equal goals of Delta restoration and water supply reliability;

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[39] Please refer to this EIR, **Appendix 4.8**, for DWR's 2009 Comprehensive Water Package, Special Session Policy Bills and Bond Summary, November 2009.

(b) Developing performance measures for the assessment and tracking of progress and changes to the health of the Delta ecosystem, fisheries, and water supply reliability;

(c) Determining if a state or local agency's project in the Delta is consistent with the Delta Plan and the co-equal goals, and acting as the appellate body in the event of a claim that such a project is inconsistent with the goals; and

(d) Determining the consistency of the Bay-Delta Conservation Plan (BDCP) with the co-equal goals.

2. Ensures that the Department of Fish and Game and the State Water Resources Control Board identify the water supply needs of the Delta estuary for use in determining the appropriate water diversion amounts associated with BDCP.

3. Establishes the Sacramento-San Joaquin Delta Conservancy to implement ecosystem restoration activities within the Delta. In addition to the restoration duties the Conservancy is required to:

   (a) Adopt a strategic plan for implementation of the Conservancy goals;

   (b) Promote economic vitality in the Delta through increased tourism and the promotion of Delta legacy communities;

   (c) Promote environmental education about, and the public use of, public lands in the Delta; and

   (d) Assist in the preservation, conservation, and restoration of the region's agricultural, cultural, historic, and living resources.

4. Restructures the current Delta Protection Commission (DPC), reducing the membership from 23 to 15 members, and tasks DPC with the duties of:

   (a) Adopting an economic sustainability plan for the Delta, which is to include flood protection recommendations to state and local agencies;

   (b) Submitting the economic sustainability plan to the Delta Stewardship Council for inclusion in the Delta Plan.

5. Appropriates funding from Proposition 84 to fund the Two-Gates Fish Protection Demonstration Program, a project in the central Delta which will utilize operable gates for protection of sensitive species and management of water supply.

SB 6 - Groundwater Monitoring: SB 6 requires, for the first time in California's history, that local agencies monitor the elevation of their groundwater basins to help better manage the resource during both normal water years and drought conditions. Specifically, this bill:

1. Requires the DWR to establish a priority schedule for the monitoring of groundwater basins and the review of groundwater elevation reports, and to make recommendations to local entities to improve the monitoring programs.

2. Requires DWR to assist local monitoring entities with compliance with this statute.

3. Allows local entities to determine regionally how best to set up their groundwater monitoring program, crafting the program to meet their local circumstances.

4. Provides landowners with protections from trespass by state or local entities.

5. Provides that if the local agencies fail to implement a monitoring program and/or fail to provide the required reports, DWR may implement the groundwater monitoring program for that region.

6. Provides that failure to implement a monitoring program will result in the loss of eligibility for state grant funds by the county and the agencies responsible for performing the monitoring duties.

SB 7x7 - Statewide Water Conservation: SB 7x7 creates a framework for future planning and actions by urban and agricultural water suppliers to reduce California's water use. For the first time in California's history, this bill requires the development of agricultural water management plans and requires urban water agencies to reduce statewide per capita water consumption 20 percent by 2020. Specifically, this bill:

1. Establishes multiple pathways for urban water suppliers to achieve the statewide goal of a 20 percent reduction in urban water use. Specifically, urban water suppliers may:

   (a) Set a conservation target of 80 percent of their baseline daily per capita water use;

   (b) Utilize performance standards for water use that are specific to indoor, landscape, and commercial, industrial and institutional uses;

   (c) Meet the per capita water use goal for their specific hydrologic region as identified by DWR and other state agencies in the 20 percent by 2020 Water Conservation Plan; or

   (d) Use an alternate method that is to be developed by DWR before December 31, 2010.

2. Requires urban water suppliers to set an interim urban water use target and meet that target by December 31, 2015 and meet the overall target by December 31, 2020.

3. Requires DWR to cooperatively work with the California Urban Water Conservation Council to establish a task force that shall identify best management practices to assist the commercial, industrial, and institutional sectors in meeting the water conservation goal.

4. Requires agricultural water suppliers to measure water deliveries and adopt a pricing structure for water customers based at least in part on quantity delivered, and, where technically and economically feasible, implement additional measures to improve efficiency.

5. Requires agricultural water suppliers to submit Agricultural Water Management Plans beginning December 31, 2012 and include in those plans information relating to the water efficiency measures they have undertaken and are planning to undertake.

6. Makes ineligible for state grant funding any urban or agricultural water supplier who is not in compliance with the requirements of this bill relating to water conservation and efficient water management.

7. Requires DWR to, in 2013, 2016 and 2021, report to the Legislature on agricultural efficient water management practices being undertaken and reported in agricultural water management plans.

8. Requires DWR, the State Water Resources Control Board, and other state agencies to develop a standardized water information reporting system to streamline water reporting required under the law.

SB 8 - Water Diversion and Use/Funding: SB 8 improves accounting of the location and amounts of water being diverted by recasting and revising exemptions from the water diversion reporting requirements under current law. Additionally, this bill appropriates existing bond funds for various activities to benefit the Delta ecosystem and secure the reliability of the state's water supply, and to increase staffing at the State Water Resources Control Board to manage the duties of this statute. Specifically, this bill:

1. Provides a stronger accounting of water diversion and use in the Delta by removing an exemption from reporting water use by in-Delta water users.

2. Redefines the types of diversions that are exempt from the reporting requirement.

3. Assesses civil liability and monetary penalties on diverters who fail to submit the required reports, and for willful misstatements, and/or tampering with monitoring equipment.

4. Appropriates $546 million from Propositions 1E and 84, in the following manner:

   (a) $250 million (Proposition 84) for integrated regional water management grants and expenditures for projects to reduce dependence on the Delta;

   (b) $202 million ($32 million Proposition 84 and $170 million Proposition 1E) for flood protection projects in the Delta to reduce the risk of levee failures that would jeopardize water conveyance;

   (c) $70 million (Proposition 1E) for stormwater management grants; and

   (d) $24 million (Proposition 84) for grants to local agencies to develop or implement Natural Community Conservation plans.

5. Appropriates $3.75 million from the Water Rights Fund to the State Water Resources Control Board for staff positions to manage the duties in this bill relating to water diversion reporting, monitoring, and enforcement.

(b) Water Bond Summary

The Safe, Clean, and Reliable Drinking Water Supply Act of 2010 is an $11.14 billion general obligation bond proposal that would provide funding for California's aging water infrastructure and for projects and programs to address the ecosystem and water supply issues in California. The bond is comprised of seven categories, including drought relief, water supply reliability, Delta sustainability, statewide water system operational improvement, conservation and watershed protection, groundwater protection and water quality, and water recycling and water conservation.

Drought Relief - $455 million. This funding will be available for local and regional drought relief projects that reduce the impacts of drought conditions, including the impacts of reductions to Delta diversions. Projects will include water conservation and water use efficiency projects, water recycling, groundwater cleanup and other water supply reliability projects including local surface water storage projects that provide emergency water supplies and water supply reliability in drought conditions. Funds will be available to disadvantaged communities and economically distressed areas experiencing economic impacts from the drought for drought relief projects and programs. Funds will also be available to improve wastewater treatment facilities to protect water quality or prevent contamination of surface water or groundwater resources.

Delta Sustainability - $2.25 billion. This bond will provide funds for projects to assist in maintaining and restoring the Delta as an important ecosystem. These investments will help to reduce the seismic risk to water supplies derived from the Delta, protect drinking water quality, and reduce conflict between water management and environmental protection.

Water Supply Reliability - $1.4 billion. These funds would be in addition to prior funding provided by Proposition 50 and Proposition 84 and would support the existing Integrated Regional Water Management (IRWM) program. IRWM is designed to encourage integrated regional strategies for management of water resources that will protect communities from drought, protect and improve water quality and improve local water security by reducing dependence on imported water. The bond would provide funds for water supply projects in 12 regions throughout the state and would also be available for local and regional conveyance projects that support regional and interregional connectivity and water management.

Statewide Water System Operational Improvement - $3.0 billion. This funding would be dedicated to the development of additional water storage, which, when combined with other water management and flood system improvement investments being made, can increase reliability and offset the climate change impacts of reduced snow pack and higher flood flows. Eligible projects for this funding include surface

storage projects identified in the CALFED Bay-Delta Record of Decision; groundwater storage projects and groundwater contamination prevention or remediation projects that provide water storage benefits; conjunctive use and reservoir reoperation projects; local and regional surface storage projects that improve the operation of water systems in the state and provide public benefits.

The bond provides that water suppliers who would benefit from new storage will pay their share of the total costs of the project while the public benefits of new water storage can be paid for by this general obligation bond.

Groundwater Protection and Water Quality - $1 billion. To protect public health, funds will be available for projects to prevent or reduce the contamination of groundwater that serves as a source of drinking water.

Funds will also be used to finance emergency and urgent actions on behalf of disadvantaged communities and economically distressed areas to ensure that safe drinking water supplies are available to all Californians.

Water Recycling and Water Conservation - $1.25 billion. Funds will be available for water recycling and advanced treatment technology projects that recycle water or that remove salts and contaminants from water sources. Funds will also be available for urban and agricultural water conservation and water use efficiency plans, projects, and programs. These funds will assist urban water users in achieving water conservation targets.

Conservation and Watershed Protection - $1.785 billion. Funds will be available, through a 50-50 cost share program, for ecosystem and watershed protection and restoration projects in 21 watersheds throughout the state, including coastal protection, wildlife refuge enhancement, fuel treatment and forest restoration, fish passage improvement and obsolete dam removal.

In summary, while the bills just recently passed into law, and the bond still must be approved by voters in the November 2010 general election, the legislative package represents historic steps to reform and rebuild California's water system.[40] The legislative package also has brought state-wide implications, the most significant of which include establishing a Delta Stewardship Council to govern the Delta; setting aggressive water conservation policies and targets for both urban and agricultural uses of water (policies that mandate a 20 percent reduction in urban per capita water use by December 31, 2020, including

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40 Please refer to this EIR, **Appendix 4.8**, for the Office of the Governor's release, November 4, 2009, regarding passage of historic comprehensive water package.

incremental progress toward the 20 percent goal by reducing per capita urban water use by at least 10 percent on or before December 31, 2015); and a bond measure authorizing the funding of several water reliability, conservation, and efficiency projects. The effects of the bills and bond package cannot be quantified at this time; however, they represent state-wide solutions to several competing interests, including drought relief, water supply reliability, Delta sustainability, water conservation, and groundwater protection.

(c) Draft Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem

As described above, in November 2009, California enacted a comprehensive package of four policy bills and a bond measure intended to meet California's growing water challenges by adopting a policy of sustainable water supply management to ensure a reliable water supply for the State and to restore the Delta and other ecologically sensitive areas. One of these bills, Senate Bill No. 1 (SB 1) (Stats. 2009 (7th Ex. Sess.) ch.5, sec. 39) contains the Sacramento-San Joaquin Delta Reform Act of 2009 (Delta Reform Act), Water Code section 85000 et seq. The Delta Reform Act establishes a Delta Stewardship Council (Council), tasked with developing a comprehensive, long-term management plan for the Delta, known as the Delta Plan, and providing direction to multiple state and local agencies that take actions related to the Delta. Water Code section 85086 requires the State Water Resources Control Board (State Water Board) to use the best available scientific information gathered as part of a public process conducted as an informational proceeding to develop new flow criteria for the Delta ecosystem to protect public trust resources. The purpose of the flow criteria is to inform planning decisions for the Delta Plan and the Bay Delta Conservation Program (BDCP). In July 2010 and in accordance with the legislation, the SWRCB prepared a report entitled, Draft Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem. A summary of this report is provided below.

The Sacramento-San Joaquin Delta (Delta) is a critically important natural resource for California and the nation. It is both the hub of California's water supply system and the most valuable estuary and wetlands on the western coast of the Americas. The Delta is in ecological crisis, resulting in high levels of conflict that affect the sustainability of existing water policy in California. Several species of fish have been listed as protected species under the California Endangered Species Act (CESA) and under the federal Endangered Species Act (ESA). These two laws and other regulatory constraints have restricted water diversions from the Delta in an effort to prevent further harm to the protected species.

The State Water Board held an informational proceeding on March 22, 23, and 24, 2010, to receive scientific information from technical experts on the Delta outflows needed to protect public trust resources. The State Water Board also received information at the proceeding on flow criteria for inflow

to the Delta from the Sacramento and San Joaquin rivers and Delta hydrodynamics. The State Water Board did not solicit information on the need for water for other beneficial uses, including the amount of water needed for human health and safety, during the informational proceeding. Nor did the State Water Board consider other policy considerations, such as the state goal of providing a decent home and suitable living environment for every Californian. During this process, participants cautioned the State Water Board on the limitations of any flow criteria (Fleenor et al., 2010).

State Water Board Approach: In determining the extent of protection to be afforded public trust resources through the development of the flow criteria, the State Water Board considered the broad goals of the planning efforts the criteria are intended to inform, including restoring and promoting viable, self-sustaining populations of aquatic species. Given the accelerated time frame in which to develop the criteria, the State Water Board's approach to developing criteria was limited to review of instream needs in the Delta ecosystem, specifically fish species and Delta outflows, while also receiving information on hydrodynamics and major tributary inflows. The State Water Board's flow criteria determinations are accordingly limited to protection of aquatic resources in the Delta.

Limitations of State Water Board Approach: When setting flow objectives with regulatory effect, the State Water Board reviews and considers all the effects of the flow objectives through a broad inquiry into all public trust and public interest concerns. For example, the State Water Board would consider other public trust resources potentially affected by Delta outflow requirements and impose measures for the protection of those resources, such as requiring sufficient water for cold water pool in reservoirs to maintain temperatures in Delta tributaries. The State Water Board would also consider a broad range of public interest matters, including economics, power production, human health and welfare requirements, and the effects of flow measures on non-aquatic resources (such as habitat for terrestrial species). The limited process adopted for this proceeding does not include this comprehensive review.

The State Water Board's Public Trust Responsibilities in this Proceeding: Under the public trust doctrine, the State Water Board must take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible. (National Audubon Society v. Superior Court (1983) 33 Cal.3d 419, 446.) Public trust values include navigation, commerce, fisheries, recreation, scenic, and ecological values. "[I]n determining whether it is 'feasible' to protect public trust values like fish and wildlife in a particular instance, the [State Water] Board must determine whether protection of those values, or what level of protection, is 'consistent with the public interest.'" (State Water Resources Control Bd. Cases (2006) 136 Cal.App.4th 674, 778.) The State Water Board does not make any determination regarding the feasibility of the public trust recommendations and consistency with the public interest in this report.

In this forum, the State Water Board has not considered the allocation of water resources, the application of the public trust to a particular water diversion or use, water supply impacts, or any balancing between potentially competing public trust resources (such as potential adverse effects of increased Delta outflow on the maintenance of coldwater resources for salmonids in upstream areas). Any such application of the State Water Board's public trust responsibilities, including any balancing of public trust values and water rights, would be conducted through an adjudicative or regulatory proceeding. Instead, the State Water Board's focus here is solely on identifying public trust resources in the Delta ecosystem and determining the flow criteria, as directed by Water Code section 85086.

Future Use of This Report: None of the determinations in this report have regulatory or adjudicatory effect. Any process with regulatory or adjudicative effect must take place through the State Water Board's water quality control planning, water rights processes, or public trust proceedings in conformance with applicable law. In the State Water Board's development of Delta flow objectives with regulatory effect, it must ensure the reasonable protection of beneficial uses, which may entail balancing of competing beneficial uses of water, including municipal and industrial uses, agricultural uses, and other environmental uses. The State Water Board's evaluation will include an analysis of the effect of any changed flow objectives on the environment in the watersheds in which Delta flows originate, the Delta, and the areas in which Delta water is used. It will also include an analysis of the economic impacts that result from changed flow objectives. Nothing in either the Delta Reform Act or in this report amends or otherwise affects the water rights of any person. In carrying out its water right responsibilities, the State Water Board may impose any conditions that in its judgment will best develop, conserve, and utilize in the public interest the water to be appropriated. In making this determination, the State Water Board considers the relative benefit to be derived from all beneficial uses of the water concerned and balances competing interests.

If the DWR and/or the USBR in the future request the State Water Board to amend the water right permits for the State Water Project (SWP) and/or the Central Valley Project (CVP) to move the authorized points of diversion for the projects from the southern Delta to the Sacramento River, Water Code section 85086 directs the State Water Board to include in any order approving a change in the point of the diversion of the projects appropriate Delta flow criteria. At that time, the State Water Board will determine appropriate permit terms and conditions. That decision will be informed by the analysis in this report, but will also take many other factors into consideration, including any newly developed scientific information, habitat conditions at the time, and other policies of the State, including the relative benefit to be derived from all beneficial uses of water. The flow recommendations in this report are not pre-decisional in regard to any State Water Board action. (e.g., Wat. Code, sec. 85086, subd. (c)(1).) The water supply costs of the flows identified in this report illustrate to the State Water Board the need for an

integrated approach to management of the Delta. Best available science supports that it is important to directly address the negative effects of other stressors, including habitat, water quality, and invasive species, that contribute to higher demands for water to protect public trust resources. The flow criteria highlight the continued need for the BDCP to develop an integrated set of solutions and to implement non flow measures to protect public trust resources.

Summary Determinations: This report contains the State Water Board's determinations as to the flows that protect public trust resources in the Delta, under the narrow circumstances analyzed in this report.

As required, the report includes the volume, timing, and quality of flow for protection of public trust resources under different hydrologic conditions. The flow criteria represent a technical assessment only of flow and operational requirements that provide fishery protection under existing conditions. The flow criteria contained in this report do not represent flows that might be protective under other conditions. The State Water Board recognizes that changes in existing conditions may alter the need for flow. Changes in existing conditions that may affect flow needs include, but are not limited to, reduced reverse flows in Delta channels, increased tidal habitat, improved water quality, reduced competition from invasive species, changes in the point of diversion of the State Water Project (SWP) and Central Valley Project (CVP), and climate change.

Flow Criteria and Conclusions: The numeric criteria determinations in this report must be considered in the following context:

- The flow criteria in this report do not consider any balancing of public trust resource protection with public interest needs for water.
- The State Water Board does not intend that the criteria should supersede requirements for health and safety such as the need to manage water for flood control.
- There is sufficient scientific information to support the need for increased flows to protect public trust resources; there is uncertainty regarding specific numeric criteria.

The State Water Board has considered the testimony presented during the Board's informational proceeding to develop flow criteria and to support the following summary conclusions. Several of these summary conclusions rely in whole or in part on conclusions and recommendations made to the State

Water Board by the Delta Environmental Flows Group[41] and the University of California at Davis Delta Solutions Group[42].

1. The effects of non-flow changes in the Delta ecosystem, such as nutrient composition, channelization, habitat, invasive species, and water quality, need to be addressed and integrated with flow measures.

2. Recent Delta flows are insufficient to support native Delta fishes for today's habitats.[43] Flow modification is one of the immediate actions available although the links between flows and fish response are often indirect and are not fully resolved. Flow and physical habitat interact in many ways, but they are not interchangeable.

3. In order to preserve the attributes of a natural variable system to which native fish species are adapted, many of the criteria developed by the State Water Board are crafted as percentages of natural or unimpaired flows. These criteria include:

    - 75% of unimpaired Delta outflow from January through June;
    - 75% of unimpaired Sacramento River inflow from November through June; and
    - 60% of unimpaired San Joaquin River inflow from February through June.

It is not the State Water Board's intent that these criteria be interpreted as precise flow requirements for fish under current conditions, but rather they reflect the general timing and magnitude of flows under the narrow circumstances analyzed in this report. In comparison, historic flows over the last 18 to 22 years have been:

- approximately 30% in drier years to almost 100% of unimpaired flows in wetter years for Delta outflows;
- about 50% on average from April through June for Sacramento River inflows; and
- approximately 20% in drier years to almost 50% in wetter years for San Joaquin River inflows.

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41 The Delta Environmental Flows Group of experts consists of William Bennett, Jon Burau, Cliff Dahm, Chris Enright, Fred Feyrer, William Fleenor, Bruce Herbold, Wim Kimmerer, Jay Lund, Peter Moyle, and Matthew Nobriga.

42 The Delta Solutions Group consists of William Bennett, William Fleenor, Jay Lund, and Peter Moyle.

43 This statement should not be construed as a critique of the basis for existing regulatory requirements included in the 2006 Bay-Delta Plan and biological opinions. Those requirements were developed pursuant to specific statutory requirements and considerations that differ from this proceeding. Particularly when developing water quality objectives, the State Water Board must consider many different factors including what constitutes reasonable protection of the beneficial use and economic considerations. In addition, the biological opinions for the SWP and CVP Operations Criteria and Plan were developed to prevent jeopardy to specific fish species listed pursuant to the federal Endangered Species Act; in contrast, the flow criteria developed in this proceeding are intended to halt population decline and increase populations of certain species.

4. Other criteria include: increased fall Delta outflow in wet and above normal years; fall pulse flows on the Sacramento and San Joaquin Rivers; and flow criteria in the Delta to help protect fish from mortality in the central and southern Delta resulting from operations of the State and federal water export facilities.

5. The report also includes determinations regarding: variability and the natural hydrograph, floodplain activation and other habitat improvements, water quality and contaminants, cold water pool management, and adaptive management:

    - Criteria should reflect the frequency, duration, timing, and rate of change of flows, and not just volumes or magnitudes. Accordingly, whenever possible, the criteria specified above are expressed as a percentage of the unimpaired hydrograph.

    - Inflows should generally be provided from tributaries to the Delta watershed in proportion to their contribution to unimpaired flow unless otherwise indicated.

    - Studies and demonstration projects for, and implementation of, floodplain restoration, improved connectivity and passage, and other habitat improvements should proceed to provide additional protection of public trust uses and potentially allow for the reduction of flows otherwise needed to protect public trust resources in the Delta.

    - The Central Valley and San Francisco Regional Water Quality Control Boards should continue developing Total Maximum Daily Loads (TMDLs) for all listed pollutants and adopting programs to implement control actions.

    - The Central Valley Regional Water Quality Control Board should require additional studies and incorporate discharge limits and other controls into permits, as appropriate, for the control of nutrients and ammonia.

    - Temperature and water supply modeling and analyses should be conducted to identify conflicting requirements to achieve both flow and cold water temperature goals.

    - A strong science program and a flexible management regime are critical to improving flow criteria. The State Water Board should work with the Council, the Delta Science Program, BDCP, the Interagency Ecological Program, and others to develop the framework for adaptive management that could be relied upon for the management and regulation of Delta flows.

    - The numeric criteria recommended in this report are all recommendations that are only appropriate for the current physical system and climate; as other factors change the flow needs advanced in this report will also change. As physical changes occur to the environment and our understanding of species needs improves, the long-term flow needs will also change. Actual flows should be informed by adaptive management.

    - Only the underlying principles for the numeric criteria and other measures are advanced as long term recommendations.

6. Past changes in the Delta may influence migratory cues for some fishes. These cues are further scrambled by a reverse salinity gradient in the south Delta. It is important to establish seaward gradients and create more slough networks with natural channel geometry. Achieving a variable

more complex estuary requires establishing seasonal gradients in salinity and other water quality variables and diverse habitats throughout the estuary. These goals in turn encourage policies which establish internal Delta flows that create a tidally-mixed upstream- downstream gradient (without cross-Delta flows) in water quality. Continued through-Delta conveyance is likely to continue the need for in-Delta flow requirements and restrictions to protect fish within the Delta.

7. Restoring environmental variability in the Delta is fundamentally inconsistent with continuing to move large volumes of water through the Delta for export. The drinking and agricultural water quality requirements of through-Delta exports, and perhaps even some current in-Delta uses, are at odds with the water quality and variability needs of desirable Delta species.

8. The Delta ecosystem is likely to dramatically shift within 50 years due to large scale levee collapse. Overall, these changes are likely to promote a more variable, heterogeneous estuary. This changed environment is likely to be better for desirable estuarine species; at least it is unlikely to be worse.

9. Positive changes in the Delta ecosystem resulting from improved flow or flow patterns will benefit humans as well as fish and wildlife. Ecosystems are complex; there are many factors that affect the quality of the habitat that they provide. These factors combine in ways that can amplify the effect of the factors on aquatic resources. The habitat value of the Delta ecosystem for favorable species can be improved by habitat restoration, contaminant and nutrient reduction, changes in diversions, control of invasive species, and island flooding. Each of these non-flow factors has the potential to interact with flow to affect available aquatic habitat in Delta channels.

The State Water Board supports the most efficient use of water that can reasonably be made. The flow improvements that the State Water Board identifies in this report as being necessary to protect public trust resources illustrate the importance of addressing the negative effects of these other stressors that contribute to higher than necessary demands for water to provide resource protection. Future habitat improvements or changes in nutrients and contaminants, for example, may change the response of fishes to flow. Addressing other stressors directly will be necessary to assure protection of public trust resources and could change the demands for water to provide resource protection in the future. Uncertainty regarding the effects of habitat improvement and other stressors on flow demands for resource protection highlights the need for continued study and adaptive management to respond to changing conditions. The flow criteria identified in this report highlight the need for the BDCP to develop an integrated set of solutions, to address ecosystem flow needs, including flow and non-flow measures. Although flow modification is an action that can be implemented in a relatively short time in order to improve the survival of desirable species and protect public trust resources, public trust resource protection cannot be achieved solely through flows—habitat restoration also is needed. One cannot substitute for the other; both flow improvements and habitat restoration are essential to protecting public trust resources.

CLWA Imported Water Supplies and Facilities. CLWA receives SWP and non-SWP imported water through the terminus of the West Branch of the California Aqueduct at Castaic Lake. Water supplies (whether derived from local or imported water supplies) require treatment (filtration and disinfection)

prior to distribution. CLWA operates two water treatment plants, the Earl Schmidt Filtration Plant located near Castaic Lake and the Rio Vista Water Treatment Plant located in Saugus. CLWA produces water that meets drinking water standards set by the U.S. EPA and DPH. SWP water has different aesthetic characteristics than groundwater with lower dissolved mineral concentrations (total dissolved solids) of approximately 250 to 360 mg/l, and lower hardness (as calcium carbonate) of about 105 to 135 mg/l.

Historically, the State Water Project (SWP) delivered only surface water from the Sacramento- San Joaquin River Delta. However, CLWA and other SWP users, in anticipation of drought, many years ago began "water banking" programs where SWP water could be stored or exchanged during wet years and withdrawn in dry years. The last three years have seen state-wide drought. As a result, water has been withdrawn from the water banking programs and pumped into the SWP system. During the period of 2008 through 2010, a greater portion of water in the SWP has been this "pumped-in" water. The "pumped-in" water has met all water quality standards established by DWR under its anti-degradation policy for the SWP.

The Rio Vista Plant is planned for future expansion from its current 30 million gallons per day (mgd) treatment capacity to 60 mgd, and eventually to 90 mgd as demands for treated water increase. Earl Schmidt Plant operates at a treatment capacity of 56 mgd. The current combined capacity of the two treatment plants is approximately 86 mgd.

Santa Clarita Valley Water Supply. The current water supply for the Santa Clarita Valley is derived from both local and imported sources. The principal components of this supply are imported water from the SWP, water purchased in Kern County, and local groundwater from both the Alluvial aquifer and the Saugus Formation. Since 2003, these water supplies have been augmented by the initiation of deliveries from CLWA's recycled water program.

In addition to these supplies, which are available and used to meet service area demands every year, CLWA also has storage programs that are planned for use under shortage situations (e.g., during drier years when imported supplies are limited). These storage programs improve the reliability of CLWA's overall supplies by enabling existing supplies that are not needed in wetter years to be stored for use in drier years, but they do not increase the supplies available to meet service area demand every year.

Table 4.8-11, Summary of Current and Planned Water Supplies and Banking Programs, summarizes the existing and planned water supplies and banking programs for the CLWA service area. According to CLWA, the information presented on this table is not intended to be an operational plan for how supplies would be used in a particular year, but rather an identification of the complete range of water supplies

available under varying hydrologic conditions. Diversity of supply allows CLWA and the local retail purveyors the option of drawing on multiple sources of supply in response to changing conditions, such as varying weather patterns (average/normal years, single-dry years, multiple dry years), fluctuations in delivery amounts of SWP water, natural disasters, perchlorate-impacted wells, and other factors. Based on CLWA's conservative water supply and demand assumptions over the next 20 years (i.e., through 2030 as described in the 2005 UWMP), in combination with conservation of non-essential demand during certain dry years, the water supply plan described in the 2005 UWMP achieves CLWA's and the local retail purveyors' goal of delivering reliable and high-quality water supply for their customers, even during dry periods.[44] Additional tables are provided below that address available water supplies in the Santa Clarita Valley in normal/average years, single-dry years, and multiple-dry years over a 20-year planning horizon.

Table 4.8-11
Summary of Current and Planned Water Supplies and Banking Programs(1)

Water Supply Sources	Supply (af)					
	2007	2010	2015	2020	2025	2030
Existing Supplies (1)						
Wholesale (Imported)	61,800	75,787	75,787	74,407	74,407	74,407
SWP Table A Supply (2)	57,120	57,120	57,120	57,120	57,120	57,120
Buena Vista-Rosedale	0	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	0	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA) (3)	4,680	4,680	4,680	4,680	4,680	4,680
Flexible Storage Account (Ventura County) (3) (4)	0	1,380	1,380	0	0	0
Local Supplies						
Groundwater	40,000	46,000	46,000	46,000	46,000	46,000
Alluvial Aquifer	35,000	35,000	35,000	35,000	35,000	35,000
Saugus Formation	5,000	11,000	11,000	11,000	11,000	11,000
Recycled Water	1,700	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**103,500**	**123,487**	**123,487**	**122,107**	**122,107**	**122,107**
Existing Banking Programs (3)						
Semitropic Water Bank (5)	50,870	50,870	0	0	0	0
Rosedale-Rio Bravo (7)	64,898	64,898	64,898	64,898	64,898	64,898
Semitropic Water Bank Newhall Land (8)	0	18,828	18,828	18,828	18,828	18,828
Total Existing Banking Programs	**115,768**	**134,596**	**83,726**	**83,726**	**83,726**	**83,726**

44 CLWA articulated the above determinations, through its retail water division (CLWA Santa Clarita Water Division), in the *Final SWP SB 610 Water Supply Assessment for the Skyline Project* (September 2008), p. 30. This document is available for public inspection and review at CLWA, 22722 Soledad Canyon Road, Santa Clarita, California 91350, and is incorporated by reference in this EIR.

Water Supply Sources	Supply (af)					
	2007	2010	2015	2020	2025	2030
Planned Supplies (1)						
Local Supplies						
Groundwater	0	10,000	10,000	20,000	20,000	20,000
Restored wells (Saugus Formation)	0	10,000	10,000	10,000	10,000	10,000
New Wells (Saugus Formation)	0	0	0	10,000	10,000	10,000
Recycled Water - CLWA (6)	0	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	0	1,500	2,500	3,500	5,400
Total Planned Supplies	**0**	**10,000**	**13,100**	**28,800**	**34,500**	**41,100**
Planned Banking Programs (3)						
Additional Planned Banking	0	0	20,000	20,000	20,000	20,000
Total Planned Banking Programs	**0**	**0**	**20,000**	**20,000**	**20,000**	**20,000**

1. *The values shown under "Existing Supplies" and "Planned Supplies" are supplies projected to be available in average/normal years. The values shown under "Existing Banking Programs" are total amounts currently in storage and "Planned Banking Programs" are total amounts projected to be available.*
2. *SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of average deliveries projected to be available, based on Tables 6-12 and 6-13 of DWR's "State Water Project Delivery Reliability Report 2009". Year 2030 figure is calculated by multiplying by DWR's 2029 percentage of 60%.*
3. *Supplies shown are total amounts that can be withdrawn, and would typically be used only during dry years. Each water bank has annual limitations on withdrawals that are reflected in **Tables 4.8-13** and **4.8-14.***
4. *Initial term of the Ventura County entities' flexible storage account is ten years (from 2006 to 2015).*
5. *Supplies shown are the total amount currently in storage, and would typically be used only during dry years. Once the current storage amount is withdrawn, this supply would no longer be available and in any event, is not available after 2013.*
6. *Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.*
7. *CLWA has 64,898 af of recoverable water as of 12/31/09 in the Rosedale-Rio Bravo Water Banking and Recovery Program.*
8. *Supplies shown are the total amounts currently in storage. As of December 31, 2009, there is 18,828 af of water stored in the Semitropic Groundwater Storage Bank by The Newhall Land and Farming Company for the Newhall Ranch Specific Plan. The stored water can be extracted from the bank in dry years in amounts up to 4,950 afy. Newhall Ranch is located within the CLWA service area.*

Source: Mission Village WSA (July 2010).

Average/Normal Year. Table 4.8-12, Projected Average/Normal Year Supplies and Demands, summarizes water supplies available to meet demands over the 20-year planning period during an average/normal year. As presented in the table, water supply is broken down into existing and planned water supply sources, including wholesale (imported) water, local supplies, and banking programs. Demands also are reflected on the table with the effects of an estimated 10 percent urban reduction resulting from the implementation of conservation Best Management Practices. Demands do not reflect an additional 10 percent urban per capita reduction by 2020 resulting from the approved California legislation (see discussion of SB 7x7, above). The amount of additional conservation expected in the Santa Clarita Valley as a result of this bill is the subject of study in the 2010 Urban Water Management Plan (2010 UWMP) presently being prepared by CLWA. The 2010 UWMP is expected to be released no later than June 2011.

Single-Dry Year. Table 4.8-13, Projected Single-Dry Year Supplies and Demands, shows the existing and planned water supplies available to meet demands for the CLWA service area over the 20-year planning period, during a single-dry year. The SWP supplies projected to be available in a single-dry year are based on a repeat of the worst-case hydrologic conditions that occurred in California in 1977. Demand during dry years was estimated to increase by 10 percent. **Table 4.8-13** does not reflect a decrease in demand of 20 percent per capita resulting from the passage of SB 7x7, as described above.

Table 4.8-12
Projected Average/Normal Year Supplies and Demands

Water Supply Sources	Supply (af)				
	2010	**2015**	**2020**	**2025**	**2030**
Existing Supplies					
Wholesale (Imported)	*69,727*	*69,727*	*69,727*	*69,727*	*69,727*
SWP Table A Supply (1)	57,120	57,120	57,120	57,120	57,120
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA) (2)	0	0	0	0	0
Flexible Storage Account (Ventura County) (2)	0	0	0	0	0
Local Supplies					
Groundwater	46,000	46,000	46,000	46,000	46,000
Alluvial Aquifer	35,000	35,000	35,000	35,000	35,000
Saugus Formation	11,000	11,000	11,000	11,000	11,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**117,427**	**117,427**	**117,427**	**117,427**	**117,427**
Existing Banking Programs					
Semitropic Water Bank (2)	0	0	0	0	0
Rosedale-Rio Bravo (2)	0	0	0	0	0
Semitropic Water Bank – Newhall Land (2)	0	0	0	0	0
Total Existing Banking Programs	0	0	0	0	0
Planned Supplies					
Local Supplies					
Groundwater	0	0	0	0	0
Restored wells (Saugus Formation) (2)	0	0	0	0	0
New Wells (Saugus Formation) (2)	0	0	0	0	0
Recycled Water - CLWA (3)	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	1,500	2,500	3,500	5,400
Total Planned Supplies	**0**	**3,100**	**8,800**	**14,500**	**21,100**
Planned Banking Programs					
Additional Planned Banking (2)	0	0	0	0	0
Total Planned Banking Programs	**0**	**0**	**0**	**0**	**0**

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
Total Existing and Planned Supplies and Banking	**117,427**	**120,527**	**126,227**	**131,927**	**138,527**
Total Estimated Demand (w/o conservation) (4)	**100,050**	**109,400**	**117,150**	**128,400**	**138,300**
Conservation (5)	(8,600)	(9,700)	(10,700)	(11,900)	(12,900)
Total Adjusted Demand	**91,450**	**99,700**	**106,450**	**116,500**	**125,400**

1. *SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of average deliveries projected to be available, based on Tables 6-12 and 6-13 of DWR's "The State Water Project Delivery Reliability Report 2009". Year 2030 figure is calculated by multiplying by DWR's 2029 percentage of 60%.*
2. *Not needed during average/normal years.*
3. *Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.*
4. *Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area are not included.*
5. *Assumes 10 percent reduction on urban portion of total demand resulting from conservation best management practices, as discussed in CLWA's 2005 UWMP, Chapter 7.*

Source: Mission Village WSA (July 2010), in part.

Table 4.8-13
Projected Single-Dry Year Supplies and Demands

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
Existing Supplies					
Wholesale (Imported)	*25,331*	*26,283*	*25,855*	*26,807*	*27,759*
SWP Table A Supply (1)	6,664	7,616	8,568	9,520	10,472
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA)	4,680	4,680	4,680	4,680	4,680
Flexible Storage Account (Ventura County)(2)	1,380	1,380	0	0	0
Local Supplies					
Groundwater	*47,500*	*47,500*	*47,500*	*47,500*	*47,500*
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Formation	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**74,531**	**75,483**	**75,055**	**76,007**	**76,959**
Existing Banking Programs					
Semitropic Water Bank (3)	17,000	0	0	0	0
Rosedale-Rio Bravo (5)	20,000	20,000	20,000	20,000	20,000
Semitropic Water Bank – Newhall Land (10)	4,950	4,950	4,950	4,950	4,950
Total Existing Banking Programs	**41,950**	**24,950**	**24,950**	**24,950**	**24,950**
Planned Supplies					
Local Supplies					
Groundwater	*10,000*	*10,000*	*20,000*	*20,000*	*20,000*
Restored wells (Saugus Formation)	10,000	10,000	10,000	10,000	10,000
New Wells (Saugus Formation)	0	0	10,000	10,000	10,000
Recycled Water - CLWA (4)	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	1,500	2,500	3,500	5,400
Total Planned Supplies	**10,000**	**13,100**	**28,800**	**34,500**	**41,100**

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
Planned Banking Programs					
Additional Planned Banking (6)	0	20,000	20,000	20,000	20,000
Total Planned Banking Programs	0	20,000	20,000	20,000	20,000
Total Existing and Planned Supplies and Banking	**126,481**	**133,533**	**148,805**	**155,457**	**163,009**
Total Estimated Demand (w/o conservation) (7) (8)	**110,100**	**120,300**	**128,900**	**141,200**	**152,100**
Conservation (9)	(9,500)	(10,700)	(11,700)	(13,100)	(14,200)
Total Adjusted Demand	**100,600**	**109,600**	**117,200**	**128,100**	**137,900**

1. SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of single dry year deliveries projected to be available on Tables 6-4 and 6-13 of DWR's "The State Water Project Delivery Reliability Report 2009". Year 2030 figure is calculated by multiplying by DWR's 2029 percentage of 11%.

2. Initial term of the Ventura County entities' flexible storage account is ten years (from 2006 to 2015).

3. The total amount of water currently in storage is 50,870 af, available through 2013. Withdrawals of up to this amount are potentially available in a dry year, but given possible competition for withdrawal capacity with other Semitropic banking partners in extremely dry years, it is assumed here that about one third of the total amount stored could be withdrawn.

4. Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.

5. CLWA has 64,898 af of recoverable water as of 12/31/09 in the Rosedale-Rio Bravo Water Banking and Recovery Program.

6. Assumes additional planned banking supplies available by 2014.

7. Assumes increase in total demand of 10 percent during dry years.

8. Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area are not included.

*9. Assumes 10 percent reduction on urban portion of total normal year demand resulting from conservation best management practices ([urban portion of total normal year demand x 1.10] * 0.10), as discussed in CLWA's 2005 UWMP, Chapter 7.*

10. Delivery of stored water from the Newhall Land Semitropic Groundwater Bank requires further agreements between CLWA and Newhall Land.

Source: Mission Village WSA (July 2010).

Multiple-Dry Years. Table 4.8-14, Projected Multiple-Dry Year Supplies and Demands, shows the existing and planned water supplies available to meet demands for the CLWA service area over the 20-year planning period, during multiple-dry years. The multiple-dry year is based on a repeat of the worst-case four-year drought in California from 1931 to 1934. Demand during multiple-dry years was estimated to increase by 10 percent. **Table 4.8-14** does not reflect a decrease in demand of 20 percent per capita resulting from the passage of SB 7x7, as described above.

Table 4.8-14
Projected Multiple-Dry Year Supplies and Demands (1)

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
Existing Supplies					
Wholesale (Imported)	*46,485*	*46,485*	*47,097*	*47,097*	*47,097*
SWP Table A Supply (2)	32,368	32,368	33,320	33,320	33,320
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA) (3)	1,170	1,170	1,170	1,170	1,170
Flexible Storage Account (Ventura County) (3)	340	340	0	0	0

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
Local Supplies					
Groundwater	*47,500*	*47,500*	*47,500*	*47,500*	*47,500*
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Formation (4)	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**95,685**	**95,685**	**96,297**	**96,297**	**96,297**
Existing Banking Programs					
Semitropic Water Bank (3)	12,700	0	0	0	0
Rosedale-Rio Bravo (6) (7)	5,000	15,000	15,000	15,000	15,000
Semitropic Water Bank – Newhall Land (12)	4,950	4,950	4,950	4,950	4,950
Total Existing Banking Programs	**22,650**	**19,950**	**19,950**	**19,950**	**19,950**
Planned Supplies					
Local Supplies					
Groundwater	*6,500*	*6,500*	*6,500*	*6,500*	*6,500*
Restored wells (Saugus Formation) (4)	6,500	6,500	5,000	5,000	5,000
New Wells (Saugus Formation) (4)	0	0	1,500	1,500	1,500
Recycled Water (5)	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	1,500	2,500	3,500	5,400
Total Planned Supplies	**6,500**	**9,600**	**15,300**	**21,000**	**27,600**
Planned Banking Programs					
Additional Planned Banking (7) (8)	0	5,000	15,000	15,000	15,000
Total Planned Banking Programs	0	5,000	15,000	15,000	15,000
Total Existing and Planned Supplies and Banking	**124,835**	**130,235**	**146,547**	**152,247**	**158,847**
Total Estimated Demand (w/o conservation) (9) (10)	**110,100**	**120,300**	**128,900**	**141,200**	**152,100**
Conservation (11)	(9,500)	(10,700)	(11,700)	(13,100)	(14,200)
Total Adjusted Demand	**100,600**	**109,600**	**117,200**	**128,100**	**137,900**

1. Supplies shown are annual averages over four consecutive dry years (unless otherwise noted.

2. SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of average deliveries projected to be available during the worst case four-year drought of 1931-1934 as provided in Tables 6-4 and 6-13 of DWR's "The State Water Project Delivery Reliability Report 2009." Year 2030 figure is calculated by multiplying by DWR's 2029 percentage of 35%.

3. Based on total amount of storage available divided by 4 (4-year dry period). Initial term of the Ventura County entities' flexible storage account is ten years (from 2006 to 2015).

4. Total Saugus pumping is the average annual amount that would be pumped under the groundwater operating plan, as summarized in Table 3-6 of the 2005 UWMP ([11,000+15,000+25,000+35,000]/4).

5. Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.

6. CLWA has 64,898 af of recoverable water as of 12/31/09 in the Rosedale-Rio Bravo Water Banking and Recovery Program.

7. Average dry year period supplies could be up to 20,000 af for each program depending on storage amounts at the beginning of the dry period.

8. Assumes additional planned banking supplies available by 2014.

9. Assumes increase in total demand of 10 percent during dry years.

10. Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area are not included.

*11. Assumes 10 percent reduction on urban portion of total normal year demand resulting from conservation best management practices ([urban portion of total normal year demand x 1.10] * 0.10), as discussed in CLWA's 2005 UWMP, Chapter 7.*

12. Delivery of stored water from the Newhall Land Semitropic Groundwater Bank requires further agreements between CLWA and Newhall Land.

Source: Mission Village WSA (July 2010).

As shown on each table, SWP supply estimates are based on the data presented in the 2009 DWR Delivery Reliability Report, with SWP water supplies allocated among SWP Contractors in accordance with their water supply contract provisions currently in effect.[45]

Additional Annual Imported Water Supplies. According to CLWA, as shown on **Tables 4.8-11** through **4.8-14**, the following existing additional annual water supplies are available to meet demands when necessary.

Buena Vista/Rosedale-Rio Bravo Water Acquisition Project. CLWA has finalized a Water Acquisition Agreement with the Buena Vista and the Rosedale-Rio Bravo districts in Kern County. Under this program, Buena Vista's high flow Kern River entitlements (and other acquired waters that may become available) are captured and recharged within Rosedale-Rio Bravo's service area on an ongoing basis. CLWA will receive 11,000 af per year of these supplies annually either through direct delivery of water to the California Aqueduct via the Cross Valley Canal or by exchange of Buena Vista's and Rosedale-Rio Bravo's SWP supplies.[46]

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45 The water supply contracts between DWR and the SWP Contractors include provisions regarding how total available SWP water supplies are allocated among SWP Contractors. The allocation provisions currently in effect are as they were amended by the Monterey Amendments. The Monterey Amendments have been in effect for more than ten years, but pursuant to litigation, is undergoing a second environmental review by DWR. In October 2007, DWR released the new Draft EIR analyzing the Monterey Amendments to the SWP contracts, including Kern water bank transfers and associated actions as part of the Monterey Settlement Agreement (SCH No. 2003011118). This Draft EIR, also known as the Monterey Plus Draft EIR, addressed the significant environmental impacts of changes to the SWP operations that are a consequence of the Monterey Amendments and the Monterey Settlement Agreement. It also discussed the project alternatives, growth inducement, water supply reliability, as well as potential areas of controversy and concern. In addition, DWR recently completed and certified the Monterey Plus Final EIR. The Draft and Final EIRs are available for public inspection and review by contacting DWR in Sacramento or from DWR's website, http://www.des.water.ca.gov/mitigation_restoration_branch/rpmi_section/projects/EIR_index.cfm. The Monterey Plus Draft and Final EIRs are incorporated by reference in this EIR.

46 In November 2006, a petition for writ of mandate was filed by California Water Impact Network, seeking to set aside CLWA's certification of the EIR for the Water Acquisition Agreement Project with Buena Vista and Rosedale-Rio Bravo. (*California Water Impact Network, et al. v. Castaic Lake Water Agency, et al.*, Los Angeles County Superior Court No. BS106546.) The petition was later amended to add Friends of the Santa Clara River (Friends) as a petitioner. In November 2007, the trial court filed its Statement of Decision finding that in certifying the EIR and approving the project, CLWA proceeded in a manner required by law, and that its actions were supported by substantial evidence. Judgment was entered in favor of CLWA in December 2007. Petitioners filed a notice of appeal on January 31, 2008.

On April 20, 2009, the appellate court ruled in CLWA's favor and this water purchase is now considered final and it remains appropriate to list the 11,000 afy as one of CLWA's permanent water supply sources. (Please refer to this EIR, **Appendix 4.8**, for the recent appellate court decision in *California Water Impact Network, Inc. v. Castaic Lake Water Agency*, Second Appellate District, Division Five, Appellate Case No. B205622.)

Nickel Water. The Newhall Ranch Revised Additional Analysis (Volume VIII, May 2003) provides that the Specific Plan applicant has secured 1,607 af of water under contract with Nickel Family LLC in Kern County. This water is 100 percent reliable on a year-to-year basis and not subject to the annual fluctuations that can occur to the SWP in dry-year conditions. The Nickel water is part of a 10,000 acre-foot quantity of annual water supply that Nickel obtained from Kern County Water Agency (KCWA) in 2001 pursuant to an agreement between Nickel, KCWA, and Olcese Water District (Olcese). Under that agreement, Nickel has the right to sell the 10,000 AFY to third parties both within or outside Kern County. The water would be delivered through the KCWA and the SWP system. A point of delivery agreement between the CLWA and DWR would be required to transmit the water between the KCWA and CLWA service areas. This additional supply was added by CLWA to the updated water supply/demand tables to reflect current information (see **Tables 4.8-11** through **4.8-14**).

Additional Imported Water Supplies from Banking Programs. According to CLWA, as shown on **Tables 4.8-11**, **4.8-13**, and **4.8-14**, the following existing additional water supplies are available from banking programs to meet demands when necessary.

Flexible Storage Accounts. One of CLWA's Flexible Storage Accounts described in its 2005 UWMP permits it to store up to 4,684 af in Castaic Lake. Any of this amount that CLWA withdraws must be replaced by CLWA within five years of its withdrawal. CLWA manages this storage by keeping the account full in normal and wet years and then delivering that stored amount (or portions of it) during dry periods. The account is refilled during the next year that adequate SWP supplies are available to CLWA to do so. CLWA also has recently negotiated with Ventura County water agencies to obtain the use of its Flexible Storage Account. This will allow CLWA access to another 1,376 af of storage in Castaic Lake. CLWA's access to this additional storage is available on a year-to-year basis for 10 years, beginning in 2006.

Yuba County Water Agency Transfer Agreement. One of CLWA's Flexible Storage Accounts described in its 2005 UWMP permits it to store up to 4,684 af in Castaic Lake. Any of this amount that CLWA withdraws must be replaced by CLWA within five years of its withdrawal. CLWA manages this storage by keeping the account full in normal and wet years and then delivering that stored amount (or portions of it) during dry periods. The account is refilled during the next year that adequate SWP supplies are available to CLWA to do so. CLWA also has recently negotiated with Ventura County water agencies to obtain the use of its Flexible Storage Account. This will allow CLWA access to another 1,376 af of storage in Castaic Lake. CLWA's access to this additional storage is available on a year-to-year basis for 10 years, beginning in 2006.

Semitropic Water Storage District Banking. The 2005 UWMP identifies two existing contracts with the Semitropic Water Storage District under which CLWA has stored 59,000 acre-feet of water. (2005 UWMP, p. 3-22.) In accordance with the terms of CLWA's storage agreements with Semitropic, 90 percent of the banked amount, or a total of 50,870 af, is recoverable through 2012-2013 to meet CLWA water demands when needed. CLWA's approval of one of the contracts (for the 2002 banking program) was challenged in California Water Network v. Castaic Lake Water Agency, Ventura Superior Court Case No. CIV 215327. The trial court entered judgment in favor of CLWA. This ruling was appealed. All issues regarding the 2002 banking program with Semitropic were conclusively resolved in favor of CLWA in June 2006. In 2009 and 2010, CLWA withdrew a total of 4,950 af from its Semitropic programs.

Rosedale-Rio Bravo Water Banking. The 2005 UWMP identifies one existing contract with the Rosedale-Rio Bravo Water Storage District under which CLWA has 64,898 af of recoverable water as of December 31, 2007. (2005 UWMP, p. 3-23.) This banking program currently offers storage and pump-back capacity of 20,000 afy, with up to 100,000 af of storage capacity. This stored water will be called upon to meet demands when required and is recoverable through 2035.

Newhall Land - Semitropic Water Storage District Banking. The Newhall Land and Farming Company has entered into an agreement to reserve and purchase water storage capacity of up to 55,000 af in the Semitropic Water Storage District Groundwater Banking Project (Newhall Ranch Revised Additional Analysis [Volume VIII, May 2003]). Sources of water that could be stored include, but are not limited to, the Nickel Water. The stored water could be extracted in dry years in amounts up to 4,950 afy. There is 18,828 af of water stored in the Semitropic Groundwater Storage Bank by the Specific Plan applicant for the Specific Plan. Newhall Ranch is located within the CLWA service area. Delivery of stored water from the Newhall Semitropic Groundwater Bank requires further agreements between CLWA and the Specific Plan applicant. However, the Nickel water would only be needed on the Specific Plan site in years when all of the Newhall agricultural water has been used, which is estimated to occur after the 21st year of project construction. As a result, there is more than ample time for CLWA and the applicant to arrive at the necessary delivery arrangements and related agreements.

The 2005 UWMP also discusses water banking storage and pumpback capacity both north and south of CLWA's service area, the latter of which would provide an emergency supply in case of catastrophic outage along the California Aqueduct. With short-term storage now in place in the Semitropic banking program and long-term storage now existing with Rosedale-Rio Bravo, CLWA is assessing southern water banking opportunities. Such banking programs enhance the reliability of both existing and planned future water supplies in the Santa Clarita Valley. As shown on **Tables 4.8-13** and **4.8-14**, CLWA's additional planned banking supplies are anticipated to be 20,000 acre-feet by 2014.

CLWA Recycled Water. As shown on **Tables 4.8-11** through **4.8-14**, above, since 2003, existing local supplies have been augmented by the initiation of recycled water deliveries from CLWA's recycled water program. CLWA currently has a contract with the Los Angeles County Sanitation District for 1,700 afy of recycled water. This supply is available in an average/normal year, a single-dry year, and in each year of a multiple-dry year period. In 2009, recycled water deliveries were 328 af, generally consistent with recycled water deliveries that have ranged between 311 and 470 afy over the past six years. In addition, in the 2005 UWMP, CLWA projects an increase of 15,700 afy in recycled water by 2030. Similar to the existing recycle water supply, the 15,700 afy of planned recycled water supply is to be available in an average/normal year, a single-dry year, and in each year of a multiple-dry year period. There is also a new phase of the of the recycled water system in design that would extend the existing system southward from the intersection of Magic Mountain Parkway and the Old Road to the intersection of Orchard Village Road and Lyons Avenue, serving large irrigation customers along its proposed alignment. Collectively, these phases will have design capacity to increase recycled water deliveries by about 1,500 afy.

As the Newhall Ranch Specific Plan is developed, recycled water also will be available to the Specific Plan from the Newhall Ranch WRP. Water from the Newhall Ranch WRP would be used to meet the non-potable demands of the Specific Plan. Areas that would use recycled water include common areas, slopes, landscaped areas, and parks.

CLWA Service Area Water Demand. Table 4.8-15 shows CLWA's 2005 and projected water demands based on the 2005 UWMP. CLWA's demands vary from year-to-year depending on local hydrologic and meteorologic conditions, with demands generally increasing in years of below average local precipitation and decreasing in years of above average local precipitation.

Table 4.8-15
CLWA's Projected Water Demands

	Demand (af)				
	2010	**2015**	**2020**	**2025**	**2030**
All Purveyors[1]	86,100	97,100	106,500	119,400	129,300
Agricultural/Private Uses	13,950	12,300	10,650	9,000	9,000
Demand w/o Conservation	100,050	109,400	117,150	128,400	138,300
Conservation at 10% [2]	-8,610	-9,710	-10,650	-11,940	-12,930
Total Demand (w/10% conservation)	91,440	99,690	106,500	116,460	125,370

Notes:
[1] *Purveyors refer to CLWA SCWD, NCWD, VWC, and Los Angeles County Waterworks District No. 36.*
[2] *A 10 percent reduction on the urban portion of the normal year demand is estimated to result from conservation BMPs. Not shown is a 10 percent per capita reduction in urban demand by 2015 and a 20 percent per capita reduction now mandated by SB 7x7.*
Source: CLWA (October 2008)

In 2001, CLWA signed the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU) on behalf of the CLWA service area. By signing the MOU, CLWA became a member of the California Urban Water Conservation Council (CUWCC) and pledged to implement all cost-effective Best Management Practices (BMPs) for water conservation. CLWA has estimated that conservation measures within the service area can reduce the urban demand water demand by 10 percent. The BMPs include:

- System Water Audits, Leak Detection and Repair; Public Information Programs; School Education Programs;
- Wholesale Agency Programs;
- Conservation Pricing;
- Water Conservation Coordinator;
- Water survey programs for single-family residential and multi-family residential customers;
- System water audits, leak detection and repair;
- Metering with commodity rates for all new connections and retrofit of existing connections;
- Large landscape conservation programs and incentives;
- High-efficiency clothes washing machine financial incentive programs;
- Conservation programs for commercial, industrial, and institutional (CII) accounts; and

- Water waste prohibition.

An additional 10 percent urban demand reduction would result from the recently approved SB 7x7, which requires a 20 percent reduction in per capita urban demand by 2020.

(2) Litigation Effects on Availability of Imported Water

For the past few years, there have been a series of litigation challenges concerning imported water supplies in the Santa Clarita Valley. The litigation challenges have given rise to claims that there is uncertainty regarding the availability and reliability of imported SWP water supplies in the Santa Clarita Valley.

The purpose of this section is to disclose these litigation challenges and their effects on the availability and reliability of imported water supplies in the Santa Clarita Valley. In summary, as discussed below, it has been determined, based on substantial evidence in the record, that the litigation challenges are not likely to affect the short-term or long-term availability or reliability of imported water supplies as projected in the *2005 UWMP* and other reports, studies, and documents cited in this EIR.

(a) Litigation Concerning CEQA Review of the Monterey Agreement

In *Planning and Conservation League v. Department of Water Resources* (2003) 83 Cal.App.4th 892, the Court of Appeal, Third Appellate District, decertified an EIR prepared by the Central Coast Water Agency (CCWA) to address the "Monterey Agreement." The Monterey Agreement was a statement of principles to be incorporated into an omnibus amendment of the long-term contracts between the DWR and water contractors governing the supply of water under the SWP. The Monterey Agreement was the culmination of negotiations between DWR and most of the 29 SWP Contractors to settle disputes arising out of the allocation of water during times of shortage. Twenty-seven of the 29 SWP Contractors executed the Monterey Amendments to their water supply contracts in 1996. The Monterey Agreement contemplated revisions in the methodology of allocating water among contractors and provided a mechanism for the permanent transfer of Table A water amounts from one contractor to another. The Monterey Agreement was implemented by the execution of legally binding contracts with DWR (Monterey Amendments).

As stated above, although the court set aside the Monterey EIR prepared by CCWA, it did not set aside, invalidate, or otherwise vacate the Monterey Agreement or the Monterey Amendments. No court has ordered any stay or suspension of the Monterey Agreement pending certification of a new EIR. DWR and the SWP Contractors continue to abide by the Monterey Agreements, as implemented by the Amendments, as the operating framework for the SWP, while the new EIR is undertaken.

Following decertification of the original Monterey EIR, the PCL litigants entered into the Monterey Settlement Agreement in 2003, designating DWR as the lead agency for preparation of the new EIR to address the Monterey Agreement (entitled the "Monterey Plus EIR"). In October 2007, DWR completed the Draft EIR analyzing the Monterey Amendments to the SWP contracts, including Kern water bank transfers and associated actions as part of the Monterey Settlement Agreement (Monterey Plus Draft EIR; SCH No. 2003011118). The Draft EIR addresses the significant environmental impacts of changes to the SWP operations that are a consequence of the Monterey Amendments and the Monterey Settlement Agreement. It also discusses the project alternatives, growth inducement, water supply reliability, as well as potential areas of controversy and concern. DWR certified the Monterey Plus Final EIR on February 1, 2010.

The Monterey Settlement Agreement also facilitated certain water transfers between contracting agencies, including CLWA's 41,000 af water transfer agreement (discussed further below). The 41,000 af transfer has been recognized as a permanent transfer by DWR, but it was subject to then pending litigation in Los Angeles Superior Court challenging the EIR prepared for that transfer. (*Friends of the Santa Clarita River v. Castaic Lake Water Agency*, see discussion below.) DWR's new Draft EIR analyzed the potential environmental effects relating to the Monterey transfers, including a focused analysis of the 41,000 af transfer, which is provided as part of a broader analysis of permanent transfers of Table A Amounts.

(b) Litigation Concerning CEQA Review of the 41,000 af Transfer

Over the past several years, opposition groups have claimed that a part of CLWA's SWP supplies, specifically, a 41,000 af transfer, should not be included or relied upon because it is not final and is the subject of litigation. It was asserted that litigation challenges to the 41,000 af transfer create uncertainty regarding the availability and reliability of such water for the Santa Clarita Valley. Other comments have claimed that DWR's preparation of a new Monterey Agreement EIR also introduced an element of potential uncertainty regarding the availability and reliability of the 41,000 af transfer. These comments have included claims that the subsequent Monterey Settlement Agreement precluded CLWA from using or relying upon the 41,000 af transfer until DWR has completed and certified the new Monterey Agreement EIR. As explained below, a recent published appellate court decision has resolved these claims in favor of the availability, reliability, and use of CLWA's 41,000 af transfer.

In *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2007) 157 Cal.App.4th 149 (*SCOPE II*), the Second District Court of Appeal, Division Six, affirmed the trial court's decision upholding the validity of the EIR's water supply analysis for the West Creek development project in the Santa Clarita Valley, including the EIR's assessment and reliance upon the permanent and final 41,000 af water transfer. In applying the four principles for a CEQA analysis of future water supplies articulated by

the California Supreme Court in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412 to the 41,000 af transfer, the Court of Appeal concluded that the transfer is permanent and final, and that with or without the Monterey Agreement and Monterey Amendments, the transfer is valid, permanent, and final, and could be relied upon in the project EIR as part of the water supplies in the Santa Clarita Valley.

In addition to the *SCOPE II* litigation referenced above, the litigation dispute over the adequacy of CLWA's EIR with respect to the 41,000 afy water transfer has been fully resolved in favor of CLWA. (*Planning and Conservation League v. Castaic Lake Water Agency* (2009) 180 Cal.App.4th 210, rehearing denied on January 14, 2010; "*PCL v. CLWA* litigation"). The discussion presented below summarizes the *PCL v. CLWA* litigation.

***PCL v. CLWA* Litigation.** As stated above, on December 17, 2009, the Court of Appeal, Second District, issued its opinion in this litigation. This new published appellate court decision upheld CLWA's EIR for the 41,000-afy water transfer. A summary of the new decision is provided below.

In 2004, CLWA certified the 2004 EIR at issue on appeal in the new decision. The 2004 EIR analyzed the significant environmental impacts of the 41,000-afy water transfer. The 2004 EIR acknowledged that the 41,000-afy water transfer was "contractually completed in 1999" and that "[n]o permits and other approvals would be required other than the certification of this EIR." The 2004 EIR also described the underlying history, including the Monterey Agreement and Amendments, the decertification of Central Coast's Monterey Agreement EIR, CLWA's earlier EIR on the 41,000-afy water transfer, and the Monterey Settlement Agreement. As to the 41,000-afy water transfer, the 2004 EIR disclosed that it did not tier from any other EIR and that it examined the environmental impacts that would occur with or without the change in water allocation criteria implemented as part of the Monterey Amendments. In addition, the 2004 EIR examined three potential water delivery scenarios for the 41,000 afy water transfer: (a) SWP allocation with the Monterey Amendments; (b) SWP allocation without the Monterey Amendments, and with the "agriculture first" reduction provision of article 18(a) in place; and (c) SWP allocation without the Monterey Amendments, but with permanent cutbacks under article 18(b). The 2004 EIR examined the environmental effects of the transfer under all three scenarios.

As to the CLWA service area, the 2004 EIR concluded that the 41,000 afy water transfer will have some significant direct impacts (largely associated with new population growth), and proposed mitigation measures to address these impacts. The 2004 EIR also examined five alternatives to the transfer, including a "no project" alternative, under which CLWA would obtain neither the 41,000 af of water nor the contractual rights to it. The remaining alternatives addressed the impact of relying on groundwater or desalinated seawater, and of receiving less or more than 41,000 af of SWP water.

In early 2005, two petitioner groups (Planning and Conservation League and California Water Impact Network) initiated litigation under CEQA, challenging the validity of CLWA's 2004 EIR. In the litigation, petitioners claimed primarily that: (a) DWR was the proper lead agency for the 2004 EIR, and not CLWA; (b) the 2004 EIR constituted improper "piecemeal" review and should have been addressed in DWR's Monterey Plus EIR; (c) the 2004 EIR failed to acknowledge the legal uncertainty surrounding the 41,000 afy water transfer and improperly treated the transfer as a "fait accompli;" (d) the 2004 EIR failed to disclose the potential for DWR's future Monterey Plus EIR to reach different water supply/demand conclusions; and (e) the 2004 failed to analyze the correct "no project" alternative.

After a 2007 writ hearing, the Los Angeles County Superior Court (Judge Chalfant, presiding) generally held in favor of CLWA, rejecting each of the petitioners' claims. However, the trial court found an "analytical hole" in CLWA's 2004 EIR. The trial court reasoned that the EIR failed to explain the relevance of the three potential water delivery scenarios analyzed in the EIR, leaving the public unable to meaningfully assess the EIR's analysis of the 41,000-afy water transfer. Petitioners appealed the trial court's decision. CLWA and others also filed cross-appeals.

The Court of Appeal reviewed the trial court decision anew, and reversed the trial court decision. In doing so, the Court of Appeal determined that CLWA's 2004 EIR adequately analyzed all of the 41,000 afy water transfer's potential significant environmental effects and that the document fully complied with CEQA. The Court of Appeal also remanded the case back to the trial court with directions to vacate the trial court's decision and issue a new judgment denying the petitioners' suits in their entirety.

On appeal, Petitioners first argued that CLWA, in preparing the 2004 EIR, had usurped DWR's duties as the lead agency conducting the environmental review of the Monterey Agreement/Amendments. They contended that DWR must examine the transfer because it is part of the project under review by DWR, namely, the Monterey Agreement and the contractual regime implemented under it. The Court of Appeal rejected these contentions. In doing so, the Court found that "nothing before us suggests that the Monterey Agreement, viewed as a CEQA project, included the Kern-Castaic transfer when the original Monterey Agreement EIR was prepared and certified in 1995." The appellate court acknowledge that the Monterey Agreement, as executed in December 1994, "laid the foundation for a new contractual regime between DWR and its contractors," and "freed water provided to agricultural providers for transfer to urban suppliers;" however, the court noted that the specific contractual developments for the 41,000 afy water transfer culminated in March 1999, shortly before certification of CLWA's 1999 EIR. As a result, the appellate court concluded that the 41,000 afy water transfer "was no more than 'a gleam in a planner's eye' at the time of the Monterey Agreement," therefore, the transfer "fell outside the original Monterey Agreement EIR, and was properly considered in a separate EIR" by CLWA.

Further, the Court of Appeal found that neither decertification of the 1995 Monterey Agreement EIR, nor implementation of the transfer prior to DWR's new Monterey Plus EIR, brought the transfer within DWR's Monterey Plus EIR or required DWR to be the lead agency. Therefore, relying on *Del Mar Terrace Conservancy, Inc. v. City Council* (1992) 10 Cal.App.4th 712, the Court of Appeal concluded that:

> *Here, as in Del Mar Terrace, the Kern-Castaic transfer has significant independent or local utility, in view of its benefits to Castaic's service area and relative autonomy from the Monterey Agreement. . . . [A]lthough the Monterey Agreement, in fact, facilitated the transfer, there is substantial evidence (1) that the transfer could have been implemented under the pre-Monterey Agreement contractual regime, and (2) that the parties intend to continue the transfer, regardless of the outcome of DWR's environmental review of the Monterey Agreement. Moreover, as explained below, Castaic's 2004 EIR adequately reflects the potential environmental effects of the Monterey Agreement, the approval of which is 'outside [Castaic's] powers'. . . , as well as the controversy attached to the transfer arising from DWR's review.*

The Court of Appeal also concluded that the 2004 EIR did not constitute improper piecemealing under CEQA, because "Castaic could properly certify the 2004 EIR prior to the new Monterey Agreement EIR, provided that the 2004 EIR adequately assesses the environmental impact of the Monterey Agreement, to the extent necessary for a fully informed decision regarding the Kern-Castaic transfer." Additionally, the Court of Appeal rejected the contention that Castaic did not have sufficient expertise to prepare the 2004 EIR, determining that Castaic had the primary responsibility for "carrying out" the transfer; and, therefore, was the proper lead agency.

Further, the Court of Appeal rejected the claim that the 2004 EIR "improperly describes the transfer as final," making the project a "fait accompli." The Court of Appeal cited *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2007) 157 Cal.App.4th 149, 152 to support its holding that CLWA's 2004 EIR discussed the contractual basis for the transfer and properly evaluated the legal uncertainty of the Monterey Amendments. Although the 2004 EIR did not "expressly state that the outcome of DWR's review is 'unlikely to unwind' the transfer, its discussion unmistakably conveys this conclusion, as it characterizes implementation of the transfer without the Monterey Amendments as the 'worst-case scenario' for the transfer." The Court of Appeal also rejected the contention that the 2004 EIR "concealed" the need for DWR's approval of the Monterey Agreement under CEQA, finding that "the transfer is a separate project from the Monterey Agreement."

Similarly, the Court of Appeal rejected the claim that the 2004 EIR failed to disclose the potential for DWR's future Monterey Plus EIR to change the transfer's underlying assumptions, including the potential impact of implementing the transfer under the pre-Monterey Agreement contractual regime. The appellate court found that the 2004 EIR properly analyzed "the three scenarios relevant to the transfer, and evaluate[d] the actual water supplies available under the scenarios." The Court of Appeal

also disagreed with the claim that the 2004 EIR was required to assess the possibility that CLWA would not acquire the rights to the 41,000 acre-feet of water under the pre-Monterey Agreement contractual regime as a "no project" alternative. It found that the EIR's "no project" alternative assuming the absence of the transfer was sufficient because the Monterey Amendment is a *separate* project.

Finally, on the cross-appeal, the Court of Appeal reversed the trial court's finding that the 2004 EIR contained an "analytical hole." The Court of Appeal concluded that the 2004 EIR is not subject to the challenge on the grounds found by the trial court because the petitioners failed to assert the issue prior to the trial court's ruling. The Court of Appeal also held that the petitioners failed to exhaust their administrative remedies by not raising the issue at the trial court level. In addition, the appellate court upheld the 2004 EIR on the merits, finding the 2004 EIR adequately explained that the delivery scenarios were related to the possible outcomes of DWR's pending Monterey Plus EIR, relying on the established CEQA doctrine that absolute perfection is not required in an EIR.

On January 26, 2010, PCL and CWIN filed a petition for review with the California Supreme Court in the *PCL v. CLWA* litigation. On March 10, 2010, the California Supreme Court (En Banc) denied the petitioners' petition for review and their request to depublish the Court of Appeal decision. Litigation on the transfer to CLWA has now been fully and finally resolved in favor of CLWA.

(3) Summary of the County's Conclusions About Effect of Litigation on Sufficiency of Water Supplies

Based on the above analysis, this EIR acknowledges that multiple court challenges have been filed in the past challenging the sufficiency of water supplies. Based on the status of these challenges, and the fact that no court has yet set aside any of the water transfers or other physical activities approved under any of the challenged documents, substantial evidence exists in this EIR and record to support the conclusions in the *2005 UWMP*, the 2009 Water Report, and the Mission Village WSA that there is sufficient water to serve the proposed Mission Village project and, because the project relies only on local groundwater and recycled water to meet its potable and non-potable water demands, it will not use or rely upon CLWA's SWP supplies. As a result, the Mission Village project will not contribute to any significant cumulative impacts on Santa Clarita Valley's water supplies.

(4) Summary of Past and Current Drought Conditions

In February 2008, Governor Arnold Schwarzenegger asked the Legislature for a plan to achieve a 20 percent reduction in per capita water use statewide by 2020, explaining that conservation is one of the key ways to provide water for Californians and to protect and improve the Delta ecosystem. In June 2008, after two consecutive years of below-average rainfall, low snowmelt runoff, and court-ordered water

transfer restrictions, Governor Schwarzenegger announced a statewide drought and issued an Executive Order (S-06-08), which takes immediate action to address current drought conditions. The Executive Order directed DWR to, among other things: (1) facilitate water transfers to respond to shortages across the state due to drought conditions; (2) work with local water districts and agencies to improve local coordination; and (3) expedite existing grant programs to assist local water districts and agencies. The Executive Order also encourages local water districts and agencies to promote water conservation. Specifically, they were encouraged to work cooperatively on the regional and state level to take immediate action to reduce water consumption locally and regionally for the remainder of 2008 and prepare for potential worsening drought conditions in 2009 (While DWR has indicated that drought conditions have not ended, the 2009/2010 water year had a higher than normal amount of precipitation and snowfall across the state).

In response to the Governor's Executive Order, DWR implemented a number of actions to address the 2008/2009 drought conditions. For example, to help facilitate the exchange of water throughout the state, DWR established a 2009 Drought Water Bank. To implement the 2009 Drought Water Bank, DWR purchased water from willing sellers, primarily from water suppliers, upstream of the Sacramento-San Joaquin Delta. This water was transferred using SWP or CVP facilities to water suppliers that are at risk of experiencing water shortages in 2009 due to drought conditions and that require supplemental water supplies to meet anticipated demands. Please refer to DWR's Web site, http://www.water.ca.gov /drought/docs/2009drought_actions.pdf (accessed December 8, 2008) for further information about the drought conditions and DWR's response to those conditions.

Also in response to the Governor's Executive Order, in June 2008, the Metropolitan Water District of Southern California (MWD) issued a "Water Supply Alert" in Southern California urging local agencies to aggressively pursue conservation measures. On August 5, 2008, the County Board of Supervisors approved a resolution declaring a County-wide "water supply and conservation alert." The Board's resolution, among other things, urged intensification of water conservation efforts to achieve a 15 to 20 percent reduction in overall demand; requested local water purveyors and cities to accelerate and intensify public outreach campaigns to communicate the need for water conservation to the general public; and urged cities to update and adopt water wasting ordinances and prepare for enforcement of the ordinances, if necessary. The actions at the state, regional, and local level are likely to result in future regulatory action to strengthen the existing framework for water conservation.

Beginning with the first Strategic Growth Plan in 2006, the Governor called for a comprehensive plan to address California's water needs. The Governor renewed that call in his 2008-09 budget by proposing an $11.9 billion water bond for water management investments that will address population growth, climate change, water supply reliability, and environmental needs. Specifically, the bond includes:

- **Water Storage:** $3.5 billion dedicated to the development of additional storage.

- **Delta Sustainability:** $2.4 billion to help implement a sustainable resource management plan for the Delta.
- **Water Resources Stewardship:** $1.1 billion to implement river restoration projects.
- **Water Conservation:** $3.1 billion to increase water use efficiency.
- **Water Quality Improvement:** $1.1 billion for efforts to reduce the contamination of groundwater.
- **Other Critical Water Projects:** $700 million for water recycling, hillside restoration for areas devastated by fire and removal of fish barriers on key rivers and streams.

To address California's third consecutive drought year, on February 27, 2009, Governor Schwarzenegger also proclaimed a state of emergency[47] and ordered immediate action to manage California's water supplies. In the proclamation, the Governor used his authority to direct all state government agencies to utilize their resources, implement a state emergency plan, and provide assistance for people, communities, and businesses impacted by the drought. The proclamation:

- Requests that all urban water users immediately increase their water conservation activities in an effort to reduce their individual water use by 20 percent;
- Directs DWR to expedite water transfers and related efforts by water users and suppliers;
- Directs DWR to offer technical assistance to agricultural water suppliers and agricultural water users, including information on managing water supplies to minimize economic impacts and implementing efficient water management practices;
- Directs DWR to implement short-term efforts to protect water quality or water supply, such as the installation of temporary barriers in the Delta or temporary water supply connections;
- Directs the Labor and Workforce Development Agency to assist the labor market, including job training and financial assistance;
- Directs DWR to join with other appropriate agencies to launch a statewide water conservation campaign calling for all Californians to immediately decrease their water use;
- Directs state agencies to immediately implement a water use reduction plan and take immediate water conservation actions and requests that federal and local agencies also implement water use reduction plans for facilities within their control.

In accordance with the proclamation, DWR provided an updated report on the state's drought conditions and water availability. Also according to the proclamation, if the emergency conditions have not been sufficiently mitigated, the Governor will consider additional steps. These could include the institute of

47 See, State of Emergency – Water Shortage, Proclamation by the Governor or the State of California, February 27, 2009. This can be found on the governor's website at http://gov.ca.gov/proclamation/11557/.

mandatory water rationing and mandatory reductions in water use; reoperation of major reservoirs in the state to minimize impacts of the drought; additional regulatory relief or permit streamlining as allowed under the Emergency Services Act; and other actions necessary to prevent, remedy, or mitigate the effects of the extreme drought conditions.

DWR and California's Department of Food and Agriculture also recommended measures to reduce the economic impacts of the drought, including but not limited to water transfers, through-Delta emergency transfers, water conservation measures, efficient irrigation practices, and improvements to the California Irrigation Management Information System.

Drought conditions present significant short-term challenges to the provision of water supplies locally and statewide. Nonetheless, the current drought conditions are part of the historic and ongoing hydrologic cycle that occurs in California and CLWA and local retail purveyors have developed various contingencies in order to minimize short-term impacts on water supplies due to drought conditions. Such actions include voluntary/mandatory conservation measures, public outreach programs promoting efficient water use and conservation, water transfers, and use of "banked" water supplies, if necessary to meet demands in drought conditions.

However, the Mission Village WSA and this water analysis assess overall water supply availability and reliability over the long-term (i.e., the 20-year horizon called for by the Urban Water Management Planning Act), and include the effect of normal/average, dry, and multi-dry weather years from the historic record as modified for potential climate change impacts in reliance on DWR modeling estimates. (See *2009 DWR Delivery Reliability Report*.) Based on that information, the Mission Village WSA, 2009 Water Report, and this analysis conclude that there is adequate water supplies for the proposed Mission Village project, in addition to the existing and planned uses in the Santa Clarita Valley with conservation levels at 10 percent.

6. PROPOSED PROJECT IMPROVEMENTS

As shown on **Figure 4.8-9, Mission Village Potable Water System Infrastructure**, the Mission Village project is primarily located within the Valencia Water Company's Zone II and Zone III pressure zones. (There may be a few homes located in lower (elevation) regions that may be served with regulated lower pressures.) The proposed project would be served by a network of 18- to 20-inch water mains located along major project roadways. A network of 8-inch lines located within the planned roadway network would distribute the water for connection to laterals located on individual lots.

The potable supply for Mission Village is primarily a ground water supply from existing and permitted wells, which are located in the Commerce Center area north of the SR-126.

A well collector line is being constructed to consolidate the flow from the wells in the Commerce Center area and the water would be pumped into the Valencia Water Company's Zone I system. The flow from the wells would be conveyed into the Mission Village Zone II storage tank via a booster station proposed at the intersection of Henry Mayo Drive and Commerce Center Drive. The transmission line would cross the Santa Clara River on the proposed Commerce Center Drive bridge or via pipeline underneath the River and continue to the Zone II storage tank at the south end of the project. This Zone II line also would connect to the existing Westridge infrastructure at Westridge Parkway. This existing infrastructure ties into the Water Company's existing 4 MG Zone II tank, and a new 4 MG tank is proposed to be constructed on the existing tank pad site with plumbing already installed. This site also would include an existing Zone III booster station, which would be upgraded as part of the proposed Mission Village project.

The Mission Village project would utilize the two existing Zone III storage tanks that are located within the Westridge development (7.4 MG). A Zone III transmission main would connect to an existing Zone III line at the current terminus of Westridge Parkway and extend northerly in the proposed Westridge Parkway extension to Magic Mountain Parkway and then continue westerly along Magic Mountain Parkway to the westerly edge of Mission Village. Future developments to the west would eventually tie into a future Zone III storage tank.

The Zone II 4 MG tank at the south end of the proposed project also would serve Zone I through the use of various pressure regulating stations.

To ensure that the Zone III inflow is primarily from the wells, a Zone III booster pump station would be located near the Zone II storage tank. The hydraulic gradient in the Zone would be stabilized by the existing Zone III Storage tanks and will eventually be stabilized by future storage tanks to the west.

The Mission Village proposed project may also need to serve the proposed Newhall Ranch Water Reclamation Plant (WRP) at the SR-126 and the Ventura County line in the event that Landmark Village (VTTM 53108) is delayed. In that event, a Zone I water line would be constructed in the utility corridor and Franklin Parkway connecting the existing Post Office Zone I Tank to the NRWRP.

Newhall Ranch Specific Plan Boundary

Valencia Commerce Center Business Park

Chiquito Canyon Landfill

San Martinez Grande

Castaic Creek

Utility Corridor

California Highway Patrol

Valencia Industrial Center

Mission Village

Valencia WRP

Magic Mountain

VTTM 53108

VTTM 53295

Stevenson Ranch Phase V

Westridge

Substation Location

Los Angeles County

SANTA CLARA RIVER

EXISTING WATER WELLS

WELL COLLECTOR LINE

ZONE 2 BOOSTER PUMP

JOIN EXISTING POST OFFICE TANK ZONE 1A

PIPES TO JOIN NRWRP

JOIN EXISTING WATER ZONE 1

PRV

DISTRICT 32 VALENCIA WATER RECLAMATION PLANT

JOIN EXISTING WATER (CLWA)

JOIN EXISTING WATER ZONE 2

PROPOSED NEWHALL RANCH WRP

ZONE 2 POTABLE WATER 4.0MG TANK AND ZONE 3 BOOSTER PUMP

CLWA WATER TANK

JOIN EXISTING WATER ZONE 2 & 3

OFFSITE ZONE 2 PROPOSED 4.0MG WATER TANK

UPSIZE ZONE 3 BOOSTER

OFFSITE ZONE 2 EXISTING WESTRIDGE 4.0 MG TANK

Legend:

- Mission Village Boundary
- Project Boundary
- Off-Site Water Line
- Existing Well
- Impact Boundary
- Zone II Water Line
- Zone III Water Line
- Existing Water Line

NOT TO SCALE

SOURCE: PSOMAS – February 2007

FIGURE **4.8-9**

Mission Village Potable Water System Infrastructure

32-99•05/10

a. Non-Potable Water

The Mission Village proposed project proposes to use recycled water for landscape irrigation and other allowable uses. The proposed delivery system for recycled (non-potable) water is illustrated on **Figure 4.8-10, Reclaimed Water Storage System**. Currently, recycled water is only available at the existing Valencia Water Reclamation Plant along The Old Road east of the project site. The long-range plan is for the Newhall Ranch WRP to be constructed to serve the sewage and recycled water needs within Newhall Ranch. The WRP's capacity would be 6.8 mgd, with a maximum flow of 13.8 mgd, and would be designed to meet Los Angeles County Department of Public Works, CSDLAC, and state standards and requirements. A new County sanitation district would be formed, and Newhall Ranch would be annexed into the Santa Clarita Valley Sanitation District. The environmental effects of constructing and operating the WRP were evaluated at the project-level in the certified Newhall Ranch Specific Plan Program EIR (SCH No. 1995011015).

Water storage requirements for Zone I include 500,000 gallons of storage located at the Newhall Ranch WRP's pump station. In addition, the existing 3.3 million gallon Round Mountain Tank currently being used for potable water would be converted to a non-potable recycled water tank. Recycled water would be supplied to this tank by installing a pipeline from the backbone pipeline system along The Old Road and then along the Santa Clarita trails system eastward to the tank. Both of these storage facilities would be in operation when recycled water is needed for Mission Village.

The proposed project is located within the Valencia Water Company's Zone II and Zone III recycled water pressure zones. Zone II would require a pump station located at Commerce Center Drive and SR-126 to pump recycled water from Zone I to Zone II. To augment recycled water supplies within Zone II, two connections are planned with CLWA's existing Zone II recycled water system located in Magic Mountain Parkway and Westridge Parkway. A 4.0 million gallon storage tank is required to meet the storage requirements for Zone II. Zone III would require a pump station located within the project area to pump water from Zone II to Zone III.

7. PROJECT IMPACTS

a. Significance Threshold Criteria

The criteria listed below are based on Appendix G of the *State CEQA Guidelines*. The Mission Village proposed project would normally have a significant impact on water resources if it would:

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table

level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted); or

- Have insufficient water supplies available to serve the project from existing entitlements and resources, or new or expanded entitlements are needed.

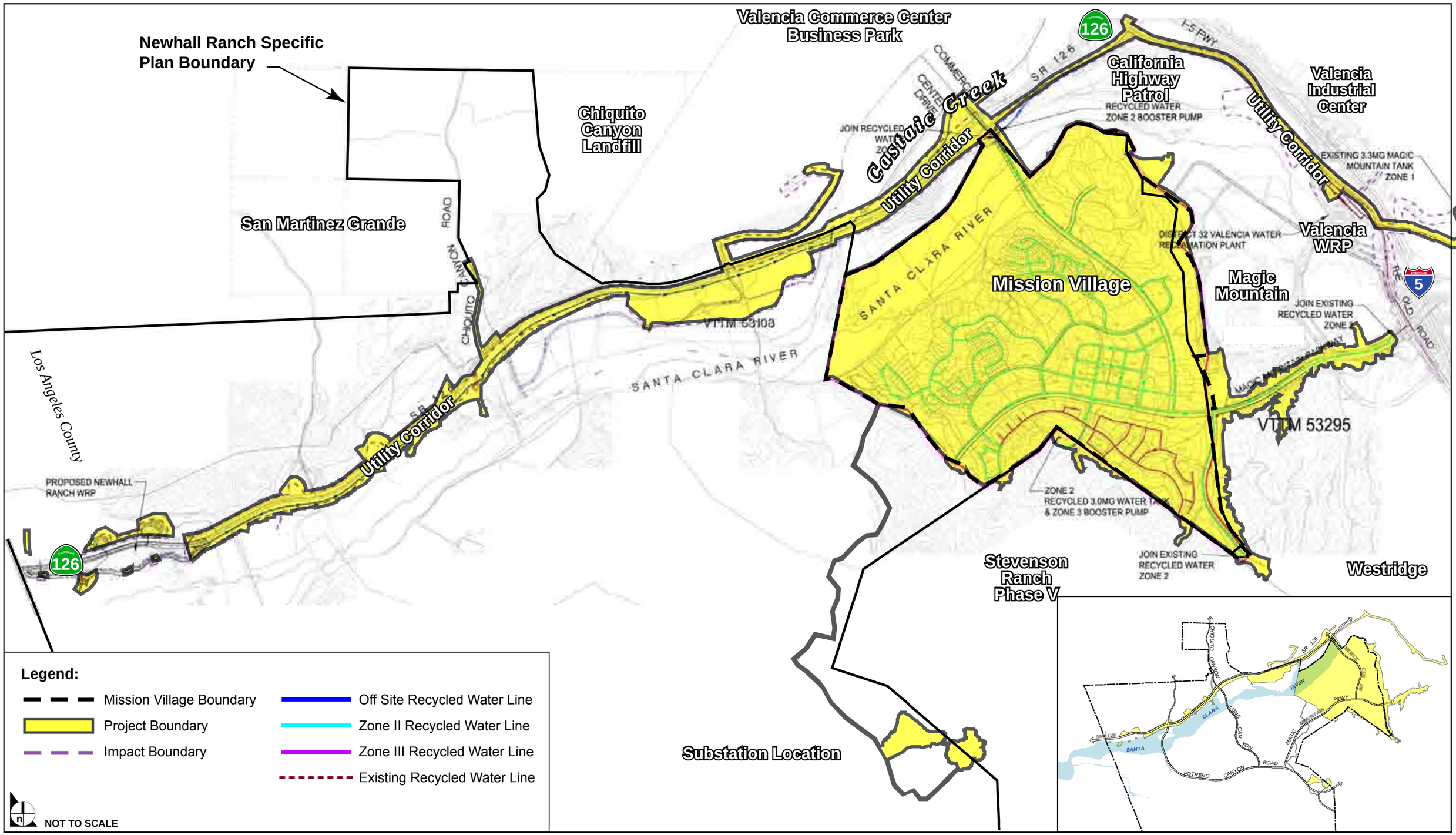
- Result in inadequate water supplies to meet the domestic water demands and/or fire flows for fire protection from the existing area water system facilities (see County of Los Angeles Environmental Document Reporting Procedures and Guidelines).

In addition to the above criteria, and given the presence of ammonium perchlorate created by other land uses in the Santa Clarita Valley, impacts to water resources would be significant if implementation of the proposed project would:

- Result in the spreading of perchlorate in groundwater beyond the wells currently affected by perchlorate.

b. Environmental Impacts Associated With The Mission Village Water Supplies

Water Supply Impacts. As stated above, and as shown in the Mission Village WSA, an adequate supply of water is available to meet the demands of the Mission Village project. The supply available to meet the proposed project's potable demand is the applicant's groundwater supplies from the Alluvial aquifer, which is presently used for agricultural uses. The amount of water historically and presently available from this source is approximately 7,038 afy. As stated above, due to the County's imposition of Specific Plan Mitigation Measure SP 4.11-15, there cannot be a net increase in groundwater usage due to the conversion of agricultural water to potable supply uses for the project site. The project's non-potable demand will be met by recycled water from the Newhall Ranch WRP or, alternatively from the existing Valencia WRP, upstream from the project site. As shown above, the proposed project's potable water demand is estimated to be 1,676 afy. The water from the Alluvial aquifer presently used for agriculture would be used to meet all of the project's potable water needs resulting in no net increase in groundwater use due to the proposed project. Because the applicant is utilizing water supplies from independent sources, the proposed project does not result in or contribute to any significant cumulative water supply impacts in the Santa Clarita Valley. As documented further below in the section assessing the Mission Village water demand and supplies, sufficient water supplies are available to serve the proposed project from existing supplies without creating the need for any new or expanded water entitlements or facilities. As a result, the available water supplies also are sufficient to meet the domestic demands and fire flows for the proposed Mission Village proposed project.



SOURCE: PSOMAS – February 2007

FIGURE **4.8-10**

Reclaimed Water Storage System

Although the Mission Village WSA and this analysis have determined that adequate and reliable water supplies exist to serve the Mission Village proposed project, in addition to other existing and planned uses in the Santa Clarita Valley, the current 2008/2009 drought conditions illustrate the need for improved water efficiency and conservation. The passed legislation (SB 7x7) also requires urban water users to reduce water use by 10 percent per capita by 2015 and 20 percent by 2020. As a result, this EIR recommends that the water efficiency and conservation measures of CLWA and the local retail purveyors be incorporated as conditions of approval for land use projects approved by the County of Los Angeles.

Groundwater Supply Impacts. Supplying water to the Mission Village proposed project also would not substantially deplete groundwater supplies, because the previous discussion in this EIR of available local groundwater supplies confirms that there are sufficient local groundwater supplies to support the planned land uses of the Mission Village project site, in addition to existing and future cumulative development in the valley. As stated above, groundwater supplies were evaluated in the *2005 UWMP*, the 2005 *Basin Yield Report*, and the *2009 Basin Yield Update*. These evaluations resulted in the following findings: (a) both the Alluvial aquifer and the Saugus Formation are reasonable and sustainable sources of local water supplies at the yields stated in the *2005 UWMP* over the next 25 years; (b) the yields are not overstated and will not deplete or "dry-up" the groundwater basin; and (c) there is no need to reduce the yields for purposes of planning, as shown in the *2005 UWMP*, the 2005 *Basin Yield Report* and the *2009 Basin Yield Update* (see **Appendix 4.8**, for the *2005 UWMP*, the *2005 Basin Yield Report* and the *2009 Basin Yield Update*). In addition, the *2005 UWMP*, *2005 Basin Yield Report*, and the *2009 Basin Yield Update* determined that neither the Alluvial aquifer nor the Saugus Formation is in an overdraft condition, or projected to become overdrafted.

It has been suggested that the use of groundwater for the Specific Plan, including Mission Village, will deplete the local aquifers, resulting in "overdraft" and adverse effects on the habitat of several listed species. No supporting data have been presented to substantiate such claims. In addition, the analysis provided in this EIR confirms that the local groundwater basin is not in a state of overdraft; therefore, there would be no impact on habitats or listed/sensitive species as a result of overdraft. In addition, there is no hydrologic evidence of long-term declines in groundwater levels in the Alluvial aquifer. In the upper reaches of the Santa Clara River, groundwater levels show large fluctuations over multi-year periods in accordance with recurring cycles of predominantly below-normal versus above-normal rainfall. However, detailed water level records collected by the local water purveyors over multiple decades show that following periods of below-normal rainfall and associated declining groundwater levels, subsequent large-scale rainfall events cause groundwater levels to rapidly return to their historic high levels, which are at or near ground surface. These data show that although the Alluvial aquifer can experience periods of declining groundwater levels during the relatively dry periods that occur between

large-scale rainfall events, (1) the dry-year conditions are not permanent, because wet-year rainfall and runoff rapidly recharge the Alluvial aquifer to an extent that groundwater levels return to their historical high levels; and (2) because these periodic large-scale recharge events naturally refill the aquifer to a "full" condition (i.e., groundwater levels are at or near the ground surface), there is no long-term overdraft of the Alluvial aquifer, even along the upper reaches of the river.

These data and observations have been analyzed and discussed in annual water reports prepared since 1999 by the local water purveyors, and have been the subject of several detailed reports prepared by the purveyors, including three reports contained in the EIR (see **Appendix 4.8**). These data and observations were also reexamined and further evaluated in the 2009 Basin Yield Update, discussed above. That report contained an updated analysis of the sustainability of the purveyors' groundwater pumping plan for the local groundwater system (which is identified by DWR as the "East Subbasin of the Upper Santa Clara River Groundwater Basin"), including along the upper reaches of the Santa Clara River. The report concluded that historical overdraft conditions have not occurred and that the current operating plan for the basin, including the use of 7,038 afy of alluvial aquifer groundwater at the west end of the basin to meet water demands in the Specific Plan, is sustainable. The report also concluded that since the time SWP water imports began in 1980, non-storm flows in the perennial reach of the Santa Clara River, which extends from Round Mountain (just east of I-5) to the Los Angeles/Ventura County Line, have been higher than were recorded before SWP water importation began. In summary, the water level records and the multiple detailed studies conducted by the purveyors, including detailed data and modeling analyses, indicate that the Alluvial aquifer, as well as the deeper Saugus Formation aquifer, are not in overdraft.

Groundwater Recharge Impacts. The supplying of water to the Mission Village proposed project also would not interfere substantially with groundwater recharge, because the best available evidence shows that no adverse impacts to the recharge of the Basin have occurred due to the existing or projected use of local groundwater supplies, consistent with the CLWA/purveyor groundwater operating plan for the Basin (see **Appendix 4.8** [*2005 Basin Yield Report and 2009 Basin Yield Update*]). In addition, based on the memorandum prepared by CH2MHill (*Effect of Urbanization on Aquifer Recharge in the Santa Clarita Valley*, February 22, 2004; **Appendix 4.8**), no significant project-specific or cumulative impacts would occur to the groundwater basin with respect to aquifer recharge. This is because urbanization in the Santa Clarita Valley has been accompanied by long-term stability in pumping and groundwater levels, and the addition of imported SWP water to the valley, which together have not reduced recharge to groundwater, nor depleted the amount of groundwater in storage within the local groundwater basin. This finding is supported by the *2009 Basin Yield Update*, which modeled infiltration from irrigation (from urban and agricultural lands), precipitation, and streamflows (stormwater and WRP discharges). These other local

hydrologic processes were defined using the Surface Water Routing Model (SWRM). This information also supports the following regarding the influence of converting agricultural land to urban uses of the Specific Plan site:

- First, irrigation return flows are estimated to be 37 percent of the farming water used. This is based on: (1) data for the period 1996–2000, as contained in the report titled *Draft Additional Analysis to the Newhall Ranch Specific Plan* (see Appendix 2.5); and (2) further calculations presented in Appendix C of the report titled *Regional Groundwater Flow Model for the Santa Clarita Valley: Model Development and Calibration* (CH2M HILL, 2004). Specifically, during the period 1996–2000, irrigation return flows are estimated to have averaged 2,583 acre-feet per year (afy), which is 37 percent of the average 7,038 afy of alluvial pumping and subsequent farm water use.

- Second, the urbanization of agricultural lands may reduce recharge to the portion of the Alluvial aquifer directly underlying those former agricultural land parcels. According to GSI Solutions, Inc., it is highly unlikely that this will have any appreciable effect on the water table elevation and highly unlikely that the amount of Alluvial aquifer groundwater available for water supply will decrease. This conclusion is based on groundwater elevation records for the past 60 years, which show that the portion of the Alluvial aquifer that lies along the Santa Clara River west of I-5 has shown: (1) no long-term sustained water level declines; and (2) only small year-to-year fluctuations in water levels compared with upgradient portions of the Alluvial aquifer east of I-5. This long-term stability in Alluvium water levels west of I-5 has occurred despite three distinctly different historical periods for Alluvial pumping: (1) pre-urbanization conditions prior to the 1960s, when agricultural pumping occurred primarily west of I-5 and at rates typically between 35,000 and 40,000 afy from the Alluvium; (2) early urbanization from the mid-1960s through the early 1980s, when Alluvial pumping decreased gradually to as little as 20,000 afy in 1983; and (3) continued urbanization since that time as Alluvial pumping has returned to pre-urbanization rates and also shifted gradually eastward. These historical trends in pumping – and specifically the 15,000 to 20,000 afy changes during the periods listed in (2) and (3) above – are far more significant in volume than any changes to local groundwater recharge that might occur as Newhall's agricultural lands are urbanized. Accordingly, given that large historical fluctuations in pumping have resulted in stable, rather than fluctuating, Alluvial groundwater levels west of I-5, it is highly unlikely that the much smaller volumetric changes in recharge beneath these agricultural lands will reduce the amount of Alluvial aquifer groundwater available for water supply.

Specific to the recharge of the Saugus Formation, a technical memorandum was prepared by Luhdorff & Scalmanini Consulting Engineers in March 2006 in response to a condition (Additional Conditions of Approval Associated with the Specific Plan (e)) required by the Newhall Ranch Specific Plan. This technical memorandum is entitled, "*Evaluation of Groundwater Recharge Methods for the Saugus Formation in the Newhall Ranch Specific Plan Area,*" and included in **Appendix 4.8**. The technical memorandum evaluated the need for identifying land areas within the Specific Plan area for recharge of the Saugus Formation. It concluded that there was no need to set aside land area for artificial recharge of the Saugus Formation within the Specific Plan area. This conclusion is based on the following findings:

- Saugus Formation is generally recharged in the east to central portion of the basin, well east of the Newhall Ranch Specific Plan area. Groundwater flow in the basin is generally east to west with resulting groundwater discharge at the western end of the basin.

- The Specific Plan area overlies a small portion of the Saugus Formation at the far western end of the basin, where the basin is discharging water that flows downstream toward Ventura County.

- Historical observations for several decades have shown that there have been no long-term changes in groundwater storage or levels and that natural recharge processes have sustained groundwater levels, including long-term, essentially constant, high groundwater levels—without the need for artificial recharge operations to augment natural recharge to the basin.

- The future operating plan for the basin has been evaluated in the *2005 UWMP*, the 2005 *Basin Yield Report* and the 2009 *Basin Yield Update*, and none of the documents call for attempts to artificially recharge the basin.

- If artificial recharge of the Saugus Formation were to become desirable for some reason in the future, while there is no need for artificial recharge in the western part of the basin, recharge to the Saugus Formation is hydrogeologically feasible through injection wells. This mechanism, if needed in the future, would alleviate the need to set aside land area for artificial recharge purposes, and would likely occur in the eastern portion of the Saugus Formation, not within the Newhall Ranch Specific Plan area.

It has been suggested that irrigation return flows (i.e., the amount of agricultural water that returns to the ground as recharge) account for as much as 70 percent of the agricultural water currently used on the Specific Plan site, and that because the Specific Plan reduces that recharge, recharge reductions must be subtracted from the 7,038 acre-feet of groundwater to be converted for potable use on the Specific Plan site.

As evaluated above, development of the Specific Plan area, including the Mission Village site, would significantly increase the area of irrigated non-residential landscaping (i.e., land planned for parks, a golf course, highway landscaping and irrigated slopes) on currently undeveloped land. However, irrigation return flows during the period 1996–2000 are estimated to have averaged 2,583 afy, which is only 37 percent of the average 7,038 afy of Alluvial pumping and subsequent farming water use.[48]

In addressing the topic of recharge, it is important to consider the Specific Plan's influence, and Mission Village's influence as part of the Specific Plan, on recharge from a basin-wide perspective. Specifically, due to the size and historical stability of the basin, it is highly unlikely that reduced recharge resulting from development of the Specific Plan, including Mission Village, will have any appreciable effect on the

48 See Newhall Ranch Revised Draft Additional Analysis (November 2002), Appendix 2.5m and Appendix C ("Regional Groundwater Flow Model for the Santa Clarita Valley: Model Development and Calibration") (CH2MHILL, 2004).

water table elevation or the amount of Alluvial aquifer groundwater available for potable water supply. As described, because the Specific Plan is unlikely to cause any significant impacts to basin recharge, no reduction in the 7,038 af of groundwater historically pumped for agricultural irrigation on the Specific Plan site is needed or appropriate.

The urbanization of agricultural lands may reduce recharge to the portion of the Alluvial aquifer *directly underlying* those former agricultural land parcels. However, as discussed below, significantly larger historical fluctuations in pumping have not resulted in any long-term sustained water level declines in the Alluvial aquifer along the Santa Clara River west of I-5 and only small year-to-year fluctuations in water levels compared with upgradient portions of the Alluvial aquifer east of I-5. Based on the information presented in the studies relied upon and incorporated by reference in this EIR, it is highly unlikely that reduced recharge resulting from development of the Specific Plan, including Mission Village, will have any appreciable effect on the water table elevation or the amount of Alluvial aquifer groundwater available for potable water supply.

Specifically, GSI Groundwater Solutions, Inc., a hydrogeology and groundwater resource management firm, reviewed historic groundwater elevation records from the past 60 years,[49] and that data shows: (1) no long-term sustained water level declines; and (2) only small year-to-year fluctuations in water levels compared with upgradient portions of the Alluvial aquifer east of I-5. Alluvial aquifer water levels west of I-5 have remained stable over the long-term despite three distinctly different historical periods for Alluvial pumping: (1) pre-urbanization conditions prior to the 1960s, when agricultural pumping from the Alluvial aquifer occurred *primarily west of I-5* (including the Specific Plan site and its vicinity) and at rates typically between 35,000 and 40,000 afy; (2) early urbanization from the mid-1960s through the early 1980s, when Alluvial aquifer pumping decreased gradually to as little as 20,000 afy in 1983; and (3) continued urbanization since that time as Alluvial aquifer pumping has returned to pre-urbanization rates and also shifted gradually eastward. According to GSI Groundwater Solutions, Inc., these historical trends in Alluvial aquifer pumping are far more significant in volume than any changes to local groundwater recharge that might occur as Newhall's agricultural lands are urbanized. The fluctuations in pumping described above historically have caused no apparent adverse effect on Alluvial aquifer groundwater levels or the long-term availability of Alluvial aquifer groundwater: (1) west of I-5 (including within the proposed project site; and (2) elsewhere in the basin. This well-documented stability in groundwater levels (and therefore groundwater availability) has occurred even with the large historic fluctuations in pumping (15,000 to 20,000 afy reductions, followed by 15,000 to 20,000 afy increases), which are approximately 6 to 8 times greater in magnitude than the 2,583 af fluctuation/reduction in

49 See 2007 Santa Clarita Valley Water Report, Figures III-4 and III-5.

on-site irrigation return flow that is estimated for the proposed project site. Given that large historical fluctuations in pumping have resulted in stable Alluvial aquifer groundwater levels in the past (including west of I-5 and within the proposed project site), the substantially smaller volumetric changes in recharge beneath agricultural lands on the proposed project site are unlikely to affect the amount of Alluvial aquifer groundwater available for water supply. Therefore, the agricultural return flows should not be subtracted from the 7,038 acre-feet that would be converted to potable uses for the Specific Plan, including the Mission Village project.

Perchlorate Impacts on Groundwater Supply. The detection of perchlorate in local groundwater supplies has raised concerns over the reliability of local groundwater supplies, in particular the Saugus Formation, where three wells remain removed from active service as a result of perchlorate. As discussed in both this EIR, the *2005 UWMP*, Chapter 5 and Appendix D, and the *2009 Basin Yield Update*, planning for remediation of the perchlorate and restoration of the impacted well capacity is substantially underway. While that work is being completed, non-impacted production facilities can be relied upon for the quantities of water projected to be available from the Alluvial aquifer and Saugus Formation during the time necessary to restore perchlorate-impacted wells. CLWA, the local retail water purveyors, DTSC, and other agencies continue to monitor and work closely on the remediation of perchlorate-impacted wells. This EIR has presented a detailed summary of the status of perchlorate remediation and restoration of perchlorate-impacted groundwater supply in the Santa Clarita Valley (see above). This work effort continues on multiple fronts to address perchlorate-impacted wells stemming from past manufacturing activities on the former Whittaker-Bermite site, which is located over 4 miles away from the Mission Village project site. As stated above, CLWA and local retail purveyors have restored, and continue work to restore, the production capacity of the groundwater supply wells contaminated by perchlorate, while working on longer-term objectives of containing the downgradient migration of perchlorate.

(1) Perchlorate Impacted Water Purveyor Wells

As discussed above, perchlorate was detected in four Saugus Formation production wells near the former Whittaker-Bermite site in 1997. As a result, these wells (SCWD's Wells, Saugus 1 and Saugus 2, NCWD's Well NC-11, and VWC's Well V-157) were removed from service. In 2002, perchlorate was detected in the SCWD Stadium Well, located in the Alluvial aquifer, directly adjacent to the former Whittaker-Bermite site. This Alluvial well also was removed from service.

Since the detection of perchlorate and resultant inactivation of impacted wells, the purveyors have been conducting regular monitoring of active wells near the Whittaker-Bermite site. In April 2005, that monitoring detected the presence of perchlorate in Valencia Water Company's Well Q2, an Alluvial well located immediately northwest of the confluence of Bouquet Creek and the Santa Clara River. The

location of this well is also shown on **Figures 4.8-6** and **4.8-7**. As a result of the detection and confirmation of perchlorate in its Well Q2, Valencia Water Company removed the well from active service and pursued rapid permitting and installation of wellhead treatment in order to return the well to water supply service. In October 2005, Valencia Water Company restored the pumping capacity of Well Q2 with the start-up of wellhead treatment designed to effectively remove perchlorate. After nearly two years of operation with wellhead treatment, during which there was no detection of perchlorate, Valencia was authorized by DPH to discontinue treatment. Since that time, Well Q2 has operated without treatment and there has been no detection of perchlorate since discontinuation of wellhead treatment. As a result, Well Q2 is part of the purveyors' capacity in its operating plan.

In January 2005, Valencia Water Company permanently closed well V-157 and, in September 2005, completed the construction of new Saugus well V-206 located in an area of the Saugus Formation not impacted by perchlorate. Valencia Water Company's V-206, which is operational, has replaced the pumping capacity temporarily impacted by the detection of perchlorate at former well V-157. Well V-206 is part of the purveyors' capacity in its operating plan.

In addition, in response to the deactivation of the Stadium Well, SCWD has recently drilled a replacement well (Valley Center Well) further to the east, north-northeast of the former Whittaker-Bermite site. The Valley Center Well also will be a part the Valley's active municipal groundwater source capability.

In summary, three Saugus wells (Saugus 1 and 2 and NC-11) remain off-line due to perchlorate contamination. However, as stated above, there is more than sufficient pumping capacity in the Alluvial and Saugus production wells to meet the purveyors' groundwater operating plan, without any adverse environmental effects.

Locations of the impacted wells and other nearby non-impacted wells, relative to the Whittaker-Bermite site are shown on **Figures 4.8-6** and **4.8-7**.

(2) Restoration of Perchlorate Impacted Water Supply

Since the detection of perchlorate in the four Saugus wells in 1997, CLWA and the retail water purveyors have recognized that one element of an overall remediation program would most likely include pumping from impacted wells, or from other wells in the immediate area, to establish hydraulic conditions that would control the migration of contamination from further impacting the aquifer in a downgradient (westerly) direction. Thus, CLWA and the retail water purveyors report that the overall perchlorate remediation program includes dedicated pumping from some or all of the impacted wells, with appropriate treatment, such that two objectives could be achieved. The first objective is control of subsurface flow and protection of downgradient wells, and the second is restoration of some or all of the

contaminated water supply. Not all impacted capacity is required for control of groundwater flow. The remaining capacity would be replaced by construction of replacement wells at non-impacted locations.

In cooperation with state regulatory agencies and investigators working for Whittaker-Bermite, CLWA and the local retail water purveyors developed an off-site plan that focuses on the concepts of groundwater flow control and restored pumping capacity and is compatible with on-site and possibly other off-site remediation activities. Specifically relating to water supply, the plan includes the following:

- Constructing and operating a water treatment process that removes perchlorate from two impacted wells such that the produced water can be used for municipal supply.
- Hydraulically containing the perchlorate contamination that is moving from the Whittaker-Bermite site toward the impacted wells by pumping the wells at rates that will capture water from all directions around them.
- Protecting the downgradient non-impacted wells through the same hydraulic containment that results from pumping two of the impacted wells.
- Restoring the annual volumes of water pumped from the impacted wells before they were inactivated and also restoring the wells' total capacity to produce water in a manner consistent with the retail water purveyors' operating plan for groundwater supply described above.

The two key activities that comprise the majority of effort required for implementation of the plan are general facilities-related work (design and construction of well facilities, treatment equipment, pipelines, etc.) and permitting work. Both activities are planned and scheduled concurrently, resulting in planned completion (i.e., restoration of all impacted capacity) in 2010. Notable accomplishments toward implementation include completion of the Final Interim Remedial Action Plan (RAP) and associated environmental review with the adoption of a Mitigated Negative Declaration in September 2005, and various implementation activities from 2007–2009. Completion of the CLWA containment plan is expected in June 2010.

In light of the preceding, as to the adequacy of groundwater as the local component of water supply for the Santa Clarita Valley, the impacted capacity of the three wells will remain unavailable through 2010, during which time the non-impacted groundwater supply will be sufficient to meet near-term water requirements as described above. With the restoration of the wells, the total groundwater capacity will be sufficient to meet the full range of normal and dry-year conditions as provided in the CLWA/retail water purveyor groundwater operating plan for the Basin.

Returning the remaining three contaminated Saugus wells to municipal water supply service requires issuance of permits from DPH before the water can be considered potable and safe for delivery to

customers. The permit requirements are contained in DPH Policy Memo 97-005 for direct domestic use of impaired water sources.

Before issuing a permit to a water utility for use of an impaired source as part of the utility's overall water supply permit, DPH requires that studies and engineering work be performed to demonstrate that pumping the wells and treating the water will be protective of public health for users of the water. The 97-005 Policy Memo requires that DPH review the local retail water purveyor's plan, establish appropriate permit conditions for the wells and treatment system, and provide overall approval of returning the impacted wells to service for potable use. Ultimately, the CLWA/local retail water purveyor plan and the DPH requirements are intended to ensure that the water introduced to the potable water distribution system has no detectable concentration of perchlorate.

The DPH 97-005 Policy Memo requires, among other things, the completion of a source water assessment for the impacted wells intended to be returned to service. The purpose of the assessment is to determine the extent to which the aquifer is vulnerable to continued migration of perchlorate and other contaminants of interest from the Whittaker-Bermite site. The assessment includes the following:

- Delineation of the groundwater capture zone caused by operating the impacted wells
- Identification of contaminants found in the groundwater at or near the impacted wells
- Identification of chemicals or contaminants used or generated at the Whittaker-Bermite facility
- Determination of the vulnerability of pumping the impacted wells to these contaminant sources

CLWA worked with its consultants and local retail purveyors to complete the DPH 97-005 Policy Memo permit application. The application includes, among other things, the Source Water Assessment, Raw Water Quality Characterization, Source Protection Plan, Effective Monitoring and Treatment Evaluation, Human Health Risk Assessment, and the Alternatives Sources Evaluation. The draft Engineer's Report, which summarizes these six elements for the 97-005 process, is in final draft form as of May 23, 2008. The CEQA process for the "CLWA Groundwater Containment, Treatment, and Restoration Project," for which the 97-005 process is being conducted, was certified in September 2005.

As listed above, DPH 97-005 Policy Memo requires an analysis to demonstrate contaminant capture and protection of other nearby water supply wells. The development and calibration of a numerical groundwater flow model of the entire basin had been initiated as a result of a 2001 MOU among the Upper Basin Water Purveyors (CLWA, CLWA SCWD, LACWWD #36, NCWD, and VWC) and the United Water Conservation District in Ventura County.

The groundwater model was initially intended for use in analyzing the operating yield and sustainability of groundwater in the Basin. However, the model was adaptable to analyze both the sustainability of groundwater under an operational scenario that includes full restoration of perchlorate-contaminated supply and the containment of perchlorate near the Whittaker-Bermite property (i.e., by pumping some of the contaminated wells). In 2004, DTSC reviewed and approved the development and calibration of the regional model. After DTSC approval, the model was used to simulate the capture and control of perchlorate by restoring impacted wells, with treatment. The results of that work are summarized in a report entitled, *Analysis of Perchlorate Containment in Groundwater Near the Whittaker-Bermite Property, Santa Clarita, California* (CH2MHill, December 2004) (see **Appendix 4.8**), and is summarized in the 2009 Basin Yield Update (**Appendix 4.8**). The modeling analysis indicates that the pumping of impacted wells SCWD-Saugus 1 and SCWD-Saugus 2 on a nearly continual basis will effectively contain perchlorate migrating westward in the Saugus Formation from the Whittaker-Bermite property. The modeling analysis also indicates that: (1) no new production wells are needed in the Saugus Formation to meet the perchlorate containment objective; (2) impacted well NCWD-11 is not a required component of the containment program; and (3) pumping at SCWD-Saugus 1 and SCWD-Saugus 2 is necessary to prevent migration of perchlorate to other portions of the Saugus Formation. This report, and the accompanying modeling analysis, was approved by DTSC in November 2004. With that approval, the model is now being used to support the source water assessment and the balance of the permitting process required by DPH.

Based on the progress made to date, the provision of groundwater to the Mission Village project site from urban uses would not result in the spread of perchlorate in the Basin beyond the currently impacted wells because: (a) there will not be a net increase in groundwater usage due to the conversion of agricultural water to potable supply uses for the Mission Village project site (see **Mitigation Measure SP 4.11-15**); (b) the agricultural groundwater used to meet the needs of the Mission Village project site must meet the drinking water quality standards required by law prior to use (see **Mitigation Measure SP 4.11-16**); and (c) the wells expected to serve the Mission Village project site are located within the Specific Plan site, or very near the site at the Valencia Commerce Center; the wells are not impacted by perchlorate based on laboratory test results; and they are located over 4 miles west of the former Whittaker-Bermite site.

Mission Village Water Demand Impacts. The project water demand is summarized in **Table 4.8-16, Summary of Mission Village Water Demand**. As shown, the project's potable demand is 1,676 afy and the non-potable water demand is 1,243 afy, for a total water demand of 2,919 afy. The Mission Village project site is presently used for crop production, oil and natural gas operations, movie and television filming, and cattle grazing. Portions of the project site has been farmed for many decades. The project applicant, Newhall Land, owns and operates agricultural wells in Los Angeles County. Total production

from Newhall's agricultural wells is annually reported to the State Water Resources Control Board. Furthermore, the total amount of Newhall's agricultural water production is reported in the annual Santa Clarita Valley water reports, which address the years 1997 through 2009.[50]

The average annual amount of water that has been pumped and used for Newhall's agricultural operations in Los Angeles County from 1996 to 2000 is approximately 7,038 afy. The agricultural land on the Mission Village site, as well as the Landmark Village and Newhall Ranch WRP sites, also part of the Newhall Ranch Specific Plan, ultimately would be taken out of farming production as they are converted to non-agricultural Specific Plan land uses. Since the water is already used to support Newhall's agricultural uses, there are not expected to be any significant adverse effects resulting from the use of this water to meet the potable demands of the Mission Village project, the Landmark Village project, and the Newhall Ranch WRP. In addition, due to project conditions, the amount of groundwater that will be used to meet the potable demands of the Newhall Ranch Specific Plan, including the Mission Village project, cannot exceed the amount of water historically and presently used by the applicant for agricultural uses (see **Mitigation Measure SP 4.11-15**). Therefore, no net increase in groundwater use will occur with implementation of the Specific Plan, including the proposed Mission Village proposed project.

At present, agricultural uses on the Mission Village project site use of an average of approximately 529 afy. Conversion of the Mission Village (529 afy), Landmark Village (2,940 afy) and Newhall Ranch WRP (141 afy) sites to Specific Plan land uses makes available approximately 3,610 afy of the 7,038 afy of total agricultural irrigation water available to meet potable water demands (leaving 3,428 afy to be made available on other Newhall Land agricultural fields). Subtracting the Mission Village, Landmark Village and WRP potable combined water demand of 2,297 afy from the 3,610 afy made available on the Mission Village, Landmark Village, and WRP sites leaves 1,313 afy from these sites plus the balance of the 3,428 afy from other Newhall Land sites available for other Specific Plan land uses (a total of 4,741 afy will be available for other Specific Plan land uses).

The remaining portion of this section identifies the water sources that will be available to meet the water demand generated by buildout of the Mission Village project.

Mission Village Water Supply Impacts. As discussed above, the projected total water demand for the Mission Village project is 2,919 afy in a normal/average year. Project water demand increases by

50 As part of the Newhall Ranch Specific Plan mitigation program, annual water reports have been prepared and submitted to the County of Los Angeles and the City of Santa Clarita for several years. The 1998 through 2009 Santa Clarita Valley water reports are available for public review and inspection at the County of Los Angeles, Department of Regional Planning, Sam Dea, 320 W. Temple Street, Room 1346, Los Angeles, California 90012 (213) 974-6467, and are incorporated by reference.

approximately 10 percent in a dry year to a total of 3,211 afy. To meet this demand, Valencia Water Company, as the local retail purveyor, would provide water to the Mission Village project. Water sources expected to serve the Mission Village project are the applicant's agricultural water from the Alluvial aquifer, which would be treated and used to meet the project's potable demand, and recycled water from the Newhall Ranch WRP (or the existing Valencia WRP), which would be used to meet the project's non-potable demand. These water supplies are assessed further below.

Table 4.8-16
Summary of Mission Village Water Demand (acre-feet)

Land Use	Water Demand	
	Potable	Non-Potable
Residential Development		
Low	37	
Low Medium	142	
Medium	86	
High	1,324	218
Nonresidential Development		
Mixed-Use Commercial	82	101
Open Space	5	924
Totals	**1,676**	**1,243**
Total Water Demand		**2,919**[1]

Notes:

[1] *This represents the project water demand in a normal/average year. In a dry year, the project's total water demand is anticipated to increase by 10 percent (3,211 afy), because of water demand increases under dry year conditions. Not shown is a 10 percent per capita reduction in urban demand by 2015 and a 20 percent per capita reduction in urban demand by 2020 now mandated by SB 7x7.*

(3) Non-Potable Supplies

(a) Newhall Ranch Recycled Water

A total of 1,243 afy of recycled water would be needed to serve the Mission Village project site. Recycled water from the proposed Newhall Ranch WRP would be used to meet the non-potable water demands of the Mission Village project. The recycled water from the Newhall Ranch WRP would be used on the project for irrigation of common areas, slopes and other landscaped areas. The availability of this source would occur in stages, mirroring the staged construction of the Newhall Ranch WRP. Construction of the Newhall Ranch WRP is expected to be staged as demand for treatment increases with implementation of the Newhall Ranch Specific Plan.

Since approval of the Specific Plan by Los Angeles County on May 27, 2003, the Los Angeles County Local Agency Formation Commission (LAFCO) completed formation of the Newhall Ranch County Sanitation District. The new County sanitation district was formed effective July 27, 2006.

In addition, on September 6, 2007, the Regional Water Quality Control Board, Los Angeles Region, approved Order No. R4-2007-0046, NPDES Permit No. CA0064556, effective October 27, 2007. This Order serves as the NPDES Permit for point source discharges from the Newhall Ranch WRP, pursuant to section 402 of the federal Clean Water Act and chapter 5.5, division 7 of the California Water Code. The Order also serves as the Waste Discharge Requirements for the new County Sanitation District with respect to discharges to the Santa Clara River, pursuant to article 4, chapter 4, of the California Water Code. Specifically, the Order specifies limitations and discharge requirements for the Newhall Ranch WRP, including discharge prohibitions, technology-based and water quality-based effluent limitations, receiving water limitations, and other provisions such as monitoring and reporting requirements.

Construction of the Newhall Ranch WRP will require outfall construction and other facilities in and near the Santa Clara River. As a result, the applicant has requested a section 404 Permit from the Corps and a Master Streambed Alteration Agreement from CDFG in order to obtain the federal and state permitting for such facilities.

(4) CLWA Recycled Water

If the Newhall Ranch WRP is not operating at the time of Mission Village project occupancy, the non-potable water demand of the Mission Village project would be met through the use of recycled water from the existing Valencia WRP, located upstream of the Mission Village project site. CLWA would temporarily serve the project site with recycled water from the existing Valencia WRP. Ultimately, however, all recycled water needed on the Mission Village site would be provided by the Newhall Ranch WRP.

(5) Potable Supplies

(a) Newhall Agricultural Water

The project applicant would meet all of the potable water demands of the Mission Village project by using the water from the Alluvial aquifer that the applicant historically and presently uses for agricultural irrigation purposes on its land in Los Angeles County. No additional water would be pumped; instead, the water presently used to irrigate crops would be pumped from sanitary-sealed municipal supply wells (as compared to open-air agricultural wells), treated at the wellhead to meet Title 22 drinking water standards, and then used to meet the project's potable demand, as agricultural areas are taken out of production. The total amount of water previously and presently used for agriculture that is available to the Newhall Ranch Specific Plan is approximately 7,038 afy in both average and dry years.

The Mission Village project would use approximately 1,676 of the 7,038 afy to meet its potable water demand.

The agricultural land would ultimately be taken out of farming production as it is converted to non-agricultural Specific Plan land uses. (The applicant is required to provide a report to Los Angeles County the property or properties taken out of agricultural production in order to provide the needed water for that tract; see **Mitigation Measure SP 4.11-22**.) Since the water is already used to support Newhall's agricultural uses, there are not expected to be any significant environmental effects resulting from the water being used to meet the potable demands of the Mission Village project. Based on the previously adopted mitigation by Los Angeles County, the amount of groundwater that would be used to serve the potable demands of the Specific Plan, including Mission Village, cannot exceed 7,038 afy.

Impacts Assessment of Existing Conditions Plus Project Water Demand and Supply. This section describes the existing development demand in the Santa Clarita Valley, plus the project water demand, measured against existing supplies. **Table 4.8-17**, **Existing Plus Project Demand and Supply for the Santa Clarita Valley**, illustrates that existing supplies exceed project demand, in conjunction with existing demand in the Santa Clarita Valley.

Table 4.8-17
Existing Plus Project Demand and Supply for the Santa Clarita Valley

2009 Demand	**(acre-feet)**	
2009 Demand (Actual)[1]	86,538	
Mission Village Demand	2,919	
Total Existing Plus Project Demand		**93,619**
Available 2009 Supplies		
Local Groundwater[2]		
Alluvial aquifer	39,986	
Saugus Formation	7,678	
Subtotal Local Groundwater		**47,664**
Imported Supplies		
Table A Amount[3]	38,080	
Net Carryover from 2008[4]	10,107	
Buena Vista/Rosedale-Rio Bravo[5]	11,000	
Yuba Accord	1,658	
Flexible Storage Account (CLWA)[6]	0	
Flexible Storage Account (Ventura County)[7]	0	
2009 SWP Turnback Pool Water	52	
Semitropic Water Banking and Exchange Program [12]	1,650	
Nickel Water -- Newhall Land	1,607	
Subtotal Imported Supplies		**68,657**
Recycled Water	328	**328**
Total Available 2009 Supplies		**116,649**

Additional Dry-Year Supplies[8]	**(acre-feet)**	
Semitropic Water Bank		**45,920**
2002 Account[9]	16,650	
2003 Account[9]	29,270	
Rosedale-Rio Bravo Banking and Exchange Program		**20,000**
2005-2006 Buena Vista/Rosedale-Rio Bravo Water Acquisition Agreement and Banking of Table A in 2005-2007 [10] [11]	20,000	
Semitropic Water Bank -- Newhall Land[12]	3,300	**3,300**
Total Additional 2009 Dry-Year Supplies		**69,220**

Notes:

[1] *See 2009 Water Report, p. ES-1 (May 2010).*

[2] *See 2009 Water Report, pp. ES-1 - ES-2 (May 2010).*

[3] *CLWA's SWP Table A Amount is 95,200 af. The final 2009 allocation was 40%, or 38,080 af.*

[4] *Amount used by CLWA in 2009.*

[5] *2008 annual supply from Buena Vista/Rosedale-Rio Bravo Water Acquisition Agreement.*

[6] *CLWA can directly utilize up to 4,684 af of storage capacity in Castaic Lake.*

[7] *By agreement in 2005, CLWA can also utilize 1,376 af of Ventura County SWP contractors' flexible storage capacity in Castaic Lake.*

[8] *Does not include other reliability measures available to CLWA and the retail water purveyors. These measures include short-term exchanges, participation in DWR's dry-year water purchase programs, local dry-year supply programs, and other future groundwater storage programs.*

[9] *Net recoverable water after banking is 24,000 af and 32,522 af in 2002 and 2003, respectively.*

[10] *Net recoverable water after banking is 20,000 af in each year.*

[11] *Water stored in Rosedale-Rio Bravo Banking and Exchange Program pursuant to the Buena Vista/Rosedale-Rio Bravo Water Acquisition Agreement.*

[12] *Supply shown is the stored water that can be extracted from the Semitropic Groundwater Storage Bank by The Newhall Land and Farming Company for the Newhall Ranch Specific Plan in dry years minus the 1,650 af also shown in this table under "Semitropic Water Banking and Exchange Program." Together, the total is 4,950 af. The total amount currently in storage is 18,828 af. Newhall Ranch is located within the CLWA service area. Delivery of stored water requires further agreements between CLWA and Newhall Land.*

8. CUMULATIVE WATER DEMAND AND SUPPLY ANALYSIS

The following discussion focuses on the cumulative impacts to water availability for the Santa Clarita Valley. The analysis evaluates cumulative impacts under the following three future water demand and supply scenarios:

Scenario 1. Existing development within the CLWA service area, plus near-term projections, plus the project (referred to as the SB 610 Water Demand and Supply Scenario).

Scenario 2. Existing development within the CLWA service area, plus County General Plan DMS projections, plus the project (referred to as the DMS Buildout Scenario).

Scenario 3. Buildout within the CLWA service area by 2030, plus active pending General Plan Amendment requests, plus the project (referred to as the Santa Clarita Valley 2030 Buildout Scenario).

a. SB 610 Water Demand and Supply Scenario

As indicated previously, the Valencia Water Company prepared a Mission Village WSA for the proposed project. The WSA is found in **Appendix 4.8**. Based on the information in the WSA, Valencia Water Company concludes there will be a sufficient water supply available at the time the Mission Village project is ready for occupancy to meet the needs of the project, in addition to existing and other planned future uses within Valencia Water Company's service area.

Valencia Water Company's current service area-wide demand is approximately 32,756 afy.[51] As mentioned previously, the Mission Village project will require approximately 2,919 afy at buildout. The average year, dry year, and multiple dry-year water assessment are presented below. These assessments are based on current information provided by CLWA, the local retail purveyors, and the *2005 UWMP*.

Average Year Water Assessment. Total projected average/normal-year water demands for the CLWA service area through the year 2030 are compared with the supplies projected to be available to meet demands in this average/normal-year water analysis (see **Table 4.8-18, Projected Average/Normal Year Supplies and Demands**).

Table 4.8-18
Projected Average/Normal Year Supplies and Demands

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
Existing Supplies					
Wholesale (Imported)	69,707	69,707	69,707	69,707	69,707
SWP Table A Supply [1]	57,100	57,100	57,100	57,100	57,100
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Ranch	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA) [2]	0	0	0	0	0
Flexible Storage Account (Ventura County) [2]	0	0	0	0	0
Local Supplies					
Groundwater	46,000	46,000	46,000	46,000	46,000
Alluvial Aquifer	35,000	35,000	35,000	35,000	35,000
Saugus Formation	11,000	11,000	11,000	11,000	11,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies [1]	117,407	117,407	117,407	117,407	117,407
Existing Banking Programs					
Semitropic Water Bank [2]	0	0	0	0	0
Rosedale-Rio Bravo [2]	0	0	0	0	0
Semitropic Water Bank – Newhall Land [2]	0	0	0	0	0
Total Existing Banking Programs	0	0	0	0	0

51 This represents year 2007 demand. Dry year demand is approximately 10 percent higher.

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
Planned Supplies					
Local Supplies					
Groundwater	0	0	0	0	0
Restored wells (Saugus Formation) [2]	0	0	0	0	0
New Wells (Saugus Formation) [2]	0	0	0	0	0
Recycled Water - CLWA [3]	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	1,500	2,500	3,500	5,400
Total Planned Supplies	0	3,100	8,800	14,500	21,100
Planned Banking Programs					
Additional Planned Banking [2]	0	0	0	0	0
Total Planned Banking Programs	0	0	0	0	0
Total Existing and Planned Supplies and Banking [(1)]	117,407	120,507	126,207	131,907	138,507
Total Estimated Demand (w/o conservation) [4]	100,050	109,400	117,150	128,400	138,300
Conservation at 10% [5]	(8,600)	(9,700)	(10,700)	(11,900)	(12,900)
Total Adjusted Demand at 10% Conservation	91,450	99,700	106,450	116,500	125,400
Net Water Surplus (Deficit)	25,957	20,807	19,757	15,407	13,107

[1] *SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of average deliveries projected to be available on Tables 6-3 and 6-12 of DWR's "The State Water Project Delivery Reliability Report 2009." Year 2030 figure is calculated by multiplying by DWR's 2029 percentage of 60%.*

[2] *Not needed during average/normal years.*

[3] *Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.*

[4] *Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area are not included.*

[5] *A 10 percent reduction on urban portion of total normal demand is estimated to result from conservation best management practices, as discussed in CLWA's 2005 UWMP, Chapter 7. Not shown is a 10 percent per capita reduction in urban demand by 2015 and a 20 percent per capita reduction in urban demand by 2020 now mandated by SB 7x7.*

Source in part: Mission Village WSA (July 2010)

Single Dry-Year Water Assessment. Table 4.8-19, Projected Single-Dry-Year Supplies and Demands, summarizes the existing and planned water supplies available to the CLWA service area through 2030 should a single-dry-year occur, similar to the drought that occurred in California in 1977. Demand during single-dry years was assumed to increase by 10 percent. During prolonged dry periods, experience indicates that a reduction in demand of 10 percent is achievable through the implementation of conservation Best Management Practices.

It should be noted that dry year supplies available above demand reflect water supplies that would be called upon by purveyors in dry years. CLWA and the local purveyors would typically secure water from these supplies only in amounts necessary to meet demand.

Table 4.8-19
Projected Single-Dry Year Supplies and Demands

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
Existing Supplies					
Wholesale (Imported)	25,367	26,267	25,887	26,787	27,787
SWP Table A Supply [1]	6,700	7,600	8,600	9,500	10,500
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Ranch	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA)	4,680	4,680	4,680	4,680	4,680
Flexible Storage Account (Ventura County)[2]	1,380	1,380	0	0	0
Local Supplies					
Groundwater	47,500	47,500	47,500	47,500	47,500
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Formation	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**74,567**	**75,467**	**75,087**	**75,987**	**76,987**
Existing Banking Programs					
Semitropic Water Bank [3]	17,000	0	0	0	0
Rosedale-Rio Bravo [5]	20,000	20,000	20,000	20,000	20,000
Semitropic Water Bank – Newhall Land [10]	4,950	4,950	4,950	4,950	4,950
Total Existing Banking Programs	**41,950**	**24,950**	**24,950**	**24,950**	**24,950**
Planned Supplies					
Local Supplies					
Groundwater	10,000	10,000	20,000	20,000	20,000
Restored wells (Saugus Formation)	10,000	10,000	10,000	10,000	10,000
New Wells (Saugus Formation)	0	0	10,000	10,000	10,000
Recycled Water - CLWA [4]	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	1,500	2,500	3,500	5,400
Total Planned Supplies	**10,000**	**13,100**	**28,800**	**34,500**	**41,100**
Planned Banking Programs					
Additional Planned Banking [6]	0	20,000	20,000	20,000	20,000
Total Planned Banking Programs	**0**	**20,000**	**20,000**	**20,000**	**20,000**
Total Existing and Planned Supplies and Banking[11]	126,517	133,517	148,837	155,437	163,037
Total Estimated Demand (w/o conservation) [7, 8]	110,100	120,300	128,900	141,200	152,100
Conservation at 10% [9]	(9,500)	(10,700)	(11,700)	(13,100)	(14,200)
Total Adjusted Demand at 10% Conservation	100,600	109,600	117,200	128,100	137,900
Net Water Surplus (Deficit)	25,917	23,917	31,637	27,337	25,137

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030

[1] SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of single dry year deliveries projected to be available on Tables 6-4 and 6-13 of DWR's "The State Water Project Delivery Reliability Report 2009." Year 2030 figure is calculated by multiplying by DWR's 2029 percentage of 11%.

[2] Initial term of the Ventura County entities' flexible storage account is 10 years (from 2006 to 2015).

[3] The total amount of water currently in storage is 50,870 af, available through 2013. Withdrawals of up to this amount are potentially available in a dry year, but given possible competition for withdrawal capacity with other Semitropic banking partners in extremely dry years, it is assumed here that about one third of the total amount stored could be withdrawn.

[4] Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.

[5] CLWA has 64,898 af of recoverable water as of 12/31/07 in the Rosedale-Rio Bravo Water Banking and Recovery Program.

[6] Assumes additional planned banking supplies available by 2014.

[7] Assumes increase in total demand of 10 percent during dry years.

[8] Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area are not included.

*[9] A 10 percent reduction on urban portion of total normal year demand is estimated to result from conservation best management practices ([urban portion of total normal year demand x 1.10] * 0.10), as discussed in CLWA's 2005 UWMP, Chapter 7. Not shown is a 10 percent per capita reduction in urban demand by 2015 and a 20 percent per capita reduction in urban demand by 2020 now mandated by SB 7x7.*

[10] Delivery of stored water from the Newhall Land Semitropic Groundwater Bank requires further agreements between CLWA and Newhall.

[11] In 2008, CLWA also acquired approximately 850 af of non-SWP imported water supply by entering into a water transfer agreement with Yuba County Water Agency (YCWA); however, CLWA has not yet updated its water supplies/demand tables to reflect this additional non-SWP imported supply.

Source: Mission Village WSA (July 2010).

Multiple-Dry Year Water Assessment. Table 4.8-20, Projected Multiple-Dry Year Supplies and Demands, summarizes the existing and planned water supplies available to the CLWA service area through 2030 in the event that a four year multiple-dry year event occurs, similar to the drought that occurred in California during the years 1931 to 1934. Demand during dry years was assumed to increase by 10 percent. During prolonged dry periods, experience indicates that a reduction in demand of 10 percent is achievable through the implementation of conservation Best Management Practices.

As shown, water supplies exceed demand by 20,927 (in 2030) to 29,327 (in 2020) acre-feet in multiple dry years with the incorporation of conservation measures. Again, it should be noted that dry year supplies available above demand reflect water supplies that would be called upon by purveyors in dry years. CLWA and the local purveyors would typically secure water from these supplies only in amounts necessary to meet demand.

Conclusion. Based on the analysis set forth in this section, the documents used or relied on in preparing this section, the Mission Village WSA, information provided by CLWA and the purveyors, and the *2005 UWMP*, there are sufficient water supplies to serve the Mission Village project and other existing and planned uses within the CLWA service area in an average/normal year, single-dry year, and in multiple-dry years for the present through 2030.

Table 4.8-20
Projected Multiple-Dry Year Supplies and Demands[1]

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
Existing Supplies					
Wholesale (Imported)	47,417	47,417	47,077	47,077	47,077
SWP Table A Supply[2]	33,300	33,300	33,300	33,300	33,300
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land	1,607	1,607	1,607	1,607	1,607
Flexible Storage Account (CLWA)[3]	1,170	1,170	1,170	1,170	1,170
Flexible Storage Account (Ventura County)[3]	340	340	0	0	0
Local Supplies					
Groundwater	47,500	47,500	47,500	47,500	47,500
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Formation[4]	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
Total Existing Supplies	**96,617**	**96,617**	**96,277**	**96,277**	**96,277**
Existing Banking Programs					
Semitropic Water Bank[3]	12,700	0	0	0	0
Rosedale-Rio Bravo[6, 7]	5,000	15,000	15,000	15,000	15,000
Semitropic Water Bank – Newhall Land[12]	4,950	4,950	4,950	4,950	4,950
Total Existing Banking Programs	**22,650**	**19,950**	**19,950**	**19,950**	**19,950**
Planned Supplies					
Local Supplies					
Groundwater	6,500	6,500	6,500	6,500	6,500
Restored wells (Saugus Formation)[4]	6,500	6,500	5,000	5,000	5,000
New Wells (Saugus Formation)[4]	0	0	1,500	1,500	1,500
Recycled Water[5]	0	1,600	6,300	11,000	15,700
Recycled Water - Newhall Ranch	0	1,500	2,500	3,500	5,400
Total Planned Supplies	**6,500**	**9,600**	**15,300**	**21,000**	**27,600**
Planned Banking Programs					
Additional Planned Banking[7,8]	0	5,000	15,000	15,000	15,000
Total Planned Banking Programs	**0**	**5,000**	**15,000**	**15,000**	**15,000**
Total Existing and Planned Supplies and Banking[13]	**125,767**	**131,167**	**146,527**	**152,227**	**158,827**
Total Estimated Demand (w/o conservation)	110,100	120,300	128,900	141,200	152,100
Conservation at 10%[11]	(9,500)	(10,700)	(11,700)	(13,100)	(14,200)
Total Adjusted Demand at 10% Conservation	100,600	109,600	117,200	128,100	137,900
Net Water Surplus (Deficit)	**25,167**	**21,567**	**29,327**	**24,127**	**20,927**

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030

[1] *Supplies shown are annual averages over four consecutive dry years (unless otherwise noted).*
[2] *SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of average deliveries projected to be available during the worst case four-year drought of 1931-1934 as provided in Table 6-13 of DWR's "The State Water Project Delivery Reliability Report 2009." Year 2030 figure is calculated by multiplying by DWR's 2029 percentage of 35%.*
[3] *Based on total storage amount available ÷ by 4-yr dry pd.). Initial term of the Ventura County entities' flexible storage account is 10 years (2006-2015).*
[4] *Total Saugus pumping is the avg. annual amount that would be pumped under the groundwater operating plan summarized in Table 3-6, 2005 UWMP.*
[5] *Recycled water supplies based on projections provided in CLWA's 2005 UWMP Chapter 4, Recycled Water.*
[6] *CLWA has 64,898 af of recoverable water as of 12/31/07 in the Rosedale-Rio Bravo Water Banking and Recovery Program.*
[7] *Average dry year period supplies could be up to 20,000 af for each program depending on storage amounts at the beginning of the dry period.*
[8] *Assumes additional planned banking supplies available by 2014.*
[9] *Assumes increase in total demand of 10 percent during dry years.*
[10] *Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area are not included.*
[11] *A 10 percent reduction on urban portion of total normal year demand is estimated to result from conservation best management practices ([urban portion of total normal year demand x 1.10] * 0.10), as discussed in CLWA's 2005 UWMP, Chapter 7. Not shown is a 10 percent per capita reduction in urban demand by 2015 and a 20 percent per capita reduction in urban demand by 2020 now mandated by SB 7x7.*
[12] *Delivery of stored water from the Newhall Land Semitropic Groundwater Bank requires further agreements between CLWA and Newhall.*
[13] *In 2008, CLWA also acquired approximately 850 af of non-SWP imported water supply by entering into a water transfer agreement with Yuba County Water Agency (YCWA); however, CLWA has not yet updated its water supplies/demand tables to reflect this additional non-SWP imported supply.*

Source: Mission Village WSA (July 2010).

b. Development Monitoring System (DMS) Buildout Scenario

The DMS Buildout Scenario entails existing development, buildout of the near-term subdivision projects listed in the County's DMS, plus a portion of the Newhall Ranch Specific Plan, plus the proposed Mission Village project. The analysis of this cumulative development scenario is required by the County for the cumulative analysis of water service. The County's DMS lists all pending, recorded, and approved projects for which land divisions have been filed within County unincorporated lands and within the City of Santa Clarita. The City plus County unincorporated areas together constitute the County's Santa Clarita Valley Planning Area.

Table 4.8-21, **Scenario 1: DMS Buildout Scenario Demand and Supply for the Santa Clarita Valley**, below, illustrates both the cumulative water demand (existing plus DMS) and supply for the Santa Clarita Valley. This cumulative water demand is compared to the near-term projected Santa Clarita Valley water supplies and the additional Newhall Ranch Specific Plan water supplies. As shown, there is an adequate supply of water expected in both average years and dry years and no cumulative water supply impacts would occur. In fact, the table shows that water supplies exceed demand for the DMS development scenario by 27,212 af in average years and by 23,593 to 25,943 af in dry years. However, it should be noted that dry year supplies available above demand reflect water supplies that would be

available to CLWA and the local purveyors in dry years. CLWA and the local purveyors would typically secure water from these supplies only in amounts necessary to meet demand.

Table 4.8-21
Scenario 1: DMS Buildout Scenario Demand and Supply for the Santa Clarita Valley
(acre-feet)

		Dry Years	
	Average Years	Multiple Dry	Single Dry
Santa Clarita Valley Demand			
- Existing Plus DMS Demand[1]	100,742	110,816	110,816
- Mission Village Demand	2,919	3,211	3,211
- Less Conservation at 10%	(10,366)	(11,403)	(11,403)
Total	**93,295**	**102,624**	**102,624**
Santa Clarita Valley Supply[2]			
- Local Supply			
a. Groundwater			
Alluvial aquifer	35,000	32,500	32,500
Less Newhall Ranch Agricultural Water	(3,039)	(3,039)	(3,039)
Saugus Formation	11,000	15,000	15,000
Restored Impacted Wells		5,000	10,000
Saugus Formation (new)	-	- 1,500	0 -
b. Newhall Ranch Agricultural Water	3,039	3,039	3,039
c. Recycled Water	3,300	3,300	3,300
Newhall Ranch WRP Supply	1,500	1,500	1,500
- Imported Supplies			
a. SWP Table A Amount [3]	57,100	33,300	7,600
b. Newhall Nickel Water	1,607	1,607	1,607
b. Additional Planned Banking		5,000	20,000
c. Flexible Storage Account		1,510	6,060
d. Buena Vista-Rosedale Transfer	11,000	11,000	11,000
e. Rosedale-Rio Bravo Groundwater Bank		15,000	20,000
Total Supplies	**120,507**	**126,217**	**128,567**
Total Supplies above Demand [4]	**27,212**	**23,593**	**25,943**

Notes:

1 Complete buildout of DMS land uses is estimated to occur in 2015.

*2 See, 2005 UWMP and 2009 Water Report (May 2010) (see Draft **Appendix 4.8**).*

3 Dry-year supplies above demand reflect water supplies that would be available to purveyors in dry years. Purveyors would typically secure water from these available supplies only in amounts necessary to meet demand.

4 The surplus shown above is the net water available for banking programs (e.g., Rosedale-Rio Bravo Groundwater Banking Project, other groundwater banking projects, etc.).

c. DMS General Plan Consistency

The purpose of this subsection is to assess the Mission Village project's consistency with the County's General Plan DMS policies as they relate to water supply. As indicated previously in this section, the County's General Plan includes provisions known as the DMS to give decision makers information about the existing capacity of available public services at the time a new development proposal is considered in the four major Urban Expansion Areas of the County of Los Angeles General Plan (Antelope Valley, Santa Clarita Valley, Malibu/Santa Monica Mountains, and East San Gabriel Valley).[52] The goal of DMS is to identify what new public facilities will be required for the new development, and to ensure that the appropriate cost of any expansion of facilities will be paid for by that new development, and not assumed by the taxpayers. In accomplishing the goal stated above, the DMS determines the availability of school, fire, sewerage, library, water and road services and facilities on an individual and cumulative basis. The DMS data used for this analysis includes the following:

(a) Inventory information reports for water, sewer and library services in the Santa Clarita Valley;

(b) Service Provider Reports for the water wholesaler (CLWA) and water retailers in Santa Clarita Valley and County Sanitation Districts 26 and 32; and

(c) A list of all pending, approved, and recorded projects where land divisions have been filed within both the unincorporated area of the County and the City of Santa Clarita.

The DMS also works toward ensuring that the expansion costs of new development are paid for by that development.

The DMS includes a computerized database that incorporates information supplied by service providers and determines capital facility capacity and demand placed on the system by existing, pending, approved, and recorded projects for which land divisions have been filed within the four major Urban Expansion Areas. The DMS is used to quantitatively determine project and cumulative impacts on many County and other public services. In EIRs, wherever a proposed development project would result in an exceedance of applicable County infrastructure or facilities (such as water supply), a significant impact is identified, and mitigation is recommended as appropriate. The General Plan DMS requirements apply to "subdivisions" proposed within the Santa Clarita Valley.

This analysis addresses water supply requirements resulting from buildout of all pending, recorded, and approved projects listed in the County's DMS, plus the Mission Village proposed project and a portion of the Newhall Ranch Specific Plan. As indicated in **Table 4.8-21**, above, there is sufficient water supply for

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52 Resolution of the County of Los Angeles Board of Supervisors, Plan Amendment Case No. S.P. 86-173.

the demand of the Mission Village proposed project and all pending approved and recorded projects in DMS. Therefore, the Mission Village proposed project is not expected to create any significant cumulative water availability impacts under the County's DMS analysis.

In addition to ensuring that an adequate supply of water is available for a project and that new development is located in close proximity to services and existing development, DMS requirements also indicate that the project in question must be located within 1 mile of an existing development or service and that the development be located within generally 5 miles of commercial services and job opportunities. The Mission Village project site is located within the retail water service area of Valencia Water Company. It is also within the wholesale service area of CLWA.

Based on the information provided in this analysis, the Mission Village proposed project is consistent with the General Plan DMS policies as they relate to water supplies.

d. Santa Clarita Valley 2030 Buildout Scenario

The Santa Clarita Valley 2030 Buildout Scenario entails buildout of lands under the current land-use designations indicated in the County's Areawide Plan and the City of Santa Clarita's General Plan by the year 2030, plus the Mission Village proposed project, plus all known active pending General Plan Amendment requests for additional urban development in the County unincorporated area and the City of Santa Clarita.

Table 4.8-22, **Scenario 2: Santa Clarita Valley 2030 Buildout Scenario Water Supplies**, and **Table 4.8-23**, **Scenario 2: Santa Clarita Valley 2030 Buildout Scenario Water Demand and Supply**, summarize the cumulative water demand and supply for this buildout scenario. As shown, the Mission Village proposed project is not expected to create any significant cumulative water availability impacts in either average or dry years. In addition, under the buildout scenario, there are adequate water supplies for the project, with no significant cumulative water supply impacts occurring in either average or dry years. In fact, the two tables show that water supplies exceed demand under this scenario in average and dry years in 2030.

Dry year supplies available above demand reflect water supplies that would be called upon by CLWA and the local purveyors in dry years. CLWA and the local purveyors would typically secure water from these supplies only in amounts necessary to meet demand. For a dry year, when reliability of the SWP could be reduced, CLWA would utilize both dry year supplies available from the Saugus aquifer, and water banking and conjunctive use projects as indicated in **Table 4.8-22**, below.

Table 4.8-22
Scenario 2: Santa Clarita Valley 2030 Buildout Scenario Water Supplies (afy)

	Average Years	Single Dry Year	Multiple Dry Years
Santa Clarita Valley Water Supplies[1]			
Local Supply			
a. Groundwater			
Alluvial Aquifer	35,000	32,500	32,500
Saugus Formation	11,000	15,000	15,000
Restored Impacted Wells		10,000	5,000
Saugus Formation (New Wells)		10,000	1,500
b. Reclaimed Water	17,400	17,400	17,400
Newhall Ranch WRP Supply	**5,400**	**5,400**	**5,400**
Imported Supplies			
a. SWP Table A Amount[2]	57,100	10,500	33,300
b. Newhall Nickel Water	1,607	1,607	1,607
c. Newhall Semitropic Groundwater Bank Storage		4,950	4,950
d. Additional Planned Banking		20,000	15,000
e. Buena Vista-Rosedale Transfer	11,000	11,000	11,000
f. Flexible Storage Account		4,680	1,170
g. Rosedale-Rio Bravo Groundwater Bank		20,000	15,000
Total Supply	**138,507**	**163,037**	**158,827**

*Source: 2005 UWMP (see **Appendix 4.8**).*

[1] *SWP maximum allocation reduced in average years to approximately 60% of maximum allocation and in dry years to approximately 11 to 35% of maximum allocation.*

[2] *In any given year, the actual amount of SWP water deliveries could be above or below these model projections.*

As depicted in **Table 4.8-23**, below, purveyors have access to an amount of water supplies that exceed demand during dry conditions. Therefore, no cumulatively significant water availability impacts would occur due to buildout of the Mission Village project.

Because cumulative water supplies exceed demand, cumulative development (including the Mission Village proposed project) would not result in significant unavoidable cumulative impacts on Santa Clarita Valley water resources. Therefore, cumulative mitigation measures are not required.

Table 4.8-23
Scenario 2: Santa Clarita Valley 2030 Buildout Scenario Water Demand and Supply
(acre-feet)

	Buildout (Year 2030)		
	Average Years	**Single Dry Years[c]**	**Multi-Dry Years[c]**
Santa Clarita Valley Water Supplies	138,507	163,037	158,827
Total Buildout Demand at 10% Conservation [b]	125,400	137,900	137,900
Total Surplus at 10% Conservation	**13,107**	**25,137**	**20,927**

[a] *Source: 2005 UWMP, The State Water Project Delivery Reliability Report, 2009, and the Mission Village WSA prepared for the Mission Village project.*

[b] *Demand is increased by approximately 10% in dry years. Not shown is a 10 percent per capita reduction in urban demand by 2015 and a 20 percent per capita reduction in urban demand by 2020 now mandated by SB 7x7.*

[c] *Dry year supplies available above demand reflect water supplies that would be called upon by purveyors in dry years. Purveyors would typically secure water from these supplies only in amounts necessary to meet demand.*

9. MITIGATION MEASURES

The County of Los Angeles already has imposed mitigation measures required to be implemented as part of the Newhall Ranch Specific Plan. These mitigation measures, as they relate to water resources, are found in the previously certified Newhall Ranch Additional Analysis, Volume VIII (May 2003) and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). The project applicant has committed to implementing the applicable mitigation measures from the Newhall Ranch Specific Plan to ensure that future development of the project site would not result in significant water-related impacts, and would not adversely affect adjacent properties.

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as they Relate to the Mission Village Project

The following mitigation measures (**Mitigation Measure SP 4.11-1** through **SP 4.11-22**, below) were adopted by Los Angeles County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). The applicable mitigation measures will be implemented to mitigate the potentially significant water-related impacts associated with the proposed Mission Village project. These measures are preceded by "SP," which stands for Specific Plan. The text provided in the parenthetical below summarizes whether the Specific Plan mitigation is applicable to the proposed Mission Village project.

SP 4.11-1 The proposed Specific Plan shall implement a water reclamation system in order to reduce the Specific Plan's demand for imported potable water. The Specific Plan shall install a distribution system to deliver non-potable reclaimed water to irrigate land uses

suitable to accept reclaimed water, pursuant to Los Angeles County Department of Health Standards. (*Consistent with this measure, the Project Description section of this EIR discusses the fact that the Mission Village project will install and implement a recycled water delivery system. As required by this measure, recycled (reclaimed) water would be used to irrigate land uses suitable to accept recycled water, pursuant to Los Angeles County Department of Health standards.*)

SP 4.11-2 Landscape concept plans shall include a palette rich in drought-tolerant and native plants. (*Consistent with this measure, the Mission Village project's landscape plans shall include a palette rich in drought-tolerant and native plants.*)

SP 4.11-3 Major manufactured slopes shall be landscaped with materials that will eventually naturalize, requiring minimal irrigation. (*Consistent with this measure, the Mission Village project's grading/landscape plans shall include a note requiring landscaping with materials that will eventually naturalize, requiring minimal irrigation.*)

SP 4.11-4 Water conservation measures as required by the State of California shall be incorporated into all irrigation systems. (*Consistent with this measure, the Mission Village project shall incorporate into all of its irrigation systems, water conservation measures required by the State of California.*)

SP 4.11-5 The area within each future subdivision within Newhall Ranch shall be annexed to the Valencia Water Company prior to issuance of building permits. (*This measure is not applicable to the Mission Village project, because the project site is already located within the Valencia Water Company's service area.*)

SP 4.11-6 In conjunction with the submittal of applications for tentative tract maps or parcel maps which permit construction, and prior to approval of any such tentative maps, and in accordance with the requirements of the Los Angeles County General Plan DMS, as amended, Los Angeles County shall require the applicant of the map to obtain written confirmation from the retail water agency identifying the source(s) of water available to serve the map concurrent with need. If the applicant of such map cannot obtain confirmation that a water source(s) is available for buildout of the map, the map shall be phased with the timing of an available water source(s), consistent with the County's DMS requirements. (*Consistent with this measure, Valencia Water Company, the retail water purveyor for the Mission Village project, has issued its Mission Village WSA for the project, confirming the availability of water to serve the project concurrent with need.*)

SP 4.11-7 Prior to commencement of use, all uses of recycled water shall be reviewed and approved by the State of California Health and Welfare Agency, Department of Health

Services. (*Consistent with this measure, the Mission Village project's recycled water delivery system shall be reviewed and approved by the State of California Health and Welfare Agency, Department of Health Services.*)

SP 4.11-8 Prior to the issuance of building permits that allow construction, the applicant of the subdivision shall finance the expansion costs of water service extension to the subdivision through the payment of connection fees to the appropriate water agency(ies). (*Consistent with this measure, prior to issuance of building permits, the applicant for the Mission Village project shall pay for and construct the required water service extension to the Mission Village subdivision.*)

SP 4.11-9 Pursuant to Public Resources Code Section 21081(a)(2), the County shall recommend that the Upper Santa Clara Water Committee (or Santa Clarita Valley Water Purveyors), made up of the Castaic Lake Water Agency, Los Angeles County Waterworks District No. 36, Newhall County Water District, Santa Clarita Water Division of CLWA and the Valencia Water Company, prepare an annual water report that will discuss the status of groundwater within the Alluvial and Saugus Aquifers, and State Water Project water supplies as they relate to the Santa Clarita Valley. The report will also include an annual update of the actions taken by CLWA to enhance the quality and reliability of existing and planned water supplies for the Santa Clarita Valley. In those years when the Committee or purveyors do not prepare such a report, the applicant at its expense shall cause the preparation of such a report that is acceptable to the County to address these issues. This annual report shall be provided to Los Angeles County who will consider the report as part of its local land use decision-making process. (*As an update, a total of 10 annual water reports have been prepared and provided to the County of Los Angeles, the City of Santa Clarita, and other interested persons and organizations from 1998 through 2009. The latest 2009 Water Report is included in* ***Appendix 4.8***.)

SP 4.11-10 Pursuant to Public Resources Code Section 21081(a)(2), the County shall recommend that Castaic Lake Water Agency (CLWA), in cooperation with other Santa Clarita Valley retail water providers, continue to update the *UWMP* for Santa Clarita Valley once every five years (on or before December 31) to ensure that the County receives up-to-date information about the existing and planned water supplies in the Santa Clarita Valley. The County will consider the information contained in the updated *UWMP* in connection with the County's future local land use decision-making process. The County will also consider the information contained in the updated *UWMP* in connection with the County's future consideration of any Newhall Ranch tentative subdivision maps allowing construction. (*CLWA and other local retail water purveyors have completed the 2005*

UWMP in the fall 2005. The County will consider the information contained in the adopted 2005 UWMP in connection with the Mission Village project.)

SP 4.11-11 With implementation of the proposed Saugus ASR program, ASR wells shall be spaced so that adjacent non-project wells will not lose pumping capacity as a result of drawdown occurring during pumping of the ASR wells. (*This measure is not applicable to the Mission Village project, because the Saugus ASR program is not needed to satisfy the water demands of the Santa Clarita Valley.*)

SP 4.11-12 With implementation of the proposed Saugus ASR program, the ultimate number of ASR wells to be constructed shall be sufficient to inject the ultimate target injection volume of 4,500 afy and withdraw the ultimate target withdraw volume of 4,100 afy. (*This measure is not applicable to the Mission Village project, because the Saugus ASR program is not needed to satisfy the water demands of the Santa Clarita Valley.*)

SP 4.11-13 With implementation of the proposed Saugus ASR program, ASR wells shall be constructed in the following two general areas:

(a) South of the Santa Clara River and west of Interstate 5. This location includes areas within the Newhall Ranch Specific Plan boundary. (This area is referred to as the "south ASR well field"); and

(b) North of the Santa Clara River and west of Castaic Creek. (This location is referred to as the "north ASR well field").

(*This measure is not applicable to the Mission Village project, because the Saugus ASR program is not needed to satisfy the water demands of the Santa Clarita Valley.*)

SP 4.11-14 The Saugus Groundwater Banking/ASR program injection water must meet the water quality requirements of the State Regional Water Quality Control Board, Los Angeles Region. The water extracted for use on the Specific Plan site shall meet the Title 22 drinking water standards of the State Department of Health Services. (*This measure is not applicable to the Mission Village project, because the Saugus ASR program is not needed to satisfy the water demands of the Santa Clarita Valley.*)

SP 4.11-15 Groundwater historically and presently used for crop irrigation on the Newhall Ranch Specific Plan site and elsewhere in Los Angeles County shall be made available by the Newhall Land and Farming Company, or its assignee, to partially meet the potable water demands of the Newhall Ranch Specific Plan. The amount of groundwater pumped for this purpose shall not exceed 7,038 AFY. This is the amount of groundwater pumped

historically and presently by the Newhall Land and Farming Company in Los Angeles County to support its agricultural operations. Pumping this amount will not result in a net increase in groundwater use in the Santa Clarita Valley. To monitor groundwater use, the Newhall Land and Farming Company, or its assignee, shall provide the County an annual report indicating the amount of groundwater used in Los Angeles County and the specific land upon which that groundwater was historically used for irrigation. For agricultural land located off the Newhall Ranch Specific Plan site in Los Angeles County, at the time agricultural groundwater is transferred from agricultural uses on that land to Specific Plan uses, The Newhall Land and Farming Company, or its assignee, shall provide a verified statement to the County's Department of Regional Planning that Alluvial aquifer water rights on that land will now be used to meet Specific Plan demand. (*Consistent with this measure, the applicant has provided the County with the annual reports, and the reports are included in* ***Appendix 4.8****.*)

SP 4.11-16 The agricultural groundwater used to meet the needs of the Specific Plan shall meet the drinking water quality standards required under Title 22 prior to use. (*Consistent with this measure, the agricultural groundwater used to meet the needs of the Mission Village project shall meet the drinking water quality standards required under Title 22 prior to use.*)

SP 4.11-17 In conjunction with each project-specific subdivision map for the Newhall Ranch Specific Plan, the County shall require the applicant of that map to cause to be prepared a supplemental or subsequent Environmental Impact Report, as appropriate, pursuant to CEQA requirements. By imposing this EIR requirement on each Newhall Ranch tentative subdivision map application allowing construction, the County will ensure that, among other things, the water needed for each proposed subdivision is confirmed as part of the County's subdivision map application process. This mitigation requirement shall be read and applied in combination with the requirements set forth in revised Mitigation Measure 4.11-6, above, and in Senate Bills 221 and 610, as applicable, regardless of the number of lots in a subdivision map. (*This measure has been satisfied by the County requiring preparation of this EIR for the Mission Village project.*)

SP 4.11-18 The storage capacity purchased in the Semitropic Groundwater Banking Project by the Newhall Ranch Specific Plan applicant shall be used in conjunction with the provision of water to the Newhall Ranch Specific Plan. The applicant, or entity responsible for storing Newhall Ranch water in this groundwater bank, shall prepare an annual status report indicating the amount of water placed in storage in the groundwater bank. This report shall be made available annually and used by Los Angeles County in its decision-making processes relating to buildout of the Newhall Ranch Specific Plan. (*This measure is not*

applicable to the Mission Village project, because the water to be stored in the Semitropic Groundwater Banking Project is not needed to satisfy the water demand of the Mission Village project or cumulative development in the Santa Clarita Valley; however, as requested by the County, the applicant provided the annual status report to County staff in 2010 (see EIR ***Appendix 4.8*** *for the applicant's status report letter.*)

SP 4.11-19 A Memorandum of Understanding (MOU) and Water Resource Monitoring Program has been entered into between United Water Conservation District and the Upper Basin Water Purveyors, effective August 20, 2001.[53] The MOU/Water Resource Monitoring Program, when executed, will put in place a joint water resource monitoring program that will be an effective regional water management tool for both the Upper and Lower Santa Clara River areas as further information is developed, consistent with the MOU. This monitoring program will result in a database addressing water usage in the Saugus and Alluvium aquifers over various representative water cycles. The parties to the MOU intend to utilize this database to further identify surface water and groundwater impacts on the Santa Clara River Valley. The applicant, or its designee, shall cooperate in good faith with the continuing efforts to implement the MOU and Water Resource Monitoring Program.

As part of the MOU process, the United Water Conservation District and the applicant have also entered into a "Settlement and Mutual Release" agreement, which is intended to continue to develop data as part of an ongoing process for providing information about surface and groundwater resources in the Santa Clara River Valley. In that agreement, the County and the applicant have agreed to the following:

> *4.3 Los Angeles County and Newhall will each in good faith cooperate with the parties to the MOU and will assist them as requested in the development of the database calibrating water usage in the Saugus and Alluvium aquifers over multi-year water cycles. Such cooperation will include, but not be limited to, providing the parties to the MOU with historical well data and other data concerning surface water and groundwater in the Santa Clara River and, in the case of Newhall, providing Valencia Water Company with access to wells for the collection of well data for the MOU.*
>
> *4.4 Los Angeles County and Newhall further agree that the County of Los Angeles will be provided with, and consider, the then-existing data produced by the MOU's monitoring program in connection with, and prior to, all future Newhall Ranch*

53 See Appendix F to Final Additional Analysis (Memorandum of Understanding Between the Santa Clara River Valley Upper Basin Water Purveyors and United Water Conservation District, August 2001).

subdivision approvals or any other future land use entitlements implementing the Newhall Ranch Specific Plan. If the then-existing data produced by the MOU's monitoring program identifies significant impacts to surface water or groundwater resources in the Santa Clara River Valley, Los Angeles County will identify those impacts and adopt feasible mitigation measures in accordance with the California Environmental Quality Act.

(*Since the MOU was signed in 2001, the United Water Conservation District and the Upper Basin Water Purveyors (CLWA, Los Angeles County Waterworks District #36, CLWA Santa Clarita Water Division, NCWD and Valencia Water Company) have worked together to accomplish the stated purpose and objectives of the MOU. The MOU has resulted in the collection and analysis of groundwater and other hydrologic data, along with construction and calibration of a sophisticated regional groundwater flow model for the Upper Basin. These efforts benefit the service areas of both the United Water Conservation District and the Upper Basin water purveyors.*)[54]

SP 4.11-20 The Specific Plan applicant, or its successors, shall assign its acquired Nickel Water rights to the Valencia Water Company or CLWA, and, in consultation with the Valencia Water Company, CLWA or their designee(s), the applicant shall ensure that the Nickel Water is delivered to the appropriate place of use necessary to serve the Newhall Ranch Specific Plan at the time of need, as determined by the County of Los Angeles through required SB221 and/or SB610 analyses for future subdivision map applications. Upon approval of the Specific Plan, the applicant, Valencia Water Company, CLWA or a designee, will take delivery of the Nickel Water, so that such water will be used, or stored for use, for the Specific Plan in future years.

To ensure that an adequate supply of water is available for the Specific Plan over the long-term, the decision of whether or not the Nickel Water agreement should be extended or otherwise canceled cannot occur without first obtaining CLWA's concurrence. If the applicant, or its designee, seeks to not extend the Nickel Water agreement beyond its initial 35-year term, or seeks to cancel said agreement prior to the expiration of its initial 35-year period, or the expiration of the 35-year option period, if exercised, then the applicant, or its designee, must obtain CLWA's written concurrence and that concurrence must include findings to the effect that other equivalent water supplies are available at a comparable cost and that non-extension or cancellation of the agreement will not impact the water supplies of Newhall Ranch and the rest of the Santa Clarita Valley. (*This measure is not applicable to the Mission Village project, because Newhall's*

54 See letter from the United Water Conservation District to CLWA, August 31, 2005.

Nickel Water rights are not needed at this time to satisfy the water demand of the project or cumulative development in the Santa Clarita Valley. However, as stated above, the applicant has stored Nickel Water in the Semitropic Groundwater Bank, and will continue to do so in future years.)

SP 4.11-21 The applicant, in coordination with RWQCB staff, shall select a representative location upstream and downstream of the Newhall Ranch Specific Plan and sample surface and groundwater quality. Sampling from these two locations would begin upon approval of the first subdivision map and be provided annually to the RWQCB and County for the purpose of monitoring water quality impacts of the Specific Plan over time. If the sampling data results in the identification of significant new or additional water quality impacts resulting from the Specific Plan, which were not previously known or identified, additional mitigation shall be required at the subdivision map level. (*This measure is not applicable until subdivision map approval for the Mission Village project.*)

SP 4.11-22 Beginning with the filing of the first subdivision map allowing construction on the Specific Plan site and with the filing of each subsequent subdivision map allowing construction, the Specific Plan applicant, or its designee, shall provide documentation to the County of Los Angeles identifying the specific portion(s) of irrigated farmland in the County of Los Angeles proposed to be retired from irrigated production to make agricultural water available to serve the subdivision. As a condition of subdivision approval, the applicant or its designee, shall provide proof to the County that the agricultural land has been retired prior to issuance of building permits for the subdivision. (*Consistent with this measure, the applicant of the Mission Village project has provided the County with this documentation. As a condition of approval of the Mission Village tract map, the applicant will provide proof to the County that the agricultural land in the County proposed to be retired from irrigated production, in fact, has been retired prior to issuance of building permits for the Mission Village subdivision.*)

b. Additional Conditions of Approval Associated With the Specific Plan

In addition to the adopted Newhall Ranch Specific Plan mitigation measures, the County's Board of Supervisors adopted additional conditions of approval applicable to the entire Newhall Ranch Specific Plan. These additional conditions of approval are found in the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). The following condition of approval relates to water resources, and is applicable to the Mission Village project:

(e) Prior to approval of the first subdivision map which permits construction, a report will be provided by the applicant which evaluates methods to recharge the Saugus Aquifer within the

Specific Plan, including the identification of appropriate candidate land areas for recharge. The report shall be subject to approval by the Department of Public Works (DPW) and other applicable regulatory agencies, as determined by DPW. (The referenced report has been completed and included in **Appendix 4.8**.)

c. Additional Mitigation Measures Proposed by this EIR

Implementation of the above Specific Plan mitigation measures as part of the Mission Village project would mitigate impacts to water resources to less than significant levels. As a result, no additional mitigation measures beyond those identified in the Newhall Ranch Specific Plan Program EIR are required or necessary, because the Mission Village project does not result in any significant water-related impacts after implementation of the above mitigation measures. However, at the request of CLWA, the following mitigation measure has been added to the EIR:

MV 4.8-1 Upon the issuance of building permits associated with each subdivision map allowing construction within the Mission Village site, the applicant shall pay Facility Capacity Fees to the Castaic Lake Water Agency (CLWA) in accordance with CLWA policies and procedures.

10. SIGNIFICANT UNAVOIDABLE IMPACTS

a. Project Impacts

With implementation of the Specific Plan mitigation measures, the proposed project would not result in or contribute to any significant unavoidable impacts on Santa Clarita Valley water resources. No further mitigation measures are required.

b. Cumulative Impacts

Because the proposed project is relying on local independent water supplies (i.e., local groundwater and recycled water from local water reclamation plants), the proposed Mission Village project does not result in or contribute to any significant unavoidable cumulative impacts on Santa Clarita Valley water supplies. Therefore, as stated above, cumulative mitigation measures are not required.

4.9 WASTEWATER DISPOSAL

1. SUMMARY

Construction-related wastewater disposal impacts would be less than significant, as portable, on-site sanitation facilities would be utilized during construction activities.

Once project construction is complete, the proposed Mission Village project would generate a worst-case average total of approximately 1.13 million gallons per day (mgd) of wastewater. Of the total project wastewater generation, approximately 0.884 mgd would be treated by the Newhall Ranch Water Reclamation Plant (WRP) once WRP construction is complete. Due to gravitational limitations, the remaining approximately 0.241 mgd would be treated at the Valencia WRP. The treatment capacity of the Newhall Ranch WRP would be 6.8 mgd, with a maximum flow of 13.8 mgd. Until the development of the Newhall Ranch WRP is complete, there are three potential scenarios for the interim conveyance and treatment of the portion of wastewater generated by the Mission Village project that ultimately would be permanently treated at the Newhall Ranch WRP. The first scenario is to construct an initial phase of the Newhall Ranch WRP to serve the Mission Village project site, with buildout of the WRP occurring over time as demand for treatment increases. Under this scenario, the initial phase of the WRP would be designed and constructed to accommodate the project's predicted wastewater generation. The second scenario would temporarily direct all wastewater flows from the Mission Village project by pipeline across the Commerce Center Drive Bridge to the Valencia WRP until the first phase of the Newhall Ranch WRP is complete. The third scenario assumes that the Commerce Center Drive Bridge is not constructed until after occupancy of some of the land uses in the Mission Village project, and an interim pump station would be constructed that would direct wastewater to the existing Valencia WRP. Based on the County Sanitation Districts of Los Angeles County (CSDLAC) future wastewater generation estimates and the planned expansion of the Saugus and Valencia WRPs, the Valencia WRP would have sufficient capacity to temporarily accommodate the Mission Village project's total predicted wastewater generation of 1.13 mgd. For these reasons, wastewater disposal impacts associated with Mission Village would be less than significant.

2. INTRODUCTION

a. Relationship of Project to Newhall Ranch Specific Plan Program EIR

Section 4.12 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with wastewater disposal for the entire Newhall Ranch Specific Plan. The Newhall Ranch Specific Plan Program EIR concluded that Specific Plan implementation without mitigation would result in significant wastewater disposal impacts, but that construction of the Newhall Ranch WRP and associated waste transmission infrastructure, as well as

implementation of the identified mitigation measures, would reduce the impacts to below a level of significance. All subsequent project-specific development plans and tentative subdivision maps must be consistent with the Newhall Ranch Specific Plan, adopted May 2003, the County of Los Angeles General Plan, and the Santa Clarita Valley Area Plan as they pertain to wastewater disposal, and applicable County regulations.

This project-level wastewater disposal impact analysis is tiered from the previously certified Newhall Ranch Specific Plan Program EIR. **Section 4.9** assesses the Mission Village project site's existing conditions relative to wastewater disposal, impacts on wastewater disposal, applicable mitigation measures from the Newhall Ranch Specific Plan Program EIR, and any additional mitigation measures recommended by this EIR for the Mission Village project.

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

The approved Newhall Ranch WRP will be located within the Specific Plan area to treat Specific Plan-generated wastewater. The WRP site is located on the south side of State Route 126 (SR-126) adjoining the Santa Clara River, near the Los Angeles County/Ventura County line. Without construction of the Newhall Ranch WRP and associated waste transmission infrastructure, the increased demand for wastewater treatment associated with buildout of the Specific Plan is considered a significant impact.

Based on the Newhall Ranch Specific Plan Program EIR and record, the County's Board of Supervisors found that the significant wastewater disposal impacts caused by buildout of the Specific Plan were mitigated to below levels of significance with construction of the Newhall Ranch WRP, the associated waste transmission infrastructure and adoption of specified mitigation measures.[1]

The project-level wastewater/sewer plan is intended to be consistent with, and implement, the Specific Plan's approved Conceptual Backbone Sewer Plan (Exhibit 2.5-3 of the Specific Plan). This plan set forth a program-level system for wastewater/sewage collection for Newhall Ranch. The Specific Plan also committed that all sewer system facilities would be designed and constructed for maintenance by the County, CSDLAC, or a new County sanitation district in accordance with their manuals, criteria, and requirements. **Figure 1.0-24, Newhall Ranch Specific Plan Backbone Drainage Plan – Mission Village**, depicts the Specific Plan's Conceptual Backbone Sewer Plan, as it relates to Mission Village. In response to the approved Specific Plan, the Los Angeles County Local Area Formation Commission (LAFCO) has

1 Mitigation Measures 4.12-1 through 4.12-7 in both the certified Newhall Ranch Specific Plan Program EIR and adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). All of these mitigation measures are reiterated in the mitigation measures portion of this EIR.

approved formation of the Newhall Ranch County Sanitation District, effective July 27, 2006.[2] The new WRP's capacity would be 6.8 mgd, with a maximum flow of 13.8 mgd.

The environmental effects of constructing and operating the WRP were evaluated at the project-level in the certified Newhall Ranch Specific Plan Program EIR. The EIR determined the WRP would have significant unavoidable impacts on the following environmental categories: agricultural resources, air quality, visual quality, and solid waste. Agricultural impacts would result from the conversion of 15 acres of prime agricultural land to an urban use. Air quality impacts associated with site grading would generate quantities of dust exceeding the South Coast Air Quality Management District (SCAQMD) daily threshold of significance, even after application of all available dust controls to reduce the amount of dust by roughly 61 percent. Visual quality impacts were due to the contrast of the WRP site with the vacant land within the river corridor, both during and following construction. Solid waste impacts were a result of project landfill disposal of biosolids produced as a byproduct of the wastewater treatment process. Because such facilities are limited in number and have finite capacity, and because new facilities are expensive and difficult to develop impacts to solid waste are considered significant and unavoidable. Based on the Newhall Ranch Specific Plan Final EIR for the WRP and record, the County's Board of Supervisors found that the significant unavoidable impacts caused by the WRP were offset by overriding economic, legal, social, and public benefits. Consistent with section 15093 of the *California Environmental Quality Act (CEQA) Guidelines*, these benefits were found to outweigh the significant unavoidable impacts and make them acceptable.

4. EXISTING CONDITIONS

Relevant information and the technical studies from the certified Newhall Ranch Specific Plan Program EIR (see Draft EIR, Appendix 4.12) were assessed to determine if there were any wastewater disposal issues that were not examined in the certified Program EIR. It was determined that all significant wastewater disposal effects were identified, adequately addressed and mitigated or avoided at the programmatic level of review in the certified Program EIR and related environmental findings. (*State CEQA Guidelines*, Section 15152). Therefore, at the project level, this EIR incorporates by reference the existing conditions analysis and background information relating to wastewater disposal from the certified Newhall Ranch Specific Plan Program EIR (Section 4.12). This information has been updated as appropriate.

This section is divided into two distinct topics:

- Wastewater treatment facilities
- Wastewater collection system

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2 CSDLAC comment letter to Daniel Fierros, Department of Regional Planning, dated January 22, 2007.

a. Wastewater Treatment Facilities

Most wastewater generated within the Santa Clarita Valley is treated at two existing WRPs, which are operated by the Santa Clarita Valley Sanitation District (SCVSD). The SCVSD is a member of the CSDLAC. The existing Saugus WRP is located at 26200 Springbrook Avenue in Saugus. The existing Valencia WRP is located at 28185 The Old Road in Valencia. **Figure 4.9-1**, **Existing Wastewater Treatment Facilities and Sanitation Districts**, shows the existing wastewater facilities and Sanitation Districts within the immediate vicinity of the project site that provide primary, secondary, and tertiary treatment. The SCVSD has a permitted treatment capacity of 28.1 mgd and a treated average of 20.5 mgd.[3] While a small portion of the Newhall Ranch Specific Plan site is within the Sphere of Influence of the SCVSD, virtually the entire Specific Plan site is outside the service area of the SCVSD. Currently, wastewater generated by the few existing buildings located on the Newhall Ranch Specific Plan site is accommodated by on-site septic systems. No wastewater is currently generated from the Mission Village site.

The mechanism used to fund expansion projects is the SCVSD's Connection Fee Program. Prior to the connection of the local sewer network to the CSDLAC system, all new users are required to pay for their fair share[4] of the SCVSD sewerage system expansion through a "connection fee." The fees fund treatment capacity expansion and trunk lines, while on-site sewer mains are the responsibility of the developer.

The rate at which connections are made—and revenues accumulate—drives the rate at which periodic expansions of the system will be designed and built. Importantly, it should be noted that connection permits are not issued if there is not sufficient capacity, although this is a rare occurrence as the SCVSD routinely monitors system capacity and anticipated development to ensure sufficient capacity for approved developments. Therefore, the expansion of district facilities, such as trunk lines, may not be immediate if adequate treatment capacity does not exist at the WRP to serve new users, or the expansion may occur in the future if it is determined that there is adequate WRP capacity to serve immediately new users, but inadequate capacity to serve future development within the tributary area(s) of the affected collection/treatment facilities, thereby necessitating future system expansions. In the latter case, the connection fees paid by new users are deposited into a restricted Capital Improvement Fund (CIF) used solely to capitalize the future expansion of affected system facilities.

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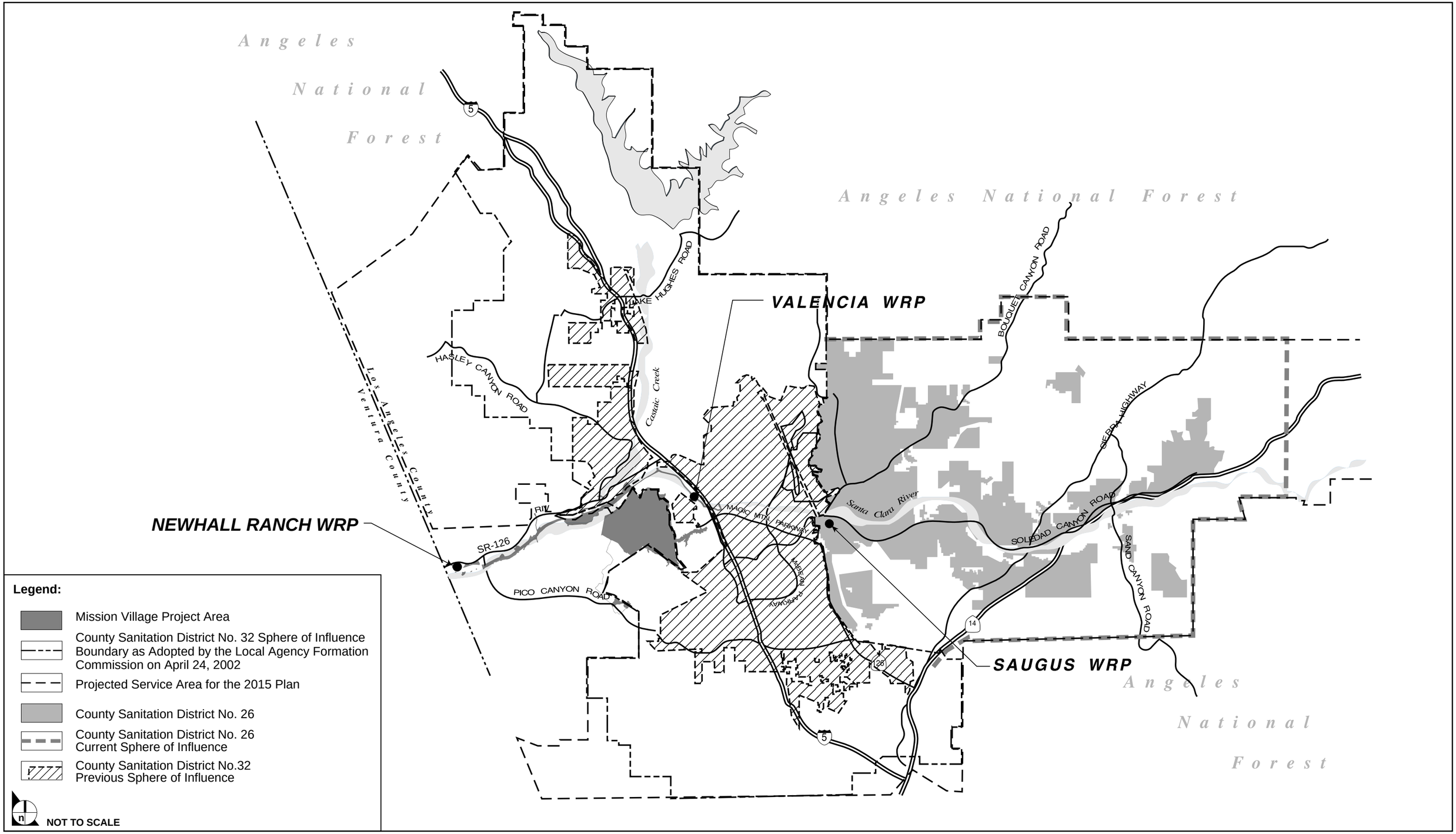
3 County Sanitation Districts of Los Angeles County. *Final 2015 Santa Clarita Valley Joint Sewerage System Facilities EIR*, January 1998.

4 The fair share is equivalent to the cost of expanding the system to accommodate the anticipated sewage flows from the new users.



SOURCE: Impact Sciences, Inc., 2003

FIGURE **4.9-1**

Existing Wastewater Treatment Facilities and Sanitation Districts

The cyclical process of building phased expansions and collecting connection fees can continue indefinitely. The only restriction would be when the districts run out of land. Existing facilities can be expanded to handle a daily capacity of 34.2 mgd, which is sufficient to meet demand up until 2015.[5] The district does not expect to exceed a daily capacity of 34.2 mgd because connection permits will not be issued that would exceed this amount.

CSDLAC has prepared a Facilities Plan, with a horizon year of 2015, for the SCVSD. The Facilities Plan, approved in January 1998, estimates future wastewater generation for the probable future service area of the SCVSD in order to anticipate future treatment capacity and wastewater conveyance needs. According to CSDLAC estimates, total flows projected from the Santa Clarita Valley in 2015, exclusive of Newhall Ranch, would be 34.2 mgd. This projection is based on Southern California Association of Governments (SCAG) 1996 population projections. As a result of this finding, CSDLAC proposed a phased plan to incrementally expand the treatment facilities at the Saugus and Valencia WRPs to meet future needs to a total of 34.2 mgd.[6] This phased expansion plan, which would increase treatment capacity by approximately 15 mgd, has been approved. The most recent phase was completed in May 2005 and expanded treatment capacity by approximately 9 mgd, or approximately 47 percent, to the current total treatment capacity of approximately 28.1 mgd. Based on populations projections published in the most recent SCAG 2004 Regional Transportation Plan, the Valencia WRP has adequate capacity through the year 2015. Another phase (Stage VI) of treatment facility expansion would increase capacity by 6 mgd, but will not be constructed until flow materializes.[7]

According to recent SCVSD flow projections based on SCAG's 2008 Regional Transportation Plan, the previously approved Stage VI expansion at the Valencia WRP is not expected to be needed until approximately 2021 and the site buildout capacity of 34.2 mgd is not expected to be reached until approximately 2033.

b. Wastewater Collection System

The CSDLAC wastewater collection system is composed of service connections that tie in to the local collection network. This local network, composed of secondary and primary collectors, flows into the districts' trunk wastewater mains and the water reclamation plants. The Newhall Ranch Consolidated Sewer District (NRCSD) maintains the wastewater trunk mains that lead to the Saugus and Valencia

5 County Sanitation Districts of Los Angeles County. *Final 2015 Santa Clarita Valley Joint Sewerage System Facilities EIR*, January 1998.

6 County Sanitation Districts. *Final 2015 Santa Clarita Valley Joint Sewerage System Facilities EIR*, January 1998.

7 County Sanitation Districts. *Final 2015 Santa Clarita Valley Joint Sewerage System Facilities EIR*, January 1998.

WRPs, and the local collection network is maintained by the Los Angeles County Department of Public Works' Consolidated Sewer Maintenance District for the City of Santa Clarita.

The Mission Village project site is presently undeveloped and there is no wastewater collection and conveyance system on the property. Existing gravity sewer mains run parallel to The Old Road within the right-of-way and flow to a sewer lift station located near the intersection of The Old Road and Henry Mayo Drive at the east side of The Old Road right-of-way. The existing lift station pumps wastewater through a 16-inch force main to the Valencia WRP. **See Figure 4.9-1.**

Operation and maintenance of local sewer lines within areas of unincorporated Los Angeles County, and the City of Santa Clarita, are the responsibility of the Consolidated Sewer Maintenance District of the Los Angeles County Department of Public Works. The Consolidated Sewer Maintenance District requires that new subdivision wastewater systems connect to the District's existing sanitary wastewater system, and any developer constructing a new wastewater line coordinate the construction and dedication of any such wastewater line with the District for future operation and maintenance. Operation and maintenance of the regional trunk sewer lines is the responsibility of the NRCSD. It would then be the responsibility of the NRCSD to upgrade the wastewater collection and treatment systems by providing relief for existing trunk lines nearing capacity and expanding treatment plants to provide sanitation service to outlying areas.[8]

5. PROPOSED PROJECT IMPROVEMENTS

The project proposes to develop a total of 4,412 residential dwelling units consisting of 382 single-family homes and 4,030 multi-family units, including attached and detached condominiums, age qualified, and apartment units, with a total residential population of 10,802.[9] The project would also include 1.555 million square feet of commercial/mixed-uses, a 9.5-acre elementary school, fire station, public library, bus transfer station, parks, public and private recreational facilities, trails, and road improvements.

The project-level wastewater/sewer collection system consists of gravity sewers, forced mains, and pump stations. As noted, the long-range plan is for the Newhall Ranch WRP to be constructed exclusively to serve uses within Newhall Ranch. The new WRP's capacity would be 6.8 mgd, with a maximum flow of 13.8 mgd. LAFCO approved formation of the Newhall Ranch County Sanitation District, effective July 27,

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8 Telephone conversation with Basil Hewitt at the County Sanitation Districts of Los Angeles County, September 1, 2005.

9 Based upon County of Los Angeles estimates of 3.17 persons per single-family household and 2.38 persons per multi-family houeshold.

2006. The environmental effects of constructing and operating the WRP were evaluated at the project-level in the certified Newhall Ranch Program EIR.

Until the previously approved Newhall Ranch WRP is operational, one of several alternative wastewater treatment options will be implemented for the Mission Village project. These alternative treatment options are described below in **subsection 6, Project Impacts**, along with the potential impacts associated with implementation of each option.

6. PROJECT IMPACTS

The analysis of potential impacts to wastewater disposal associated with construction and operation of the proposed Mission Village project, including the significance criteria applicable to assessing such impacts, is presented below:

a. Significance Threshold Criteria

According to Appendix G of the *State CEQA Guidelines*, a project would result in a significant wastewater disposal impact if the project would

(a) exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board; or

(b) require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or

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

With respect to criterion (a), the proposed project will comply with all applicable wastewater treatment requirements, including obtaining all necessary permits. Please see **Section 4.8, Water Service**, for further discussion. As to criterion (b), the proposed project will not require the construction of new, or the expansion of existing, wastewater treatment facilities, beyond the Newhall Ranch WRP, the environmental impacts of which, as previously noted, were analyzed in the Newhall Ranch Specific Plan/WRP EIR. Therefore, the focus of the following impact analysis is on criterion (c) and the available treatment capacity to serve the project's projected wastewater demand.

b. Construction-Related Impact Analysis

Construction contractors for the project would provide portable, on-site sanitation facilities that would be serviced at approved disposal facilities and/or treatment plants. The amount of construction-related wastewater that would be generated is not expected to have a significant impact on these

disposal/treatment facilities due to expected low volume and temporary nature of the waste generated during construction.

c. Operational Impacts

(1) Demand

As shown in **Table 4.9-1, Mission Village Wastewater Generation**, the proposed project would generate a worst-case average total of approximately 0.884 mgd of wastewater that would be treated by the Newhall Ranch WRP and 0.241 mgd that would be treated at the Valencia WRP. Flows from the project site would be lifted and combined for conveyance across the River and collection into a Sanitation District trunk sewer located along the north side of the River. This trunk will either convey the effluent by gravity to the Newhall Ranch WRP or be pumped back to the Valencia WRP. Flows from a portion of the project site that is the proposed location of 1,239 multi-family units (Sewer System C) naturally drain towards the current sewer line terminus in Magic Mountain Parkway. Flows from this portion of the project site are proposed to connect to the sewer lines in Magic Mountain Parkway for treatment at the Valencia WRP.

Table 4.9-1
Mission Village Wastewater Generation

Land Use	Units	Quantity	Generation Factor (gpd per designated unit)	Wastewater Generation (gpd)
Treatment at Newhall Ranch WRP (Ultimate Condition)				
Residential				
Single Family	du	382	260.00	99,320
Multi-Family	du	2,791	195.00	544,245
Non-Residential				
Commercial Retail	tsf	1,555.1	100.00	155,510
Elementary School	tsf	413.82	200.00	82,764
Library	tsf	60	50.00	3,000
			Subtotal	*884,839*
Treatment at Valencia WRP (Ultimate Condition)				
Multi-Family	du	1,239	195.00	241,605
			Subtotal	*241,605*
			Total	**1,126,444**

Source: County Sanitation Districts of Los Angeles Loadings and Unit Rates.
du = dwelling units; tsf = thousand square feet

(2) Wastewater Treatment

As previously discussed, the long-range plan is for the Newhall Ranch WRP to be constructed exclusively to serve uses within Newhall Ranch. The new WRP's capacity would be 6.8 mgd, with a maximum flow of 13.8 mgd. A new County sanitation district has been formed. Project generated wastewater, 0.884 mgd, would be treated by the Newhall Ranch WRP, although interim treatment at the Valencia WRP would occur under some of the wastewater treatment scenarios as described below. Project generated wastewater of approximately 0.241 mgd would be treated at the Valencia WRP permanently. As the planned treatment capacity of the Newhall Ranch WRP would be sufficient to treat wastewater flows from the entire Specific Plan project, no significant long-term operational impacts would result from the treatment of wastewater generated by the Mission Village project.

However, until WRP construction is completed and the plant is operational, on an interim basis, three wastewater disposal options are available to treat the majority of the wastewater generated by the proposed project. One scenario, as shown in **Figure 1.0-32, Mission Village Wastewater System – Scenario 1**, provides for the construction of an initial phase of the Newhall Ranch WRP to serve the Mission Village subdivision. Under this scenario, buildout of the WRP would occur over time as demand for treatment increases due to subsequent development of the Newhall Ranch Specific Plan. The second scenario, as shown in **Figure 1.0-33, Mission Village Wastewater System – Scenario 2**, provides for an option should the WRP not yet be constructed. In this scenario, flows would be piped across the Commerce Center Drive Bridge to an interim pump station north of the Santa Clara River along the utility corridor where wastewater would be pumped back to an existing CSDLAC pump station, then to the existing Valencia WRP, located upstream of the project site along I-5. The pump station would be used until the first phase of the Newhall Ranch WRP is constructed. The third scenario, as shown in **Figure 1.0-34, Mission Village Wastewater System – Scenario 3**, is an interim option that would be implemented in the event that the Commerce Center Drive Bridge is not constructed prior to the occupancy of new land uses on the Mission Village project site. Under this scenario, an interim pump station would be constructed near the intersection of "GG" Street and Commerce Center Drive that would pump effluent to the existing Valencia WRP, which is located approximately 0.5 mile east of the project site along I-5. Under this scenario, a force main from the interim pump station on the project site to the proposed sewer mainline in Magic Mountain Parkway would be constructed. This proposed sewer mainline would connect with an existing line at the intersection of The Old Road and Magic Mountain Parkway. The available capacity under each of these three treatment scenarios is discussed below.

(a) Treatment Scenario 1

Project generated wastewater requiring treatment has been calculated at approximately 1.13 mgd. At buildout, the treatment capacity of the Newhall Ranch WRP would be 6.8 mgd, with a maximum flow of 13.8 mgd. The WRP has been designed to serve the buildout of the Newhall Ranch Specific Plan area, of which Mission Village is a part. Under this treatment scenario, the first phase of the WRP would be sufficiently sized to accommodate wastewater from the Mission Village project. The WRP was conditioned by the Board of Supervisors to be designed and constructed to the standards of CSDLAC and state standards and requirements. In addition, the Valencia WRP would be able to accommodate the approximately 0.2 mgd of wastewater from the project that will permanently be treated at this facility. As a result, no significant operational impacts would occur under this scenario.

(b) Treatment Scenario 2

Under this scenario, an interim pump station would be constructed along the utility corridor to pump wastewater via pipeline to the Valencia WRP. As a result of CSDLAC future wastewater generation estimates, CSDLAC proposed a two-phase plan to expand the SCVSD treatment facilities, which include the Valencia WRP, to meet anticipated future wastewater disposal needs of 34.1 mgd.[10] The most recent phase was completed in May 2005 and expanded treatment capacity by approximately 9 mgd, or approximately 47 percent, to the current total treatment capacity of approximately 28.1 mgd. Based on population projections published in the SCAG 2004 Regional Transportation Plan, the Valencia WRP has adequate capacity through the year 2015. Another phase (Stage VI) expansion would increase capacity by 6 mgd, but will not be constructed until flow materializes.[11] According to recent SCVSD flow projections based on the SCAG 2008 Regional Transportation Plan, the previously approved Stage VI expansion at the Valencia WRP is not expected to be needed until approximately 2021 and the site buildout capacity of 34.2 mgd is not expected to be reached until approximately 2033. Consequently, the planned short-term use of the Valencia WRP to treat 1.13 mgd of the project's wastewater is expected to have no impact on future expansion of the SCVSD facilities. In addition, the Valencia WRP would be able to accommodate the approximately 0.2 mgd of wastewater from the project that will permanently be treated at this facility.

Additionally, as stated earlier, numerous safeguards exist within the County's project approval process to ensure available treatment capacity, including, as noted above, that connection permits for new development are not issued if there is not sufficient capacity. Moreover, mitigation adopted by the County as part of its approval of the Specific Plan provides that prior to recordation of each subdivision permitting construction; the applicant is required to obtain a letter from the new County sanitation

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10 Ibid.

11 CSDLAC comment letter to Daniel Fierros, Los Angeles County Department of Regional Planning, dated January 22, 2007.

district stating that treatment capacity will be adequate for that subdivision (SP 4.12-4). As a result, no significant operational impacts would occur under this scenario.

(c) Treatment Scenario 3

Similar to Scenario 2, under this scenario wastewater from the Mission Village project would be conveyed to SCVSD and, as discussed immediately above, the planned short-term use of the Valencia WRP to treat the project's wastewater can be accommodated, as well as the permanent treatment of approximately 0.2 mgd of project wastewater. For this reason, no significant operational impacts would occur under this scenario.

(3) Collection Facilities

The following analysis is based on the Sewer Area Study for Mission Village prepared by PSOMAS in February 2010 For purposes of designing wastewater collection facilities compatible with local topography, the Mission Village project site was divided into five sewer systems designated as Systems A, B, B1, B2, and C, as shown in **Figure 4.9-2**, **Mission Village Sewer Systems**. In addition to Mission Village wastewater, wastewater flow from two off-site developments would be conveyed through the Mission Village system—the Legacy Village (VTTM 061996), and Homestead (VTTM 061996), located to the south, east, and west of the project site, respectively. Entrada (VTTM 53295) will tie into an off-site line in Magic Mountain Parkway that would be constructed by the Mission Village project.

Mission Village Sewer System "A" would combine a portion of the wastewater flow from the Legacy Village development and a portion of the Homestead project effluent with flow generated within this part of the Mission Village site by gravity flow to a pump station located near Lion Canyon. The wastewater would then be pumped to Mission Village Sewer System B2 and would flow, with effluent generated by uses within System “B2,” to Commerce Center Drive where it would be combined with System “B.” Mission Village Sewer Systems “B” and "B2" would convey wastewater flow via gravity, down Commerce Center Drive. This flow would be combined with that from System “B1”.

System C drains naturally towards the current terminus in Magic Mountain Parkway. This system will be sewered through the extension of sewer lines in Magic Mountain Parkway, with a tie in to an existing trunk sewer in the Old Road that is connected to the Valencia WRP via an existing 30-inch siphon under the Santa Clara River adjacent to the Old Road Bridge.

If the first phase of the Newhall Ranch WRP is used to treat effluent generated by the proposed project, as described in Treatment Scenario 1, the wastewater described above would flow via gravity across the Commerce Center Drive Bridge to a connection with the Newhall Ranch Santa Clara River Interceptor located on the north side of the Santa Clara River and then on to the Newhall Ranch WRP.

If the project follows Treatment Scenario 2, wastewater flows from Mission Village would be temporarily directed to the Valencia WRP until the first phase of the Newhall Ranch WRP is complete. This alternative would require a temporary off-site Sanitation District lift station equipped with a force main to pump the effluent to an existing pump station at Henry Mayo/The Old Road intersection that pumps directly to the Valencia WRP. Under this scenario, if the Landmark Village project is developed prior to the Mission Village project, a gravity trunk main would be constructed along SR-126 from Commerce Center Drive to the temporary off-site lift station proposed as part of Landmark Village. This lift station would pump effluent from both Mission Village and Landmark Village through a force main to the existing pump at the Henry Mayo Drive/The Old Road intersection and then on to the Valencia WRP.

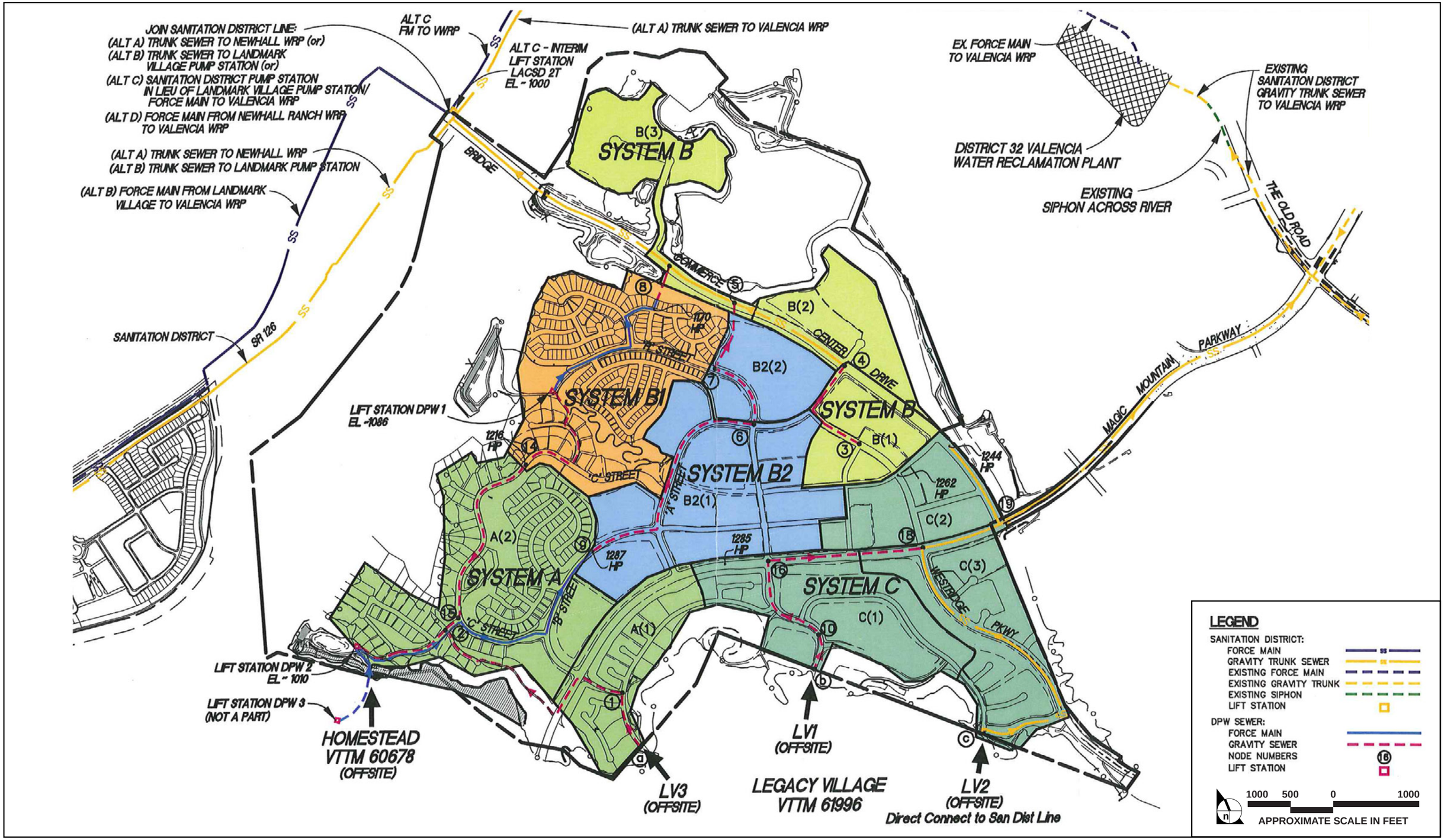
Under Treatment Scenario 3, the Commerce Center Drive Bridge would not be constructed prior to occupancy of new land uses in Mission Village. This scenario would require the development and use of an interim pump station near the intersection of "GG" Street and Commerce Center Drive that would pump effluent to the existing Valencia WRP, which is located approximately 0.5 mile east of the project site along I-5. A pipeline from the interim pump station on the project site to the Valencia WRP would be constructed along the Magic Mountain Parkway Extension and would connect with an existing line at the intersection of The Old Road and Magic Mountain Parkway.

Under Treatment Scenarios 1, 2, and 3, wastewater flows from Mission Village Sewer System C would be combined with a portion of Legacy Village effluent and wastewater generated from the Entrada development and drained via gravity flow through the sewer under Magic Mountain Parkway. This sewer would connect to an existing 30-inch trunk main that siphons under the Santa Clara River at The Old Road Bridge to the Valencia WRP.

All new lines would be designed and constructed to meet Los Angeles County Department of Public Works, CSDLAC, and state standards and requirements. Therefore, wastewater collection system impacts under any of the three scenarios are considered less than significant.

7. MITIGATION MEASURES

The County previously adopted mitigation measures required to be implemented as part of the approved Newhall Ranch Specific Plan. These mitigation measures, as they relate to wastewater disposal, are found in the certified Newhall Ranch Specific Plan Program EIR and adopted Mitigation Monitoring Plan (May 2003). The project applicant has committed to implementing the applicable mitigation measures from the Newhall Ranch Specific Plan to ensure that future development of the project site would not result in wastewater disposal impacts and would not adversely affect adjacent properties.



SOURCE: PSOMAS – February 2010

FIGURE **4.9-2**

Mission Village Sewer Systems

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as Related to the Mission Village Project

The following mitigation measures (**Mitigation Measures SP 4.12-1** through **SP 4.12-7**, below) were adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). The applicable mitigation measures will be implemented, or have been implemented already, to mitigate the potentially significant wastewater disposal impacts associated with the Specific Plan, including the proposed Mission Village project.

SP 4.12-1 The Specific Plan shall reserve a site of sufficient size to accommodate a water reclamation plant to serve the Newhall Ranch Specific Plan. (*This measure has been implemented by the Board of Supervisors' approval, in May 2003, of the Newhall Ranch WRP within the boundary of the Specific Plan.*)

SP 4.12-2 A 5.8 to 6.9 mgd water reclamation plant shall be constructed on the Specific Plan site, pursuant to County, State, and Federal design standards, to serve the Newhall Ranch Specific Plan. (*This measure will be implemented pursuant to the project-level analysis already completed for the Newhall Ranch WRP in the certified Newhall Ranch Specific Plan EIR.*)

SP 4.12-3 The Conceptual Backbone Sewer Plan shall be implemented pursuant to County, State, and Federal design standards. *(The proposed Mission Village sewer system would implement the previously adopted Conceptual Backbone Sewer Plan relative to the Mission Village portion of the Specific Plan.)*

SP 4.12-4 Prior to recordation of each subdivision permitting construction, the applicant of each subdivision shall obtain a letter from the new County sanitation district stating that treatment capacity will be adequate for that subdivision. *(This mitigation measure, as it applies to Mission Village, will be implemented concurrent with project development.)*

SP 4.12-5 All facilities of the sanitary sewer system will be designed and constructed for maintenance by the County of Los Angeles Department of Public Works and the County Sanitation Districts of Los Angeles County, and/or the new County sanitation district or similar entity in accordance with their manuals, criteria, and requirements. *(This mitigation measure, as it applies to Mission Village, will be implemented concurrent with project development.)*

SP 4.12-6 Pursuant to Los Angeles County Code, Title 20, Division 2, all industrial waste pretreatment facilities shall, prior to the issuance of building permits, be reviewed by the County of Los Angeles Department of Public Works, Industrial Waste Planning and Control Section and/or the new County sanitation district, to determine if they would be subject to an Industrial Wastewater Disposal Permit. *(To the extent this mitigation measure applies to Mission Village, it will be implemented concurrent with project development.)*

SP 4.12-7 Each subdivision permitting construction shall be required to be annexed into the Los Angeles County Consolidated Sewer Maintenance District. *(This mitigation measure, as it applies to Mission Village, will be implemented concurrent with project development.)*

b. Additional Mitigation Measures Proposed by this EIR

No additional mitigation measures beyond those identified in the Newhall Ranch Specific Plan Program EIR are required or necessary because the Mission Village project would not result in any significant wastewater disposal impacts after implementation of the above mitigation measures.

8. CUMULATIVE IMPACTS

The focus of the cumulative impacts analysis is on determining whether the cumulative increase in the residential population from Santa Clarita Valley buildout, in combination with the proposed project, would adversely impact the wastewater disposal service providers that serve the residents of the Santa Clarita Valley. In order to analyze the cumulative impacts of the Mission Village project in combination with other expected future growth, the amount and location of growth expected to occur in the SCVSD sphere of influence was predicted. For this EIR, the following three separate cumulative development scenarios are analyzed to meet Los Angeles County and CEQA requirements (see **Section 3.0**, **Cumulative Impact Analysis Methodology**, for a discussion on these requirements):

Scenario 1 Existing development within the service area for the SCVSD plus Development Monitoring System (DMS) projections plus the proposed project (termed "DMS Buildout Scenario");

Scenario 2 Buildout within the Castaic Lake Water Agency (CLWA) service area based on buildout projections for CLWA service area, plus active pending *General Plan* and *Areawide Plan* amendment requests, plus the proposed project (termed "Santa Clarita Valley Cumulative Buildout Scenario"); and

Scenario 3 Buildout of the CSDLAC Facilities Plan for the Santa Clarita Valley Sanitation District.

a. DMS Buildout Scenario

The County General Plan DMS methodology uses sanitation districts as the area of analysis for wastewater treatment. The Newhall Ranch County Sanitation District, which was formed effective July 27, 2006, is generally outside the sphere of influence of any existing district and has boundaries contiguous with the boundary of the Specific Plan. The County DMS analysis for the district reflects a capacity of 6.8 mgd for the Newhall Ranch Specific Plan, sufficient to accommodate Specific Plan wastewater flows. Should future development occur within the expected tributary area[12] of the Newhall Ranch WRP and request to be annexed to the new sanitation district, the new development projects also would be included in the County's DMS. The formation of a service district does not create any environmental impacts that were not previously analyzed in the certified Newhall Ranch Specific Plan

[12] Areas that flow by gravity to the approved Newhall Ranch WRP and which are outside the spheres of influence of the SCVSD.

Program EIR. As a result, the proposed project's cumulative impacts under this scenario would be less than significant.

b. Santa Clarita Valley Cumulative Buildout Scenario

The Santa Clarita Valley (SCV) Cumulative Buildout Scenario entails buildout of all lands under the current land use designations indicated in the Los Angeles County Santa Clarita Valley Areawide Plan and the Los Angeles County General Plan, plus the proposed project, plus all known active pending General Plan Amendment requests in the unincorporated area of Santa Clarita Valley and in the City of Santa Clarita. **Table 4.9-2, Cumulative Development Activity – Santa Clarita Valley Cumulative Buildout Scenario**, depicts the projected future development activity in the Valley with and without the proposed project. Utilizing loading factors provided by the CSDLAC, under this buildout scenario, there would be an additional cumulative wastewater generation of 59.3 mgd. See **Table 4.9-3, Wastewater Generation Impact Analysis – SCV Cumulative Buildout Scenario**, for the detailed breakdown of SCV Cumulative Buildout Scenario wastewater calculations.

As previously discussed, the two existing Saugus and Valencia WRPs currently have a combined treatment capacity of 28.1 mgd, and would have a total projected 2015 capacity of approximately 34.2 mgd of wastewater. Using CSDLAC loading factors, buildout of the service areas of these two WRPs would increase the amount of wastewater generated in the SCVSD to 56.02 mgd, which is 21.82 mgd more than the proposed 2015 SCVSD expansion of 34.2 mgd.

As stated earlier, numerous safeguards exist within the County's project approval process to ensure available treatment capacity for new development within the service areas of CSDLAC, such as connection fees to pay for the full cost of facility expansions (including increasing water reclamation plant capacity). Although some amount of development in the Santa Clarita Valley would utilize on-site septic or package treatment facilities, it is expected that most of the buildout wastewater would be treated at CSDLAC plants. If buildout of the Santa Clarita Valley was permitted to occur without provision of additional treatment capacity at either the Saugus and Valencia WRPs or another site, significant wastewater disposal impacts would occur. However, with the County's safeguards in place that ensure no connections permits are issued if capacity is not available, no significant cumulative wastewater treatment impacts would occur.

Table 4.9-2
Cumulative Development Activity – Santa Clarita Valley Cumulative Buildout Scenario
(Project Scenario)

Land Use Types	Cumulative Buildout w/o Project[1]	Project	Cumulative Buildout w/ Mission Village[1]
Single-Family	93,412 du	382 du	93,794 du
Multi-Family	47,621 du	4,030 du	51,651 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	18,866,030 sq. ft.	1,555,100 sq. ft.	20,421,130 sq. ft.
Hotel	2,071 room		2,071 room
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	278,590 students	1,156 students	279,529 students
High School	12,843 students	321 students	13,120 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	171,790 sq. ft.	36,000 sq. ft.	231,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufact./Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,209.0 ac		1,209.0 ac
Developed Parkland	467.8 ac	25.0 ac	492.8 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator

[1] *Santa Clarita Valley Consolidated Traffic Model (November 2002). Includes existing development, buildout under the existing City of Santa Clarita General Plan, Santa Clarita Valley Area Plan, and active pending General Plan Amendment requests.*

[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

Table 4.9-3
Wastewater Generation Impact Analysis – SCV Cumulative Buildout Scenario

Land Use	Cumulative Buildout w/ Mission Village[1]	Generation Factor (gpd)	Generation (mgd)
Single Family	93,794 du	260/du	24.386
Multi-Family	51,651 du	195/du	10.072
Mobile Home	2,699 du	195/du	0.526
Commercial Retail	20,421,130 sq. ft.	100/tsf	2.042
Hotel	2,071 room	125/room	0.259
Sit-Down Restaurant	283,790 sq. ft.	1,000/tsf	0.284
Fast Food Restaurant	23,600 sq. ft.	1,000/tsf	0.024
Movie Theater	3,300 seats	3.788/seat[1]	0.013
Health Club	54,000 sq. ft.	600/tsf	0.032
Car Dealership	411,000 sq. ft.	100/tsf	0.041
Elem./Middle School	279,529 students	20/student	5.591
High School	13,120 students	20/student	0.262
College	29,948 students	20/student	0.599
Hospital	247,460 sq. ft.	250/tsf[2]	0.062
Library	231,790 sq. ft.	50/tsf[3]	0.012
Church	501,190 sq. ft.	50/tsf	0.025
Day Care	785,000 sq. ft.	200/tsf	0.157
Industrial Park	41,743,950 sq. ft.	25/tsf	1.044
Business Park	8,424,330 sq. ft.	200/tsf	1.685
Manufact./Warehouse	3,932,470 sq. ft.	25/tsf	0.098
Utilities	1,150,240 sq. ft.	25/tsf	0.029
Commercial Office	6,380,520 sq. ft.	200/tsf	1.276
Medical Office	133,730 sq. ft.	300/tsf	0.040
Golf Course	1,209.0 ac	4,356/ac	5.266
Developed Parkland	503.5 ac	4,356/ac	2.193
Undeveloped Parkland	1,000.0 ac	N/A	0
Special Generator	413.0 sg	N/A	0
Total			**56.018**

Source: Impact Sciences, Inc.
Notes:
du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator; tsf = thousand square feet
[1] *Assumes 30 square feet per seat.*
[2] *Assumes 500 square feet per hospital bed.*
[3] *Uses same number as Church.*

c. County Sanitation Districts of Los Angeles County Facilities Plan for the Santa Clarita Valley Sanitation District

CSDLAC has prepared a Facilities Plan, with a horizon year of 2015, for the SCVSD that was approved in January 1998. The Facilities Plan will estimate future wastewater generation for the probable future service area of the SCVSD in order to anticipate future treatment capacity and wastewater conveyance needs. Unlike this EIR, which estimates future wastewater generation based on the buildout of land uses within the Santa Clarita Valley Area Plan and City of Santa Clarita General Plan, plus known active pending General Plan Amendments, the CSDLAC Facilities Plan bases its projections for wastewater generation on the SCAG 1996 Regional Transportation Plan. The Facilities Plan uses a residential and commercial wastewater generation rate of 101 gallons per capita per day, plus projected industrial wastewater and contracted entitlement flow. The Facilities Plan, which was approved prior to the County's approval of the Specific Plan, also assumes that if the Specific Plan is approved, its wastewater would be treated at the Newhall Ranch WRP, rather than by the SCVSD. According to CSDLAC estimates, total flows projected from the Santa Clarita Valley in 2015, exclusive of the Specific Plan, would be 34.2 mgd.[13] The projected site capacity of the Saugus and Valencia WRPs will be a total of 34.2 mgd by the year 2015.[14] In addition, SCVSD does not expect to exceed a daily capacity of 34.2 mgd because connection permits will not be issued that would exceed this amount. According to recent SCVSD flow projects based on the SCAG 2008 Regional Transportation Plan, the previously approved Stage VI expansion at the Valencia WRP is not expected to be needed until approximately 2021 and the site buildout capacity of 34.2 mgd is not expected to be reached until approximately 2033. Consequently, the planned short-term use of the Valencia WRP to treat 1.13 mgd of the project's wastewater is expected to have no impact on future expansion of the SCVSD facilities. Because future project flows will be directed to the Newhall Ranch WRP, and because safeguards are in place that ensure no SCVSD connection permits are issued if capacity is not available, the proposed project would not result in significant cumulative impacts on the SCVSD under this scenario.

9. CUMULATIVE MITIGATION MEASURES

Cumulative development would be required to implement similar mitigation as the proposed project, if necessary, determined on a project specific basis. Therefore, no additional mitigation is recommended or required in the context of this project.

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13 CSDLAC comment letter to Daniel Fierros, Department of Regional Planning, dated January 22, 2007.

14 Preliminary WRP Site Capacity Evaluations for the SCVSD, County Sanitation Districts of Los Angeles County, 1996.

10. SIGNIFICANT UNAVOIDABLE IMPACTS

a. Project-Specific Impacts

Provided that proposed mitigation measures are properly implemented, no significant unavoidable impacts are expected to result from implementation of the proposed project.

b. Cumulative Impacts

Provided that mitigation measures are properly implemented, no significant unavoidable cumulative impacts are expected to result from implementation of the proposed project.

4.10 SOLID WASTE SERVICES

1. SUMMARY

Site preparation (vegetation removal and grading activities) and construction activities required to develop the Mission Village project would generate a total of approximately 166,869 tons of waste, or an average of approximately 23,838 tons of waste per year over the seven-year buildout of the project.[1] *Assuming a 50 percent diversion/recycling rate, the development of the Mission Village project would result in the generation of approximately 11,919 tons of construction waste per year for seven years. Upon buildout, the Mission Village project would generate approximately 46,305 pounds of municipal solid waste per day, or approximately 8,451 tons per year, assuming no solid waste from the project is recycled (a worst-case scenario). The project would also generate household hazardous wastes, such as used batteries, paint, etc. Cumulative development within the Santa Clarita Valley would generate 395,553 tons per year of solid waste, as well as hazardous waste, assuming no recycling. The project's share of 8,451 tons per year would represent 2.1 percent of this total.*

Mitigation has been identified to reduce construction and operation waste to the extent feasible. The capacity of Los Angeles County's (County) landfills has been assessed and is approved to provide adequate capacity to service the existing population and planned growth until year 2023. Capacity is projected to extend beyond year 2023 when combined with other events that have expanded landfill capacity within the County, such as County disposal agreements and recycling programs. Additionally, there is a potential for alternative solid waste disposal technologies to be developed and legislatively approved in the future, given the market forces that drive the solid waste industry, which could substantially reduce landfill disposal. However, because land suitable for landfill development or expansion currently is quantitatively finite and limited due to numerous environmental, regulatory, and political constraints, until other disposal alternatives adequate to serve existing and future uses for the foreseeable future are employed, the potential project and cumulative impacts relating to solid and hazardous waste disposal are considered significant and unavoidable.

2. BACKGROUND

a. Relationship of Project to Newhall Ranch Specific Plan Program EIR

Section 4.15 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with solid waste generation for the

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1 This total assumes a generation rate of 90 tons of construction waste per acre. (1854.1 × 90 = 166,869) This 1,854.1 gross acreage is the total project impact area (including all offsites as well as temporary impacts). The tract map site acreage is 1,261.8. Because 90 tons per acre accounts for building construction waste,, attributing 90 tons of construction waste to the gross 1,854.1 acres assumes a worst-case scenario because building construction will not occur in areas outside the tract map boundary. (Refer to **Section 1.0**, **Project Description**.)

entire Newhall Ranch Specific Plan. The Newhall Ranch Specific Plan Program EIR concluded that Specific Plan implementation would result in significant impacts related to solid waste services that could not be reduced to below a level of significance. All subsequent project-specific development plans and tentative subdivision maps must be consistent with both the Newhall Ranch Specific Plan, the County's General Plan, and the Santa Clarita Valley Area Plan.

This project-level EIR is tiering from the previously certified Newhall Ranch Specific Plan Program EIR. **Section 4.10** assesses the Mission Village project's existing conditions, potential environmental impacts, applicable mitigation measures from the Newhall Ranch Specific Plan Program EIR, and any additional mitigation measures recommended by this EIR for the Mission Village project.

b. References

Information in this section was derived from numerous sources, including the Los Angeles County Department of Public Works (LACDPW), *Los Angeles County Integrated Waste Management Plan, 2002 Annual Report on the Countywide Summary Plan and Countywide Siting Element*, February 2004; LACDPW, *2002 Annual Report on the Source Reduction and Recycling Element, Household Hazardous Waste Element, and Nondisposal Facility Element for the County of Los Angeles Unincorporated Areas*, February, 2004; and interviews with County Sanitation Districts of Los Angeles County (CSDLAC) and LACDPW Environmental Programs Division staff.

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

The Newhall Ranch Specific Plan Program EIR identified certain potentially significant impacts related to solid waste disposal services resulting from implementation of the Specific Plan. Specifically, the Newhall Ranch Specific Plan Program EIR, and related findings, determined that implementation of the adopted Specific Plan would cause significant impacts to solid waste disposal services that could not be mitigated to below a level of significance by the adoption of mitigation measures.[2] This was because, at the time the Newhall Ranch Specific Plan Program EIR was prepared, an adequate supply of landfill space had not been approved beyond 1997 and existing hazardous waste management facilities in the County were inadequate; therefore, the Specific Plan's increase in solid and hazardous waste generation and disposal was considered to cause a significant impact that could not be mitigated unless additional landfill space

[2] See Mitigation Measures 4.15-1 through 4.15-4 in both the certified Newhall Ranch Specific Plan Program EIR (March 9, 1999) and adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

or other disposal alternatives were approved. For this reason, impacts were considered significant even with adoption of the identified feasible mitigation measures.[3]

In summary, site preparation and construction activities for the Specific Plan were expected to generate approximately 20,970 tons of construction waste per year, for a total of 524,250 tons over the 25-year buildout assuming no recycling, or approximately 262,125 total tons using recycling practices in effect in 1999. Site preparation and construction waste would likely include wood, paper, glass, plastic, and green wastes, typical of construction debris. Construction activities could also generate household-type hazardous waste products. The waste generated would result in an incremental and intermittent increase in solid waste disposal at landfills and other waste disposal facilities within Los Angeles County. Following project buildout, and assuming no recycling, the Newhall Ranch Specific Plan would generate approximately 261,593 pounds of solid waste per day, or 47,741 tons per year, including household-type hazardous waste products.

Mitigation measures were adopted, that require the Newhall Ranch Specific Plan to meet the requirements of all applicable solid waste diversion, storage, and disposal requirements in order to reduce impacts to the extent feasible.[4] Despite the reduction of solid waste generation during both project construction and operation, the Specific Plan Program EIR identified that land suitable for landfill development or expansion is quantitatively finite and limited due to numerous environmental, regulatory, and political constraints. Based on the Newhall Ranch Specific Plan Program EIR and record, the County's Board of Supervisors found that until the County can demonstrate that approved landfill space or other disposal alternatives will be adequate to serve existing and future uses for the foreseeable future, Specific Plan and cumulative solid and hazardous waste impacts remain unavoidably significant.

4. EXISTING CONDITIONS

a. Introduction

LACDPW is responsible for developing plans and strategies to manage solid waste, including hazardous waste, generated in the County's unincorporated areas, and for addressing the disposal needs of Los Angeles County as a whole. In the past, solid waste was simply collected and disposed of at landfills in the local vicinity. More recently, many jurisdictions, including the County, have stated that existing local landfill space may reach capacity in the very near future. Even with waste reduction and recycling efforts, many jurisdictions are having tremendous difficulty approving new local landfill space or alternative means of disposal to address the anticipated shortage. While solid waste (including hazardous waste)

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3 Ibid.

4 Ibid.

continues to be generated and the public expects it to be collected and disposed, the public has strongly opposed both the creation and expansion of disposal facilities during the permitting process.

Currently, most solid waste is disposed of in landfills. However, the amount of waste diverted from landfills has increased as jurisdictions throughout the state comply with the provisions of the California Integrated Waste Management Act (discussed later in this EIR section). This diversion will increase the life expectancy of landfills, but will not eliminate the need for new landfills. As growth occurs throughout southern California, new landfills will need to be developed and/or other waste disposal alternatives will need to be implemented to respond to the continued generation of solid waste requiring collection and disposal. Additionally, serious health issues (e.g., disease) would arise if regions lacked capacity to collect and dispose of waste. If landfill capacity was severely diminished or eliminated, state and local agencies would be forced to intervene and implement new landfilling and/or other disposal options because it would not be possible to halt the generation of solid waste. Discussion of such intervention is currently taking place at the state level. Ultimately, it is not reasonable to assume that all existing landfill space will reach capacity and that no new landfill space or disposal options will be made available; therefore, it is expected that new and expanded landfills would be approved as part of a comprehensive solid waste program.

In response to this dilemma, alternative methods of collection, transfer, disposal, and even the reduction, recycling and reuse of solid waste have been considered. It is speculative to identify specific options for waste disposal that will exist in the future. Disposal options that have been discussed at the state and County levels, as well as by the private waste disposal industry, include expanding existing landfills, transferring solid waste out of the County or state by truck or rail car, and incineration using local and regional co-generation plants. However, it should be noted that some landfills may not accept waste from outside jurisdictions, or may limit incoming disposal of waste to municipalities. Options to reduce the amount of waste disposed of in landfills have included curbside recyclable materials collection or materials separation performed by the agencies. The technology and economics for these options are changing rapidly. As an example, 20 years ago few people would have envisioned the amount of recycling that occurs today. The management of future solid waste disposal is concerned with where and how solid waste will be handled, and the costs involved. It is largely an open market, regulated by various government controls.

Currently, most solid waste within Los Angeles County is collected by private haulers and disposed of within the County. However, this is not to say with certainty that independent solid waste haulers do not or would not take solid wastes over the County line. In fact, LACDPW has maintained a steadfast opinion that prudent public policy includes a balance of in-County and out-of-County disposal capacity to provide for the County's long-term disposal needs. Greater inter-county transfer of solid waste may occur

in the near future if landfills outside of Los Angeles County provide greater economic advantages to haulers or if landfills within the County reach capacity.[5] However, demonstration of the potential for in-County waste disposal capacity and expansion is important to the County's effective negotiation of out-of-County disposal contracts. If the County becomes totally reliant on out-of-County disposal capacity, it would have little negotiating leverage against unfavorable pricing structures in other jurisdictions.

The increase in recycling indicates the growing privatization that is occurring within the solid waste industry today. In the past, many municipalities provided the service of collecting solid waste and disposing of it in their own landfills. In today's free-enterprise system, private industries compete to collect and dispose of solid waste largely because of the difficulty that municipalities have in approving new disposal sites. Solid waste has become a commodity and has supported the growth of the private solid waste-management industry. Private solid waste haulers dispose of their loads at landfills that provide the greatest economic advantage (considering location, transportation cost, and disposal tipping fees). As local landfills reach capacity, economic forces will even more actively drive the collection and disposal of solid waste. Additionally, as explained above, a balance of in-County and out-of-County disposal capacity is necessary to maintain negotiating leverage against unfavorable pricing structures in other jurisdictions.

Two landfills located outside Los Angeles County that would receive Los Angeles area waste by rail car are currently proposed to provide long-term solid waste disposal capacity for the area. The two landfills are the Mesquite Regional Landfill in southern Imperial County and Eagle Mountain Landfill in Riverside County, which are both owned by the Sanitation Districts of Los Angeles County (Sanitation Districts) and can provide more than 100 years of disposal capacity for Los Angeles County.[6] Neither landfill currently is operational and each is in varying stages of development. With respect to the Mesquite Regional Landfill, a contract has been awarded to a construction company to begin development of a proposed rail spur and railway yard on the property that would facilitate rail transport.[7] Once in operation, the Mesquite Landfill will be permitted to accept up to 20,000 tons of waste each day for the next 100 years.[8] As to the Eagle Mountain Landfill, the Sanitation Districts are currently performing the

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5 The U.S. Supreme Court has ruled that jurisdictional solid waste disposal restrictions infringe on a landfill operator's ability to actively participate in interstate commerce. In *Philadelphia v. New Jersey*, 437 U.S. 617 (1978), the court ruled that the City of Philadelphia could not prevent the State of New Jersey from bringing solid waste to Philadelphia for disposal.

6 Sanitation Districts of Los Angeles County, *Fiscal Year 2002-2003 in Review*.

7 Telecommunication between Michelle Oaks, Mesquite Regional Landfill, Sanitation Districts of Los Angeles County, and Chris Graham, Impact Sciences, Inc., February 10, 2010.

8 Mesquite Regional Landfill website at www.mrlf.org, accessed February 10, 2010.

due diligence examination of the landfill; however, federal litigation is pending that could overturn the current permit.[9]

Finally, incineration facilities may provide a dual function of disposing of solid waste and generating regional power supplies. If local landfills are not expanded or developed, and solid waste is hauled to distant locations, incineration facilities may also become an economically attractive method of solid waste disposal.

Because of the difficulty predicting the constantly changing solid waste management situation, it was necessary to formulate a method in which to evaluate impacts on the landfills that are most likely to serve the project site. Specifically, this EIR section compares the solid waste generation of the proposed project with the capacity of the existing landfills operating within Los Angeles County that accept waste from unincorporated areas. This is considered a worst-case scenario as it does not assume the development of any new landfills, use of out-of-County landfills, or implementation of any other disposal options.

b. Plans and Policies for Solid Waste Disposal

In 1989, the State of California enacted the California Integrated Waste Management Act of 1989 (CIWMA or Assembly Bill [AB] 939), which required cities and counties to reduce the amount of solid waste entering landfills by recycling, reuse, and waste prevention efforts. This legislation established a mandate that solid waste disposal in the state be reduced by at least 50 percent by the year 2000. As explained further below, the County currently is meeting the AB 939 diversion requirements.

CIWMA, and the related County of Los Angeles solid waste disposal plans, are discussed below.

(1) California Integrated Waste Management Act

CIWMA required every city and county in the state to prepare a Source Reduction and Recycling Element (SRRE) to its Solid Waste Management Plan that identifies how the jurisdiction would meet the mandatory state waste diversion goals of 25 percent by the year 1995 and 50 percent by the year 2000. The purpose of AB 939 is to "reduce, recycle, and reuse solid waste generated in the state to the maximum extent feasible." Noncompliance with the goals and timelines set forth within CIWMA, can be severe, as the bill imposes fines up to $10,000 per day on jurisdictions (cities and counties) not meeting the recycling and planning goals.

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9 Telecommunication between Dianne Ohiosumua, CalRecyle, Integrated Waste Management Specialist, and Chris Graham, Impact Sciences, Inc. February 10, 2010.

The term "integrated waste management" refers to the use of a variety of waste management practices to safely and effectively handle the municipal solid waste stream with the least adverse impact on human health and the environment. CIWMA established a waste management hierarchy as follows:

- Source Reduction
- Recycling
- Composting
- Transformation
- Disposal

(2) California Integrated Waste Management Board Model Ordinance

Subsequent to enactment of CIWMA, additional legislation was passed to assist local jurisdictions in accomplishing the goals of the Act. The California Solid Waste Re-use and Recycling Access Act of 1991 (Public Resources Code, sections 42900–42911) directed the California Integrated Waste Management Board (CIWMB) to draft a "model ordinance" relating to adequate areas for collecting and loading recyclable materials in development projects. If by September 1, 1994, a local agency did not adopt its own ordinance based on the CIWMB model, the CIWMB model ordinance took effect for that local agency. The County chose to use the CIWMB model ordinance as the County's model ordinance.

(3) County of Los Angeles Solid Waste Management Action Plan

The County's Board of Supervisors, in 1988, approved the Los Angeles County *Solid Waste Management Action Plan* to provide long-range management of the solid waste generated within the County. This plan includes such approaches as source reduction, recycling and composting programs, household hazardous waste management programs, and public education awareness programs. The plan concludes that landfilling will remain an integral part of the waste management system and calls for the establishment of 50 years of in-County permitted landfill capacity, as well as the County's support for the development of disposal facilities out of the County.

(4) County of Los Angeles Source Reduction and Recycling Element

The SRRE was prepared in response to AB 939. It describes policies and programs to be implemented by the County for the unincorporated areas to achieve the state's mandates of 25 and 50 percent waste disposal reductions by the years 1995 and 2000, respectively. Per CIWMA, the SRRE projects disposal capacity needs for a 15-year period. The current SRRE 15-year period commenced in 1992.

(5) County of Los Angeles Household Hazardous Waste Element

AB 939 requires every city and county within the state to prepare a Household Hazardous Waste Element (HHWE) in order to provide for management of household hazardous waste generated by the residents within its jurisdiction. The countywide household hazardous waste management program, consisting of collection and public education/information services, has been formulated to serve residents throughout the County in a convenient and cost-effective manner. In addition to reducing the amount of waste that might otherwise be sent to a landfill as required by AB 939, these programs are important facets in the County's effort to clean up the solid waste stream.

(6) County of Los Angeles Non-Disposal Facility Element

AB 939 requires every city and county within the state to prepare and adopt a Non-Disposal Facility Element (NDFE) identifying all existing, expansions of existing, and proposed new non-disposal facilities that will be needed to implement the local jurisdiction's SRRE. The County's NDFE identifies 20 existing materials recovery facilities/transfer stations, and nine proposed material recovery facilities as non-disposal facilities that the County intends to utilize to implement its SRRE and meet the diversion requirements of AB 939. In addition, the County's NDFE also identifies the utilization of four landfill facilities, operated by CSDLAC, for diversion of yard/green waste which is intended to be used as alternative daily cover at the landfills.

c. Existing Solid Waste Generation

(1) Statewide Solid Waste Generation

Ninety-three million tons of solid waste were generated in the State of California in 2008.[10] Of that total, 54 million tons of the solid waste stream were diverted from landfills through various source reduction, recycling, and re-use efforts, a diversion rate of 58 percent.[11] Therefore, the State of California is meeting and exceeding the state diversion standards.

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10 Department of Resources Recycling and Recovery (CalReycle) website, accessed February 2, 2010, http://www.calrecycle.ca.gov/AboutUs/.

11 Ibid.

(2) Regional Solid Waste Generation

A total of 1.1 million tons of solid waste was collected within unincorporated Los Angeles County for the year 2007.[12] Since 2000, the County of Los Angeles has required a 50 percent solid waste diversion rate for all cities within the jurisdiction.[13] In 2004, the California Department of Resources Recycling and Recovery reported that 53 percent of solid waste within unincorporated Los Angeles County was diverted through various source reduction, recycling, and re-use efforts; additionally, the preliminary report prepared by CalRecycle indicates a 50 percent solid waste diversion rate in 2005, and a 54 percent diversion rate in 2006.[14] Therefore, unincorporated Los Angeles County is meeting the diversion goals set forth by the County of Los Angeles, as well as the State of California.

(3) Site-Specific Solid Waste Generation

The tract map site is currently vacant with some irrigated agricultural uses and abandoned oil and gas operations (see **Figure 2.0-1, Existing Land Use**). These operations presently contribute a quantitatively insignificant amount of solid waste to the area's waste stream.

d. Existing Solid Waste Collection and Disposal

(1) Solid Waste Collection

Residential, commercial, and industrial trash collection in the unincorporated areas of Los Angeles County is handled by private haulers. These haulers operate in a free-enterprise system and generate profits by collecting disposal fees. When collected, the waste may be taken to any landfill that is willing to accept it. The private haulers are free to operate in any of the unincorporated areas of the County, as well as outside the County. In 2010, approximately 138 haulers were permitted by the County of Los Angeles Department of Health Services to collect residential, commercial, and industrial waste in unincorporated Los Angeles County.[15]

(2) Solid Waste Disposal

Solid waste collected from the Santa Clarita Valley area is primarily disposed of in the Chiquita Canyon Landfill, located immediately to the north and west of the project site, and/or in the Sunshine Canyon Landfill located in Sylmar; other, more distant landfills also may receive solid wastes from the area. For

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12 Department of Resources Recycling and Recovery (CalReycle) website,, Jurisdiction Diversion and Disposal Profile: Los Angeles County at http://www.calrecycle.ca.gov/Profiles/, accessed February 2, 2010.

13 Ibid.

14 Department of Resources Recycling and Recovery (CalReycle) website, accessed February 2, 2010, http://www.calrecycle.ca.gov/AboutUs/.

15 Telecommunication with Saro Toutounjian, Commercial Franchise Employee, Los Angeles County Department of Public Works, February 9, 2010.

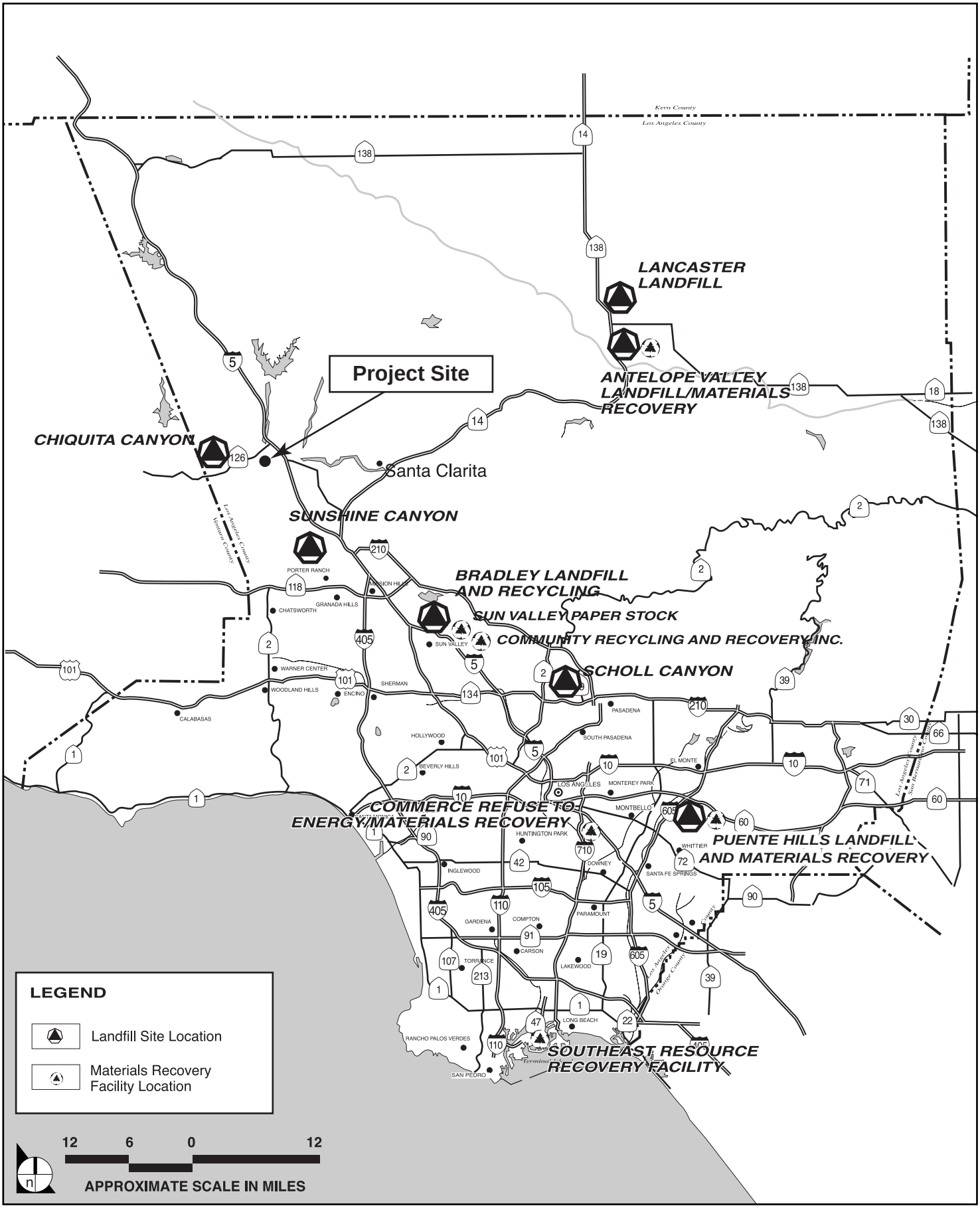
instance, the Antelope Valley Landfill in Palmdale, Lancaster Landfill in Lancaster, and Simi Valley Landfill in Simi Valley could all potentially accept waste from the project area. **Figure 4.10-1, Locations of Major Los Angeles County Landfill Sites**, illustrates the locations of Los Angeles County landfills in relation to the project site.

As is the case with solid waste haulers, landfills operate in a free-enterprise system. Their operating expenses and profits are obtained by collecting disposal fees from the haulers on a per ton basis. Landfill capacity is regulated primarily through the amount of solid waste that each particular facility is permitted to collect on a daily basis relative to their total capacity.

In June 1996, Los Angeles County prepared the *Los Angeles County Countywide Siting Element* to project waste generation and waste disposal capacity within the County. Projections are made for 15-year planning periods. LACDPW updates the *Siting Element* annually. The most recent report is the *Los Angeles County Integrated Waste Management Plan, 2008 Annual Report on the Countywide Summary Plan and Countywide Siting Element* (published October 2009). **Table 4.10-1, Existing Landfill Capacity and Regional Needs Analysis for Los Angeles County**, considers the use of existing disposal infrastructure and utilizes up to 7,500 tons per day (tpd) of out-of-County landfill capacity. This table assumes no expansions of existing landfills, no new landfills and no additional capacity from alternative technologies.[16]

The table was prepared based on the information contained in the 2008 Annual Report. **Table 4.10-1** illustrates the County's projected total daily disposal demand for the years 2008 through 2023, the estimated remaining capacity of the County's major landfills, and the capacity shortfall or reserve on an annual basis. Recent expansions at the Chiquita Canyon, Antelope Valley, Lancaster, and Puente Hills Landfills are reflected in **Table 4.10-1**.

16 County of Los Angeles Department of Public Works, Countywide Summary Plan and Countywide Siting Element, County of Los Angeles Countywide Integrated Waste Management Plan, 2008 Annual Report, October 2009, p. 36.



SOURCE: Impact Sciences, Inc. – January 2005

FIGURE **4.10-1**

Locations of Major Los Angeles County Landfill Sites

Table 4.10-1
Existing Landfill Capacity and Regional Needs Analysis for Los Angeles County

								1	2	3	4	5	6	7	8	9	10	11	12	13	Total	
								In-County Class III Landfills													Daily Available Capacity[2] from Class III Landfills H	Class III Landfill Daily Disposal Capacity Shortfall (Reserve) I = G-H
Year	Waste Generation Rate[1] A	Percent Diversion B	Total Daily Disposal Demand C=A(1-B)	Imports from Other Counties D	Exports to Out-of-County Disposal Facilities E	Daily Available Capacity from Transformation Facilities F	Class III Landfill Daily Disposal Demand G=C+D-E-F	Antelope Valley	Burbank (R)	Calabasas (R)	Chiquita	Lancaster	Pebbly Beach	Puente Hills(L)	San Clemente (R)	Scholl (R)	Sunshine County (W)	Sunshine City(W)	Sunshine City/County Combined (W)	Whittier (R)		
	(tpd-6)	(%)	(tpd-6)	(tpd-6)	(tpd-6)	(tpd-6)	(tpd-6)	Maximum Permitted Daily Capacity (tpd-6) Expected Average Daily Tonnage (tpd-6) Remaining Capacity at Year's End (Million Tons)													(tpd-6)	(tpd-6)
2008	73,670	55.0	33,152	667	6,135	1,669	25,347	1,800[3] 970[4] 7.7[5]	240 132 3.0	3,500 1,096 7.8	5,000 4,756 8.0	1,700 1,123 2.1	49 10 0.06	13,200 9,975 19.9	10 0.96 0.04	3,400 1,082 5.7	6,000 3,771 E	5,000 2,178 E	83.0	350 252 4.2	*35,274.3*	
2009	71,694	55.0	32,262	900	7,500	2,069	23,593	1,800 903 7.5	240 123 3.0	3,500 1,020 7.5	5,000 4,427 6.6	1,700 1,045 1.6	49 9 0.05	13,200 9,284 15.8	10 0.91 0.04	3,400 1,007 5.3			11,000 5,538 81.3	350 235 4.1	*35,096.2*	(16,656)
2010	71,865	55.0	32,339	900	7,500	2,069	23,670	1,800 906 7.2	240 124 2.9	3,500 1,024 7.2	5,000 4,441 5.2	1,700 1,049 1.1	49 9 0.05	13,200 9,315 11.7	10 0.91 0.04	3,400 1,011 5.0			11,000 5,556 79.5	350 238 4.0	*35,104.0*	(16,579)
2011	73,751	55.0	33,188	900	7,500	2,069	24,519	1,800 938 6.9	240 126 2.9	3,500 1,060 6.8	5,000 4,601 3.8	1,700 1,086 0.5	49 10 0.05	13,200 9,649 7.6	10 0.95 0.04	3,400 1,047 4.7			11,000 5,755 77.7	350 244 3.9	*35,190.2*	(15,730)
2012	76,811	55.0	34,565	900	7,500	2,069	25,896	1,800 991 6.6	240 136 2.8	3,500 1,120 6.5	5,000 4,859 2.3	1,700 672 C	49 10 0.05	13,200 10,191 3.4	10 1.00 0.04	3,400 1,106 4.4			11,000 6,553 75.7	350 256 3.8	*35,330.0*	(14,353)
2013	80,280	55.0	36,126	900	7,500	2,069	27,457	1,800 1,050 6.3	240 143 2.8	3,500 1,187 6.1	5,000 5,000 0.73		49 11 0.04	13,200 10,805 C	10 1.06 0.04	3,400 1,172 4.0			11,000 7,813 73.2	350 273 3.8	*33,788.8*	(11,092)
2014	83,620	55.0	37,629	900	7,500	2,069	28,960	1,800 1,800 5.7	240 151 2.7	3,500 1,252 5.7	5,000 5,000 C		49 12 0.04		10 1.12 0.04	3,400 1,236 3.6			11,000 11,000 69.8	350 288 3.7	*20,741.2*	3,611
2015	86,572	55.0	39,958	900	7,500	2,069	30,288	1,800 1,800 5.1	240 158 2.7	3,500 1,310 5.3			49 12 0.03		10 1.17 0.04	3,400 1,293 3.2			11,000 11,000 66.4	350 302 3.6	*15,676.2*	9,939
2016	89,548	55.0	40,297	900	7,500	2,069	31,628	1,800 1,800 4.6	240 165 2.6	3,500 1.368 4.9			49 13 0.03		10 1.22 0.04	3,400 1,350 2.8			11,000 11,000 62.9	350 315 3.5	*16,012.2*	11,279
2017	92,329	55.0	41,548	900	7,500	2,069	32,879	1,800 1,800 4.0	240 172 2.6	3,500 1,422 4.4			49 13 0.03		10 1.27 0.04	3,400 1,404 2.3			11,000 11,000 59.5	350 327 3.4	*16,139.2*	12,530
2018	95,143	55.0	42,815	900	7,500	2,069	34,145	1,800 1,800 3.4	240 178 2.5	3,500 1,477 4.0			49 14 0.02		10 1.32 0.04	3,400 1,458 1.9			11,000 11,000 56.1	350 340 3.3	*16,267.9*	13,796
2019	98,015	55.0	44,107	900	7,500	2,069	35,438	1,800 1,800 2.9	240 185 2.5	3,500 1,533 3.5			49 14 0.02		10 1.37 0.04	3,400 1,513 1.4			11,000 11,000 52.6	350 350 3.2	*16,396.3*	15,089
2020	100,896	55.0	45,403	900	7,500	2,069	36,734	1,800 1,800 2.3	240 192 2.4	3,500 1,589 3.0			49 15 0.01		10 1.42 0.04	3,400 1,568 0.9			11,000 11,000 49.2	350 350 3.1	*16,515.0*	16,385
2021	103,681	55.0	46,656	900	7,500	2,069	37,987	1,800 1,800 1.8	240 198 2.4	3,500 1,643 2.5			49 15 0.01		10 1.47 0.04	3,400 1,622 0.4			11,000 11,000 45.8	350 350 2.9	*16,629.8*	17,638
2022	106,555	55.0	47,950	900	7,500	2,069	39,281	1,800 1,800 1.2	240 205 2.3	3,500 1,699 2.0			49 16 0.004		10 1.52 0.03	3,400 1,677 C			11,000 11,000 42.4	350 350 2.8	*16,748.3*	18,932
2023	109,500	55.0	49,275	900	7,500	2,069	40,606	1,800 1,800 0.6	240 212 2.2	3,500 1,756 1.4			49 16 C		10 1.57 0.03				11,000 11,000 38.9	350 350 2.7	*15,136.0*	23,657

Assumptions:

Notes:

[1] *Waste generation is estimated using the Waste Board's Adjustment Methodology, utilizing population projection, employment and taxable sales projections from UCLA.*

[2] *Daily Available Capacity,* in italicized text, *is based on Maximum Permitted Daily Capacity for facilities without a restricted wasteshed or Expected Average Daily Tonnage for facilities with a restricted wasteshed.*

[3] *Maximum permitted daily capacity (tpd-6)*

[4] *Expected average daily tonnage (tpd-6)*

[5] *Remaining Capacity at year's end (Million tons)*

Legend:

"tpd-6" = Tons Per Day, 6 days per week average
C – Closure due to exhausted capacity or permit expiration
E – Expansion became effective
L – Does not accept waste from the City of Los Angeles and Orange County
R – Restricted Wasteshed
W – Does not accept waste from jurisdictions outside the County of Los Angeles

Source: Los Angeles County Department of Public Works, October 2009.

The landfills included in **Table 4.10-1** are classified as major landfills, which are defined as those facilities that receive more than 50,000 tons of solid waste per year. Additionally, these landfills are classified as Class III landfills since they are permitted to accept only non-hazardous wastes.

As shown in **Table 4.10-1**, since the approval of the Antelope Valley, Chiquita, Lancaster, and Puente Hills Landfills expansions, Los Angeles County's landfills have adequate capacity to service the existing population and planned growth until the year 2014, at which time there will be a shortfall in capacity of 3,611 tpd-6. Additionally, a number of landfills included in **Table 4.10-1** have an anticipated life expectancy that extends beyond 2023, the horizon year for the County's current 15-year planning period. For example, the Lancaster Landfill was approved for expansion to extend the life of this landfill to 2030,[17] and the Burbank, Chiquita Canyon, Pebbly Beach, San Clemente, Scholl and Whittier (Savage Canyon) Landfills are permitted until 2054, 2019, 2033, 2032, 2019, and 2025, respectively.[18]

Moreover, other events likely will result in expanded landfill capacity within the County. This includes recent agreements between Orange County and Waste Management, Inc. (WMI), which results in the diversion of waste (168,000 tons per year) from San Diego County that previously was imported into Los Angeles County. This waste now goes to Orange County instead of Los Angeles County. Another agreement, this one between Orange County and Taormina Industries, which mainly serves Los Angeles County, results in the diversion of 2,000 tons of solid waste per day from Los Angeles County landfills to Orange County landfills.[19] Notwithstanding, some time after 2023, it is anticipated that the daily volume of solid waste generated would exceed the volumes that the County landfills are permitted to accept unless new landfills or other disposal alternatives are approved.

The County of Los Angeles' Countywide Integrated Waste Management Plan 2008 Annual Report has also analyzed 6 other scenarios for landfill capacity from 2008 to 2023. These scenarios are based on proposed future out-of-County import or export, proposed future expansion at County-owned landfills, proposed development of new alternative technologies, and expected increases in diversion rate per year. It should be noted that these are future scenarios based on proposed and not yet approved conditions for the County of Los Angeles solid waste disposal system. The following is a brief description of each scenario analyzed by the County of Los Angeles:

- The No Import, No Export scenario assumes that all solid waste disposed of would be managed by existing disposal infrastructure and the successful permitting and development of all in-County landfill expansions. This scenario assumes that there would be no imported or exported waste and no

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17 Telecommunication with Kay Krumwied, Lancaster Landfill, December 4, 2002. A life expectancy to 2030 assumes the acceptance of the maximum daily tonnage of 1,700 tons of solid waste.

18 Department of Resources Recycling and Recovery (CalReycle) Website. Accessed February 2, 2010. http://www.calrecycle.ca.gov/AboutUs/.

19 *Approaching an Integrated Solid Waste Management System for Los Angeles County, California*, May 2, 1997, GBB, Solid Waste Management Consultants.

new alternative technologies being used. Based on this, the County of Los Angeles landfills are expected to have capacity shortfall beginning in 2014 of 9,352 tpd-6.[20]

- The Expansions Scenario utilizes the capacity from existing and proposed expansions of in-County disposal infrastructure and does not assume that alternative technologies would be applied in the disposal of solid waste. Based on these assumptions the County of Los Angeles landfills are expected to see a shortfall in capacity by 2014 of 1,172 tpd-6.[21]

- The Alternative Technologies scenario utilizes the capacity from existing and proposed expansions of in-County disposal infrastructure. The scenario projects that, by 2013, alternative technology facilities for residential waste would become operational in the County. Based on these assumptions the County of Los Angeles landfills are expected to see a shortfall in capacity by 2015 of 569 tpd-6.[22]

- The Alternative Technologies and Increased Diversion Scenario is similar to the Alternative Technologies scenario, with the assumption that the diversion rate is assumed to increase by 1 percent each year in 2013 and reach 65 percent by 2022. Based on these assumptions the County of Los Angeles landfills are expected to see a reserve capacity from 2008 (reserve capacity of 11,503 tpd-6) to 2023 (reserve capacity of 7,187 tpd-6).[23]

- The Increase Export Scenario utilizes the capacity from existing and proposed expansions of in-County disposal infrastructure and assumes no utilization of alternative technology facilities. Based on these assumptions the County of Los Angeles landfill are expected to see a shortfall in capacity by 2014 of 1,172 tpd-6.[24]

- The Increased Export and Diversion is similar to the Increase Export Scenario, with the exception of the diversion rate, which is assumed to increase by 1 percent each year beginning in 2013 and reach 65 percent by 2022 and 2023. Based on these assumptions the County of Los Angeles landfills are expected to see a reserve capacity from 2008 (reserve capacity of 11,503 tpd-6) to 2023 (reserve capacity of 3,593 tpd-6).[25]

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20 County of Los Angeles Department of Public Works, County of Los Angeles Countywide Integrated Waste Management Plan, 2008 Annual Report, October 2009, p. 37 and Appendix E-3.

21 County of Los Angeles Department of Public Works, County of Los Angeles Countywide Integrated Waste Management Plan, 2008 Annual Report, October 2009, p. 38 and Appendix E-3.

22 County of Los Angeles Department of Public Works, County of Los Angeles Countywide Integrated Waste Management Plan, 2008 Annual Report, October 2009, p. 39 and Appendix E-3.

23 County of Los Angeles Department of Public Works, County of Los Angeles Countywide Integrated Waste Management Plan, 2008 Annual Report, October 2009, p. 40 and Appendix E-3.

24 County of Los Angeles Department of Public Works, County of Los Angeles Countywide Integrated Waste Management Plan, 2008 Annual Report, October 2009, p. 41 and Appendix E-3.

25 County of Los Angeles Department of Public Works, County of Los Angeles Countywide Integrated Waste Management Plan, 2008 Annual Report, October 2009, p. 42 and Appendix E-3.

e. Hazardous Materials Collection and Disposal

As discussed above, Los Angeles County has prepared a HHWE to provide for management of household hazardous waste generated by the residents within its jurisdiction.

Certain uses and activities generate hazardous waste that must be disposed at locations other than Class III or unclassified landfills. A generator is a person or business whose acts or processes produce hazardous waste or who, in some other manner, causes a hazardous substance or waste to become subject to the California Hazardous Waste Control Law (HWCL). (Health & Safety Code, sections 25100–25249.) These hazardous wastes then need to be transported to a licensed disposal or treatment facility. However, the transport and disposal of hazardous materials is more complex than typical Class III solid waste because there are many forms of hazardous materials. Generators that use hazardous materials and/or generate hazardous waste are responsible for the disposal of the waste. There are many licensed private contractors that transport and dispose hazardous waste.

LACDPW has indicated that existing hazardous waste management facilities within the County are inadequate to meet the hazardous waste currently generated within Los Angeles County.[26] However, there are several Class I and II landfills outside of the County, in Kern and Kings counties, that can currently accept hazardous waste generated within the County. Each is described briefly below:

- Laidlaw Landfill, Buttonwillow, Kern County, California: This facility accepts hazardous and non-hazardous waste and is permitted as a Class I landfill. The facility has no restrictions for the amount of waste that can be accepted on a daily basis.
- Kettleman Hills Landfill, Kettleman City, Kings County, California: This is a Class I permitted landfill that accepts hazardous and non-hazardous waste with no capacity restrictions.
- McKittrick Waste Treatment Site, McKittrick, Kern County, California: This facility is a Class II permitted landfill that accepts hazardous and non-hazardous waste. The facility has a capacity restriction of 412 cubic meters daily.

f. Current Site Conditions

The Mission Village tract map site is currently vacant with some irrigated agricultural uses and abandoned oil and gas operations. Previous uses of the site include agricultural and cattle grazing operations.

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26 Written correspondence from Rod Kubomoto, Waershed Management Division, County of Los Angeles Department of Public Works, April 21, 2004.

5. PROPOSED PROJECT IMPROVEMENTS

The project proposes to develop a total of 4,412 residential dwelling units consisting of 382 single-family homes and 4,030 multi-family units, including attached and detached condominiums, age qualified and apartment units, with a total residential population of 10,802.[27] The project would also include 1,555,100 million square feet of commercial/mixed-uses, a 9.5-acre elementary school, fire station, public library, bus transfer station, parks, public and private recreational facilities, trails, and road improvements. Project site grading (immediately adjacent off-site improvements, Magic Mountain Parkway extension, and utility corridor) would require the removal and re-compaction of approximately 29.5 million cubic yards of existing material in a balanced cut and fill operation, plus up to 375,000 cubic yards for the electrical substation.

6. PROJECT IMPACTS

The analysis of potential solid waste disposal impacts associated with construction and operation of the proposed project, including the significance criteria applicable to assessing such impacts, is presented below.

a. Significance Threshold Criteria

According to Appendix G of the *State CEQA Guidelines*, a project would have a significant impact on solid waste disposal services if the project would:

- be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- not comply with federal, state, and local statutes and regulations related to solid waste.

The *State CEQA Guidelines* do not identify any quantitative standards for determining the significance of a new development project's impact on solid waste disposal.

b. Impact Analysis

(1) Construction-related Impacts

Site preparation (vegetation removal and grading activities) and construction activities required to develop the Mission Village project would generate a total of approximately 166,869 tons of construction waste, or an average of approximately 23,838 tons of construction waste per year over the seven year

[27] Based upon County of Los Angeles estimates of 3.17 persons per single-family household and 2.38 persons per multi-family houeshold.

buildout of the project assuming no recycling, or approximately 11,919 total tons assuming a 50 percent diversion rate.[28] These waste materials are expected to be typical construction debris, including wood, paper, glass, plastic, metals, cardboard, and green wastes. No soil would be transported to a landfill site, as the project is a balance cut and fill operation. The wastes generated would result in an incremental and intermittent increase in solid waste disposal at landfills and other waste disposal facilities within Los Angeles County. Unless construction-related wastes are recycled, construction solid waste generation would have a significant impact on the capacity of the County's solid waste management system.

The project will comply with the requirements set forth in Title 20, Utilities, Chapter 20.87, Construction and Demolition Debris Recycling, of the Los Angeles County Code, which requires recycling and reuse of construction and demolition debris in the unincorporated areas of the County, as well as preparation of a Recycling and Reuse Plan (RRP), to be submitted to the Department of Public Works, Environmental Programs Division, after an application for a permit has been filed for the Mission Village project. In compliance with this code section, mitigation is proposed that would require the project applicant to prepare a Waste Management Plan to recycle, at a minimum, 50 percent of the construction and demolition debris; the RRP would be submitted to the Los Angeles County Environmental Programs Division. As discussed above, an adequate amount of landfill space has not been ensured to accommodate long-term solid waste generation at current disposal rates. Therefore, even with mitigation, the Mission Village project's construction-related solid waste impact to Class III landfills would be considered significant.

Construction activities could also generate hazardous waste products. A licensed waste disposal expert would be required to dispose of all hazardous materials, such as contaminated soils or asbestos containing materials, in accordance with applicable regulations (e.g., South Coast Air Quality Management District [SCAQMD] Rules and Regulations for asbestos). Hazardous waste generated in connection with construction activities would be handled and disposed of in accordance with all appropriate state and federal laws. Due to the complex nature of the laws and regulations associated with the disposal of hazardous waste, the location of the disposal of the materials would need to be determined at the time of disposal based on the available facility capacities. The permitted Class I and II landfills within southern California can currently accommodate hazardous debris generated by construction of the Mission Village project. However, as noted above, land suitable for landfill development or expansion is quantitatively finite and limited due to numerous environmental,

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28 This total assumes a generation rate of 90 tons of construction waste per acre. (1854.1 × 90 = 166,869) Because the project's net acreage is only 1,252.27, attributing 90 tons of construction waste to each of the gross 1,854.1 acres assumes a worst-case scenario because no grading will occur in the spineflower preserve or the ungraded lots, and only limited grading will occur on the river banks for below-surface stabilization. (Refer to **Section 3.0**, **Project Description**.)

regulatory, and political constraints. Therefore, impacts to hazardous waste disposal facilities during construction of the Mission Village project are considered significant.

(2) Operational Impacts

At buildout, the Mission Village project would generate 46,305 pounds of solid waste per day, or 8,451 tons per year, as shown in **Table 4.10-2, Projected Daily Solid Waste Generation (No Recycling)**.[29] This quantity represents the project's solid waste generation under a worst-case scenario that assumes no recycling is taking place. However, the project would be required to provide adequate areas for collecting and loading recyclable materials in accordance with the County Model Ordinance to reduce the volume of solid waste entering landfills. This recycling, implemented in concert with the countywide efforts and programs, would substantially reduce the volume of solid waste generated by the project and sent to landfills for disposal. Thus, although the project would generate approximately 8,451 tons of solid waste per year, it is reasonable to assume that the project will meet the County's current recycling goals and, in actuality, only generate approximately 4,226 tons per year due to County diversion rates and a mandate to divert at least 50 percent of potential waste disposal.

Although it is likely that solid waste from the Santa Clarita Valley area would go to the Chiquita Canyon Landfill (located immediately to the north and east of the Newhall Ranch Specific Plan site), and/or to the Sunshine Canyon Landfill located in Sylmar, other more distant landfills may also receive solid wastes from the area. For instance, the Antelope Valley Landfill in Palmdale, Lancaster Landfill in Lancaster, and the Simi Valley Landfill in Simi Valley could all potentially accept waste from the area.

As presented above, the County identifies landfill capacity in 15-year planning periods, the most recent of which ends in 2023.[30] Recent landfill expansion approvals and proposals for expansion at several County landfills lead one to conclude that solid waste disposal facilities and other waste management options will be available beyond this date as new facilities and technologies are created to meet this demand and reap the financial benefits of providing this service. However, because Los Angeles County has not definitively identified an adequate supply of landfill space beyond 2014 for purposes of this analysis, the project's solid waste generation is assumed to cause a significant impact.

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29 This solid waste generation may also include household-type hazardous wastes. Examples of household hazardous wastes include drain openers, oven cleaners, toilet bowl cleaners, ammonia-based cleaners, floor and furniture polishes, enamel or oil-based paints, anti-freeze, pesticides/herbicides/fungicides, pool acids.

30 Los Angeles County Department of Public Works, *Los Angeles County Integrated Waste Management Plan*, 2008 Annual Report on the Countywide Summary Plan and Countywide Siting Element, p. 38, October 2009.

Table 4.10-2
Projected Daily Solid Waste Generation (No Recycling)

Land Use	Units	Generation Rates (pounds/day)[1]	Total Waste Generation (pounds/day)	Total Waste Generation (tons/year)
Residential				
Single-Family Detached	382 du	11.18	4,271	779
Multi-Family or Attached	4,030 du	6.41	25,832	4,714
Mixed Use/Commercial [2]	1,555,100 sq. ft.	0.01	15,551	2,838
School				
Elementary School	900 students (413,820 sq. ft.)	0.0013	538	99
Library	60,000 sq. ft.	0.0014	84	15
Parkland	26.2 acres	1.10	29	5
Total			**46,305**	**8,451**

*Source: Impact Sciences, Inc., February 2010 (**Appendix 4.10**).*
du = dwelling unit, sq. ft. = square feet.

[1] *The solid waste generation rates are derived from the Ventura County Solid Waste Management Department's Guidelines for the Preparation of Environmental Assessments for Solid Waste Impacts. The Los Angeles County solid waste generation factor of 11 pounds/capita/day was not used in this analysis because it is overly general and may not yield an accurate solid waste generation assessment for the project. The factors utilized do not reflect an adjustment for recycling activities.*

[2] *The commercial uses in Mission Village will include both retail and office uses. The retail generation rate was utilized in this analysis because it is a higher generation rate than commercial uses (0.0024 ton per year for retail and 0.0014 ton per year for commercial) and, therefore, overstates the amount of waste to be generated.*

With respect to hazardous waste, household hazardous waste that would be generated by the Mission Village project would be collected, handled, and disposed of in accordance with all appropriate state and federal laws. Because of the many laws and regulations associated with the disposal of hazardous waste, it would have to be determined at the time of disposal where any particular type of hazardous waste would be taken. The existing permitted Class I and II landfills in operation within southern and central California can accommodate household hazardous debris and waste generated during operation of the Mission Village project. However, because existing hazardous waste management facilities in the County are currently inadequate, and because landfill space is a finite resource, the increase in hazardous waste generation throughout the Mission Village project's lifetime would cause a significant impact unless additional landfill space or other hazardous waste disposal alternatives are approved.

7. MITIGATION MEASURES

The County previously adopted mitigation required to be implemented as part of the approved Newhall Ranch Specific Plan. These mitigation measures, as they relate to solid waste disposal services, are found in the previously certified Newhall Ranch Specific Plan Program EIR and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). In addition, this EIR identifies recommended

mitigation measures specific to the Mission Village project site. The project applicant has committed to implementing the applicable mitigation measures from the Newhall Ranch Specific Plan and will implement the mitigation measures recommended for the proposed Mission Village project to ensure that potentially significant impacts relating to solid waste services would be reduced to the maximum extent feasible.

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as they Relate to the Mission Village Project

The following mitigation measures (**Mitigation Measures SP 4.15-1** through **4.15-4)**, below, were adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). The applicable mitigation measures will be implemented to mitigate the potentially significant solid waste disposal impacts associated with the proposed Mission Village project. These measures are preceded by "SP," which stands for Specific Plan.

SP 4.15-1 Each future subdivision which allows construction within the Newhall Ranch Specific Plan shall meet the requirements of all applicable solid waste diversion, storage, and disposal regulations that are in effect at the time of subdivision review. Current applicable regulations include recycling areas that are:

- compatible with nearby structures;
- secured and protected against adverse environmental conditions;
- clearly marked, and adequate in capacity, number and distribution;
- in conformance with local building code requirements for garbage collection access and clearance;
- designed, placed and maintained to protect adjacent developments and transportation corridors from adverse impacts, such as noise, odors, vectors, or glare;
- in compliance with federal, state, or local laws relating to fire, building, access, transportation, circulation, or safety; and
- convenient for persons who deposit, collect, and load the materials.

SP 4.15-2 Future multi-family, commercial, and industrial projects within the Newhall Ranch Specific Plan shall provide accessible and convenient areas for collecting and loading recyclable materials. These areas are to be clearly marked and adequate in capacity, number, and distribution to serve the development.

SP 4.15-3 The first purchaser of each residential unit within the Newhall Ranch Specific Plan shall be given educational or instructional materials which will describe what constitutes recyclable and hazardous materials, how to separate recyclable and hazardous materials, how to avoid the use of hazardous materials, and what procedures exist to collect such materials.

SP 4.15-4 The applicant of all subdivision maps which allow construction within the Newhall Ranch Specific Plan shall comply with all applicable future state and Los Angeles County regulations and procedures for the use, collection and disposal of solid and hazardous wastes.

b. Additional Mitigation Measures Proposed by this EIR

The following project-specific mitigation measure is recommended to mitigate the potentially significant solid waste disposal impacts that may occur with implementation of the Mission Village project. This mitigation measure is in addition to those adopted in the previously certified Newhall Ranch Specific Plan Program EIR. To indicate that the mitigation relates specifically to the Mission Village project, the measure is preceded by "MV," which stands for Mission Village.

MV 4.10-1 Prior to the issuance of grading permits, the project applicant shall prepare a Waste Management Plan pursuant to Los Angeles County Code, Title 20, Chapter 20.87, Construction and Demolition Debris Recycling. The Waste Management Plan shall include provisions for the recycling of a minimum of 50 percent of the construction and demolition debris, and the submittal of corresponding reports to the Los Angeles County Environmental Programs Division.

8. CUMULATIVE IMPACTS

In order to analyze the cumulative impacts of this project in combination with other expected future growth, the amount and location of growth expected to occur was projected. The focus of this cumulative analysis is on the cumulative impacts of this project in combination with other expected future growth in the Santa Clarita Valley at its buildout. The Santa Clarita Valley Cumulative Build-Out Scenario entails buildout of all lands under the current land use designations indicated in the Los Angeles General Plan, Santa Clarita Valley Area Plan, plus the project, plus all known active pending General Plan Amendment requests for additional urban development in the unincorporated area of Santa Clarita Valley and in the City of Santa Clarita. A list of the future development activity (with and without the project) expected in the Valley under the Santa Clarita Valley Cumulative Build-Out Scenario is presented below in **Table 4.10-3, Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario**.

Table 4.10-3
Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario

Land Use Types	Cumulative Build-Out w/o Project[1]	Project	Cumulative Build-Out w/ Mission Village[1]
Single-Family	93,412 du	382 du	93,794 du
Multi-Family	47,621 du	4,030 du	51,651 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	18,866,030 sq. ft.	1,555,100 sq. ft.	20,421,130 sq. ft.
Hotel	2,071 room		2,071 room
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	278,590 students	1,156 students	279,746 students
High School	12,843 students	321 students	13,164 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	171,790 sq. ft.	36,000 sq. ft.	207,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufact./Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,209.0 ac		1,209.0 ac
Developed Parkland	477.3 ac	26.2 ac	503.5 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator

[1] *Santa Clarita Valley Consolidated Traffic Model (November 2004. Includes existing development, buildout under the existing City of Santa Clarita General Plan, Santa Clarita Valley Area Plan, and active pending General Plan Amendment requests.*

[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

Under this scenario, which includes the project, total solid waste generation would be 395,553 tons per year. (See **Appendix 4.10** for calculation details.) This quantity represents the cumulative solid waste generation under a worst-case scenario without any recycling activities in place. The Mission Village project's share of 8,451 tons per year would represent 2.1 percent of this total.

As discussed earlier in this section, new landfills will need to be developed and/or other waste disposal options implemented to accommodate future growth. It is reasonable to assume that the market forces that drive the waste disposal industry will put pressure on the industry and governmental agencies to

identify new economically feasible means of waste disposal in the future to accommodate this growth. Because solid waste (including hazardous waste) can be disposed of outside of Los Angeles County and because solid waste disposal is driven by a free-enterprise system, it is reasonable to assume that, to some degree, solid waste generated by cumulative development would be disposed of outside Los Angeles County, and potentially, outside of the State of California. Based on this assumption, the cumulative projects area could encompass a geographic area beyond the jurisdictional boundaries of the Santa Clarita Valley and Los Angeles County and could, potentially, extend beyond state boundaries. It is beyond the scope of this EIR and too speculative to attempt to quantify the solid waste that could be generated by cumulative development that is proposed in greater Los Angeles County or the region beyond, or to assess the landfills that might be available or, more importantly, other solid waste disposal options which could be available.

However, as previously discussed, land suitable for landfill development or expansion is quantitatively finite and limited due to numerous environmental, regulatory and political constraints. Based on this information, until the County and other jurisdictions that could potentially accept solid and hazardous wastes can demonstrate that approved landfill space or other disposal alternatives will be adequate to serve existing and future uses for the foreseeable future, cumulative solid and hazardous waste impacts are considered significant and unavoidable.

9. CUMULATIVE MITIGATION MEASURES

The State of California requires cities and counties to reduce the amount of solid wastes entering existing landfills, by recycling, reuse and waste prevention efforts, pursuant to CIWMA. In addition, many jurisdictions have adopted recycling ordinances specifically applicable to construction and demolition debris to reduce the amount of recyclable waste disposed of at landfills. New projects are required to participate in the programs in effect in their jurisdictions.

10. SIGNIFICANT UNAVOIDABLE IMPACTS

a. Project Specific Impacts

Even with mitigation, the Mission Village project's solid and hazardous waste impacts would be considered significant and unavoidable.

b. Cumulative Impacts

Even with mitigation, the cumulative solid and hazardous waste impacts would be considered significant and unavoidable.

4.11 SHERIFF SERVICES

1. SUMMARY

The Los Angeles County Sheriff's Department provides primary police protection service for the Specific Plan site, including the proposed Mission Village site, and the surrounding Santa Clarita Valley area. Additionally, the Department of the California Highway Patrol (CHP) provides traffic regulation enforcement, emergency incident management, and service and assistance on Interstate 5 (I-5), State Route 126 (SR-126), SR-14, and other major roadways in the unincorporated portions of the Santa Clarita Valley area. The Sheriff's Department current deputy-to-resident ratio without the proposed project is less than the desired level of service set by the County. The Newhall Area CHP Station is currently able to adequately provide service to the Mission Village Project site and the Santa Clarita Valley and the station does not anticipate any increase or a need to increase it's equipment in the future, and no upgrades to the CHP station are planned.[1]

Buildout of the Mission Village project would significantly increase the demand for police protection and traffic-related services on the project site and in the local vicinity. Based on the Department's standard deputy-to-resident ratio, the proposed project would require the services of an additional 11 sworn Sheriff's Department officers. Payment of applicable law enforcement facilities fees and new tax revenues generated by the project would provide the funds necessary to employ and equip the additional officers and mitigate impacts to the Sheriff's Department to a less than significant level. Additionally, although not made necessary by the project, the applicant has entered into negotiations with the Sheriff's Department for the provision of a Sheriff's station site within or near the Newhall Ranch Specific Plan area that would serve the buildout of all uses within the Newhall Ranch Specific Plan. Thus, by facilitating establishment of a Sheriff's station in the project vicinity, the proposed project would mitigate any cumulatively considerable impacts to sheriff services.

The proposed project would also increase demands for CHP services in the project area. However, through increased revenues generated by the proposed project (via motor vehicle registration fees paid by new on-site residents and businesses), the project would generate sufficient funding for the additional staffing and equipment that would be needed to serve the project area. This funding can and should be allocated by the state CHP to the local Santa Clarita Valley Station, consistent with present funding practices, to meet projected demands. Therefore, the proposed project would not result in significant project impacts to CHP services, nor would the project contribute to any cumulatively considerable impacts to CHP services.

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1 Michelle Esposito, Newhall CHP Station, written communitcation with Chris Graham, Impact Sciences, Inc. May 13, 2010.

Construction of the proposed project would increase the incidence of petty crimes on the site and also would increase construction traffic on SR-126 that may potentially delay emergency vehicles traveling through the area. However, by retaining the services of a private security company to patrol the project construction site, and by implementing a construction traffic control plan, any potentially significant construction-related impacts to law enforcement services would be reduced to a level below significant.

Finally, new resident and daytime populations (employees and visitors) at the project site would be subject to the same potential hazards as existing County residents. It is expected that State and County emergency evacuation plans would be implemented (and amended, as necessary) to provide for the safe evacuation of all County residents and employees. Therefore, no significant impacts would occur relative to emergency evacuation in the event of a natural or man-made disaster.

2. BACKGROUND

a. Relationship of Project to Newhall Ranch Specific Plan Program EIR

Section 4.17 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with law enforcement services for the entire Newhall Ranch Specific Plan. The Newhall Ranch Specific Plan Program EIR concluded that Specific Plan implementation would result in significant impacts to police protection services, but that the identified mitigation measures would reduce the impacts to below a level of significance. The Newhall Ranch Specific Plan EIR mitigation program was adopted by the County in findings and in the revised Mitigation Monitoring Plan for the Specific Plan. All subsequent project-specific development plans and tentative subdivision maps must be consistent with the Newhall Ranch Specific Plan, adopted May 2003, County of Los Angeles General Plan, and Santa Clarita Valley Area Plan.

This project-level EIR is tiering from the previously certified Newhall Ranch Specific Plan Program EIR. **Section 4.11** discusses, at the project-specific level, the Mission Village project's existing conditions relative to police protection services, potential impacts on those services, applicable mitigation measures from the Newhall Ranch Specific Plan Program EIR, as well as additional project-specific mitigation measures recommended by this EIR for the Mission Village project.

3. SUMMARY OF THE NEWHALL RANCH PROGRAM EIR FINDINGS

The Newhall Ranch Specific Plan Program EIR identified certain potentially significant impacts related to police protection services resulting from implementation of the Newhall Ranch Specific Plan. Specifically, the Newhall Ranch Specific Plan Program EIR, and related findings, determined that implementation of the adopted Specific Plan would significantly increase the demand for police protection services on the Newhall Ranch Specific Plan site and the local vicinity in terms of personnel and equipment needed to

adequately serve the Specific Plan site at buildout. The Program EIR estimated that the Newhall Ranch Specific Plan would require the services of an additional 20 sworn officers and 8.5 civilian support personnel at buildout. In response to the identified potentially significant impacts, a mitigation measure was adopted in order to reduce the impacts resulting from the Specific Plan to a less than significant level.

In summary, the Specific Plan's mitigation program for police protection services requires that future subdivision maps submitted to the County for approval incorporate the Sheriff's Department design requirements (such as those pertaining to site access, site security lighting, etc.) in order to increase individual property security and, thereby, reduce demand for sheriff services to the subdivisions and help ensure adequate public safety features within the tract designs. Subsequent to approval of the Newhall Ranch Specific Plan, subdivision maps and site plans would be designed and engineered for Newhall Ranch. At that time, the Sheriff's Department may require specific measures for crime prevention purposes and for the security and safety of future residents and employees on the site. In addition, the Specific Plan Program EIR determined that new tax revenues that would be generated by development of the Specific Plan would be deposited in the County's General Fund and State Treasury, and that these funds could be allocated to increase staff and equipment to meet future security and safety demands of the proposed Specific Plan and cumulative development.

The Board of Supervisors found that the Specific Plan's mitigation program would reduce the identified potentially significant police protection-related effects to a less than significant level.[2]

4. EXISTING CONDITIONS

a. Los Angeles County Sheriff's Department

The Santa Clarita Valley Station of the Los Angeles County Sheriff's Department is responsible for providing general law enforcement to the Specific Plan area, while the CHP provides traffic control. As shown in **Figure 4.11-1, Sheriff/CHP Station Locations**, the Sheriff Station is located near the intersection of Magic Mountain Parkway and Valencia Boulevard, at 23740 Magic Mountain Parkway in Valencia, approximately 8 to 9 miles from the project site.[3] The service area boundaries of the Santa Clarita Valley Station include the City of Santa Clarita, and unincorporated County land between the City of Los Angeles limits to the south, Kern County line to the north, and all areas between the Ventura County line to the west and township of Agua Dulce to the east.[4] The Santa Clarita Valley Station currently maintains

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2 See Mitigation Measure 4.17-1 in both the certified Newhall Ranch Program EIR (March 9, 1999) and adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

3 Jaqcques A. La Berge, County of Los Angeles Sheriff's Department Headquarters, Captain, Santa Clarita Valley Station, personal communication with Chris Graham, Impact Sciences, Inc., January 13, 2009.

4 Jaqcques A. La Berge, personal communication with Chris Graham, Impact Sciences, Inc., January 13, 2009.

a staff of 171 sworn deputies, and serves an area of 656 square miles.[5] Equipment and services provided through the station include 24-hour designated County cars, helicopters, search and rescue, mounted posse, and emergency operation centers.

The Sheriff's Department staff has indicated that a deputy-to-resident ratio of one deputy per 1,000 residents is a desired level of service for the service area. This standard typically is applied in EIRs for proposed development projects that would be served by the Sheriff's Department as a means to develop a rough assessment of the project's impacts on law enforcement services. With a current staffing level of 171 sworn deputies assigned to the Santa Clarita Valley Station, the existing ratio at the Station is one deputy per 1,474 residents.[6]

The Sheriff's Department also has established optimal response times of 10 minutes or less for emergency response incidents (i.e., a crime that is presently occurring and is a life or death situation), 20 minutes or less for priority (immediate) incidents (i.e., a crime or incident that is currently occurring but that is not a life or death situation), and 60 minutes or less for routine (non-emergency) responses (i.e., a crime that has already occurred and is not a life or death situation).[7] These response times represent the range of time required to handle a service call, which is measured from the time a call is received until the time a patrol car arrives at the incident scene. Response time is variable, particularly because the nearest responding patrol car may be located anywhere within the station's patrol area and may not necessarily respond directly from the station itself. The Sheriff's Department estimates the current response times for incidents occurring on the Newhall Ranch Specific Plan site are approximately 6 to 10 minutes for emergency calls; approximately 10 to 15 minutes for priority calls; and approximately 30 to 45 minutes for non-emergency calls.[8] Therefore, although it is estimated that current response times to the Specific Plan site would be within optimal (as defined by the Los Angeles County Sheriff's Department) response times, there are currently no calls for service to the unoccupied project site.

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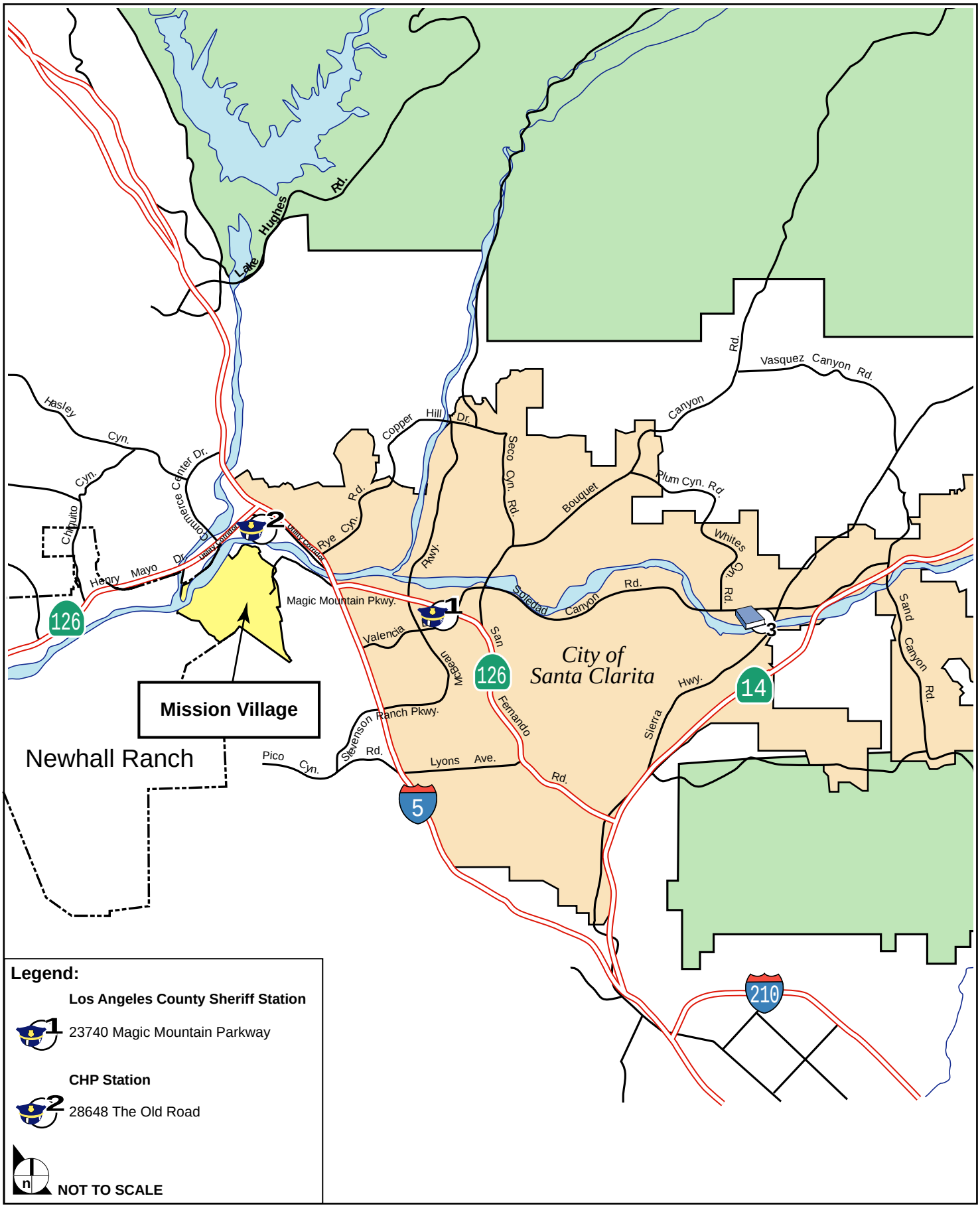
5 County of Los Angeles, Draft OVOV General Plan EIR, Public Services, 2009.

6 County of Los Angeles, Draft OVOV General Plan EIR, Public Services, 2009.

7 Telephone interview with Terri Beatty, Regional Allocation Police Services (RAPS) Coordinator, Los Angeles County Sheriff's Department, Santa Clarita Valley Station, August 5, 2003.

8 Written correspondence from Captain Patti A. Minutello, Los Angeles County Sheriff's Department, Santa Clarita Valley Station, November 3, 2004.



SOURCE: Impact Sciences, Inc. – February 2010

FIGURE **4.11-1**

Sheriff / CHP Station Locations

The Sheriff's Department also conducts search-and-rescue operations through its Santa Clarita Valley Station. Search-and-rescue operations are generally conducted in mountainous terrain (i.e., for incidents such as downed planes or lost hikers). The Santa Clarita Valley Station search-and-rescue team uses the Station's helicopter and has access to the Antelope Valley Station's helicopter. Mutual aid agreements exist with other search-and-rescue teams located within and outside of Los Angeles County. These agreements are organized through the state's Office of Emergency Services (OES). Search-and-rescue operations are funded through the Reserve Forces Bureau and private sources. Urban search-and-rescue operations (i.e., rescues from building collapse) are performed by the County Fire Department.

With respect to funding for the Sheriff's Department, on June 24, 2008, the Los Angeles County Board of Supervisors adopted law enforcement facilities fees for North Los Angeles County. (L.A. County Code, ch. 22.74, Section 22.74.010 et seq.) This mitigation fee is levied on new residential, commercial, office, and industrial development located within the unincorporated areas of North Los Angeles County, including Santa Clarita, Newhall, and Gorman (i.e., the law enforcement facilities fee zones.) (L.A. County Code, ch. 22.74, Section 22.74.010.) Each law enforcement facility zone has a separate fee; the amount of the fee is in direct proportion to the population increases from new development that warrant or contribute to the need for a new facility, and set at a level sufficient to provide, or contribute to, the provision of adequate law enforcement services. (L.A. County Code, ch. 22.74, Section 22.74.030.) In areas where a new facility is not required, the fee is used to augment existing service capacity through the purchase of equipment directly to serve the new population.

The amount of the fee is reviewed annually by the Sheriff's Department, in consultation with the County Auditor-Controller. (L.A. County Code, ch. 22.74, Section 22.74.040.) Additionally, on July 1 of each year, the fee in each law enforcement facilities fee zone is adjusted based on the Engineering News Record-Building Construction Cost Index. The related Capital Improvement Construction Plan setting forth the approximate location, size, time of availability, and estimates of cost for the planned facilities and improvements to be financed with the fee is updated annually by the Board of Supervisors. The current fees for the Santa Clarita Zone, Zone 1, follow below:

- per single-family dwelling unit, $467.00
- per multi-family dwelling unit, $337.00
- per 1,000-square-foot commercial unit, $ 69.00, or
  per square foot of commercial space, $0.07
- per 1,000-square-foot office unit, $87.00,
  or per square foot of office space, $0.09

- per 1,000-square-foot industrial unit, $35.00, or
  per square foot of industrial space, $0.03

b. State and County Emergency Response/Evacuations Plans

California's OES coordinates the overall response of state agencies to major disasters in support of local government. The office is responsible for (1) assuring the state's readiness to respond to and recover from natural, manmade, and war-caused emergencies; and (2) assisting local governments in their emergency preparedness, response, and recovery efforts. Accordingly, the OES maintains the State Emergency Plan, which outlines the organizational structure for the state's response to natural and manmade disasters. The OES also assists local governments and other state agencies in developing their own emergency preparedness and response plans, in accordance with the Standardized Emergency Management System (SEMS) and State Emergency Plan, for earthquakes, floods, fires, hazardous material incidents, nuclear power plant emergencies, and dam breaks. Each jurisdiction is required to show the OES that it is in compliance with SEMS through a number of measures, including preparation and maintenance of an up-to-date emergency management plan, which incorporates an emergency evacuation plan. Non-compliance with SEMS can result in the state withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster. The OES also coordinates an emergency organizational network, comprised of the California OES, local Emergency Operations Centers (EOCs) in the state, city, and regional EOCs within each county.

The regional office of the OES is located in Los Alamitos, and the Los Angeles County EOC is located in downtown Los Angeles. The County Office of Emergency Management has prepared the County's *Multi-Hazard Functional Plan*, which details the coordination of County agencies during and after a catastrophic event and establishes the framework for the mutual aid agreements with the CHP, and federal, state, and other local governments in the region. It also serves as the emergency management plan (including emergency evacuation plan) for the entire County. The Los Angeles County Board of Supervisors adopted a revised plan on February 17, 1998.

The Los Angeles County EOC is responsible for emergency operations in the unincorporated areas of Los Angeles.[9] Should an emergency occur, the Los Angeles County Sheriff and Fire Departments would provide the first response, as well as the initial contact with other agencies that may need to be involved, such as the Red Cross.[10]

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9 Telephone interview with Bob Garrott, Assistant Manager, Los Angeles County Office of Emergency Management, June 4, 2003.

10 Telephone interview with Bob Garrott, June 4, 2003.

Funding for Los Angeles County's EOC is primarily from the County General Fund, with a small percentage coming from federal funds, which are funneled through California's OES to the County EOC.[11] According to the County of Los Angeles Budget for the 2008 to 2009 period, the County adopted a budget of $59,539,000 to be set aside for Emergency Preparedness and Response, of which the State of California funded $53,780,000.[12] This budget reflects the continuation of critical countywide emergency preparedness and response programs, including operational funding for the County's EOC and Emergency Management Information System (EMIS).[13]

c. California Highway Patrol

The primary responsibility of the CHP is to patrol State Highways and County roadways in the previously identified service area, enforce traffic regulations, respond to traffic accidents, and provide service and assistance for disabled vehicles. The CHP also provides assistance to all law enforcement agencies under emergency conditions. In the Santa Clarita Valley area, the CHP maintains a Mutual Aid Agreement with the Los Angeles County Sheriff's Department.[14]

The CHP provides traffic regulation enforcement for the unincorporated portions of the Santa Clarita Valley and surrounding areas from its Newhall Area Station, located at 28648 The Old Road, near the I-5 and SR-126 interchange (CHP Station). (See **Figure 4.11-1**.) The Newhall Area CHP Station patrols a service area of approximately 600 square miles, which includes I-5, SR-126, SR-14, and unincorporated areas and roadways. This service area extends westerly to the Ventura County line, east to Agua Dulce, north to SR-138 (and along SR-138 to Avenue 220th Street West), and south to SR-118.[15]

The Newhall Area CHP Station is staffed by 89 sworn officers and 9 civilian employees.[16] As of August 1, 2005, a helicopter and fixed-wing aircraft based at Fullerton Airport serve the Los Angeles County area on a limited basis.[17] There are currently no plans to centrally base a helicopter to service the Los Angeles

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11 Telephone interview with Bob Garrott, June 4, 2003.

12 County of Los Angeles, 2008–2009 Final Budget, Emergency and Preparedness Response Section, p. 122.

13 County of Los Angeles, 2008–2009 Final Budget, Emergency and Preparedness Response Section, p. 122.

14 Written communication from D. F. Hoff, Captain, Commander, Newhall Area Station, California Highway Patrol, May 19, 2003

15 Telephone communication between Michelle Esposito, California Highway Patrol, Newhall Station, and Chris Graham Impact Sciences, Inc. May 13, 2010.

16 Telephone communication between Beverly Mitchell, California Highway Patrol, Newhall Station, Office Manager, and Chris Graham Impact Sciences, Inc., February 12, 2010.

17 Per information from the Master's College EIR: Telephone interview with Lieutenant Mark Odle, California Highway Patrol, Newhall Area Station, November 17, 2006.

County Basin.[18] The CHP issued 6,288 citations, investigated 380 traffic collisions, and made 212 arrests within the proximity of the proposed Mission Village project between January 1, 2009, and December 31, 2009 (these statistics include the areas immediately adjacent to the Mission Village project's location, and the I-5 and SR-126 areas adjacent to the Mission Village project site).[19]

There are no long-range planning documents used by the CHP to project future need within each service area. In addition, the CHP does not maintain uniform staffing, equipment, or facility ratios/objectives to project future need within each service area. Rather, each station determines its own staffing allocation relative to the geographical needs within the station's service area boundaries based on the service area's unique requirements and budget constraints. The Newhall Area CHP Station reviews its staffing allocation quarterly. The CHP does not receive or base its deployment on the revenues that may be generated within its service area; instead, CHP's long-range planning and future staffing needs are based on the needs of the entire state and budget constraints.[20]

The primary funding source for CHP facilities and staffing is state motor vehicle registration and drivers' license fees. CHP Headquarters in Sacramento determines the allocation of these fees to each service area. The Newhall Area CHP Station does not anticipate any increase in its equipment in the future, and no upgrades to the CHP station are planned.[21]

d. Current Site Conditions

The Mission Village tract map site is currently vacant with some irrigated agricultural uses and abandoned oil and gas operations. Previous uses of the site include agricultural and cattle grazing operations. The project site does not currently place a substantial demand on law enforcement services.

5. PROPOSED PROJECT IMPROVEMENTS

The project proposes to develop a total of 4,412 residential dwelling units consisting of 382 single-family homes and 4,030 multi-family units, including attached and detached condominiums, apartments, and

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18 Telephone communication with Lieutenant Mark Odle, Newhall Area Station, California Highway Patrol, July 11, 2005.

19 Written communication with Officer Michelle Esposito, Newhall Area Station, California Highway Patrol, February 16, 2010.

20 Written communication with Officer Michelle Esposito, Newhall Area Station, California Highway Patrol, May 13, 2010.

21 Written communication with Officer Michelle Esposito, Newhall Area Station, California Highway Patrol, May 13, 2010.

age qualified units, with a total residential population of 10,802.[22] The project would also include 1.555 million square feet of commercial/mixed-uses, a 9.5-acre elementary school, fire station, public library, bus transfer station, parks, public and private recreational facilities, trails, and road improvements.

6. PROJECT IMPACTS

a. Significance Threshold Criteria

According to Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, Section XIII, Public Services, a project would have a significant impact on police protection services if the project would result in

(a) substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities; or

(b) the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for police protection services.

In addition to the above, the Sheriff Department's ideal threshold of one deputy per 1,000 residents has been applied to assess the project's impacts on Sheriff's Department services.

b. Impact Analysis

(1) Construction-Related Impacts

Site development and construction would not normally require services from the Los Angeles County Sheriff's Department, except in the case of trespassing, theft, and vandalism. Such activities at a construction site are not unusual, but are only occasional and do not typically place substantial demands on police protection services. To reduce any potentially significant impacts in this regard, private security services will be provided at construction sites within the project area, thereby reducing any potential short-term significant impacts to law enforcement services during the project construction phase to a less than significant level.

Construction of the project also would increase traffic both on and adjacent to the project site during working hours because commuting construction workers, trucks, and other large construction vehicles would be added to normal traffic during project buildout. Slow-moving construction-related traffic on SR-126 and adjacent roadways may reduce optimal traffic flows on these roadways and may delay

[22] Based upon County of Los Angeles estimates of 3.17 persons per single-family household and 2.38 persons per multi-family houeshold.

emergency vehicles traveling through the area; however, construction-related traffic would not cause a significant impact on off-site traffic flows because the construction-related traffic would only occur during short periods of time. Nevertheless, to reduce any potentially significant impacts to emergency vehicles, a traffic management plan would be implemented, and traffic control services would be provided, such that no significant impacts would occur. For further information regarding construction-related traffic impacts, see EIR **Section 4.5, Traffic/Access**.

It is not expected that construction-related traffic would result in impacts on the CHP (which regulates traffic in unincorporated areas of the Santa Clarita Valley), except in the event of an unforeseeable accident. However, the CHP has expressed concern with the potential for off-site traffic disruption, congestion, and any proposed detours or reduction in lane widths that may occur during the construction phase.[23] This concern is based on the assumption that the proposed project's construction phase would increase the volume of construction vehicle traffic due to the movement of soil and construction material, resulting in a significant increase of heavy construction equipment and modified traffic patterns.[24] Importantly, however, all earth movement activities will be conducted on the project site in a balanced cut and fill operation, and, with the exception of the initial transport and staging of heavy construction equipment to the project site, there would be no heavy equipment utilizing the area roadways.

Nonetheless, the CHP has indicated that traffic control assistance would be necessary to enhance the safety of the general public and private employees contracted to complete the project.[25] Accordingly, the CHP has suggested that a contractual agreement be secured for traffic control services throughout the construction phase, such that CHP personnel deployed under contract would facilitate the ingress and egress of construction equipment and vehicles.[26] The CHP has indicated that construction signs also would need to be posted with a reduced construction zone speed limit.[27]

Additionally, the Los Angeles County Department of Public Works and the California Department of Transportation (Caltrans) require implementation of an approved traffic management plan for construction affecting rights-of-way within their jurisdictions. The plan would identify the methods to be used to control the interface between construction traffic and vehicles traveling along SR-126 through means such as temporary lane diversion, signage, use of flagmen, etc. This plan, to be prepared by the project applicant, would address increases in the volume of construction vehicle traffic, any resulting

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23 Written communication from E. Conley, Captain, Commander, Newhall Area Station, California Highway Patrol, November 14, 2004. (**Appendix 4.11**).

24 Written communication from E. Conley, November 14, 2004.

25 Written communication from E. Conley, November 14, 2004.

26 Written communication from E. Conley, November 14, 2004.

27 Written communication from E. Conley, November 14, 2004.

modification of traffic patterns, any safety issues posed by dirt movers in proximity to the SR-126, and include requisite traffic control assistance for the CHP. The traffic management plan would then be reviewed and approved by the Los Angeles County Department of Public Works and/or Caltrans prior to issuance of construction permits.

With implementation of private security services, CHP traffic control services, and the County/Caltrans traffic management plan, potentially significant construction-related impacts to police protection services that may occur as a result of the Mission Village project would be reduced to a less than significant level.

(2) Operational Impacts

(a) Los Angeles County Sheriff's Department

The County of Los Angeles Sheriff's Department would have the responsibility to provide general law enforcement services to the project site. It is anticipated that demand for these services in the project area would increase above current levels upon buildout of the project, and that the number of service calls and the types of incidents at the project site would be similar in frequency and character to those experienced in other areas of the Santa Clarita Valley.

As noted above, the project proposes a total residential population of 10,802. Based upon the ideal ratio of one deputy per 1,000 residents, the project would require 11 additional deputies. Additionally, according to the Sheriff's Department, the increase in required deputies would necessitate an increase in support resources, such as detectives, front desk personnel, secretaries, administration, vehicles, and portable radios.[28] Without additional Sherriff's Department staffing and facilities, the predicted population increase associated with the Mission Village project would decrease the existing level of service of the Sheriff's Department and would result in a significant impact.

Capital facilities and equipment would be funded by the law enforcement facilities fee, discussed above. The law enforcement facilities fee would provide sufficient revenues to pay for land acquisitions, engineering, construction, installation, purchasing, and other costs for the provision of capital law enforcement facilities and equipment needed to serve new development in the unincorporated Santa Clarita Valley. Additional operational funding for the Sheriff's Department in the Santa Clarita Valley area and the rest of Los Angeles County would be derived from various types of tax revenues (e.g., property taxes, sales taxes, user taxes, vehicle license fees, deed transfer fees), which are deposited in the County's General Fund. The County Board of Supervisors then allocates the revenue for various public

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[28] Written correspondence from Captain Patti A. Minutello, Los Angeles County Sheriff's Department, Santa Clarita Valley Station, August 4, 2004..

services provided by the County, including law enforcement services. A portion of these revenues would be allocated to the Sheriff's Department during the County's annual budget process to maintain staffing and equipment levels at the Santa Clarita Valley Sheriff's Station in numbers adequate to serve project-related increases in service demands.[29]

As presented in Newhall Ranch Specific Plan Program EIR Section 4.17, Police Services, the total projected cost to the Sheriff's Department for providing law enforcement services to the Specific Plan area is $3,795,763 per year, calculated in 1995 dollars. The fiscal impact study completed for the Specific Plan determined that total projected Specific Plan revenues to the County of Los Angeles, over the then estimated 25-year Specific Plan buildout period, would be approximately $772,697,000, or an average of $30,907,880 per year. (Newhall Ranch Specific Plan Program EIR, Appendix 6.0.) After fully funding all required governmental services, including sheriff services, it was estimated that the Specific Plan would generate surplus County revenues of approximately $301,449,451 over the buildout period. Furthermore, in the buildout year, and annually thereafter, revenues generated by the Specific Plan would total approximately $44,366,000 per year. In the buildout year, the Specific Plan would generate surplus revenues to the County of $17,737,149, and a surplus of $20,299,000 annually thereafter.

Therefore, revenues generated by the Specific Plan, including the Mission Village project, would adequately cover the Department's costs to provide law enforcement services to the Specific Plan site at buildout and annually thereafter. It is the responsibility of the County Board of Supervisors to see that the revenue is directed to the Sheriff's Department and Santa Clarita Valley Sheriff's Station, so that the Sheriff's Department can provide adequate law enforcement services to the Specific Plan area, including the Mission Village site.

In addition to the revenues generated by the proposed project, the applicant for the Newhall Ranch Specific Plan is currently working with the Sheriff's Department on a Memorandum of Understanding (MOU) for a Sheriff's substation. The following are being discussed as part of the MOU:[30]

- Provision of a 5-acre site for the substation generally located at the northeast corner of Wolcott Way and SR-126, within the Valencia Commerce Center.
- Construction of the substation to the Sheriff Department's specifications; and

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29 A fiscal impact report prepared for the Newhall Ranch Specific Plan found that implementation of Newhall Ranch would result in a favorable financial impact to the County after fully funding all necessary services. For further information, please refer to Section 6.0, Fiscal Impacts, of the Newhall Ranch Specific Plan Program EIR and the related fiscal impact study, which is incorporated by this reference.

30 Written correspondence, Glenn Adamick, Newhall Land and Farming Company, November 2005.

- Value of Land dedicated or actual improvements would offset or be used as a credit against any required law enforcement facilities mitigation fee.

The development of the Mission Village project independent of the remainder of the Specific Plan would not trigger a need for a new Sheriff Station facility. However, the Sheriff's Department has indicated that the cumulative development of the entire Newhall Ranch Specific Plan (including approximately 67,213 persons and, therefore, necessitating a corresponding increase of 67 deputies) would require the addition of a new station facility in the area to house the deputies.[31]

Potentially significant impacts to Sheriff's Department services also could arise as a result of project design, lighting, landscape materials and building orientation, which could limit visibility or offer concealment to intruders. However, with the incorporation of safety design techniques (i.e., "defensible space" measures) into the project design, as required by the Specific Plan mitigation, any potential security impacts to persons and property would be reduced to a less than significant level.

Therefore, although the Mission Village project would increase demands for Sheriff's Department services and result in a significant impact, the increased service demands would be met through the provision of increased Sheriff's Department personnel and equipment, which would be funded by revenues generated by the project in addition to payment of the County law enforcement facilities fee either directly or via an MOU. For these reasons, any potentially significant impacts to Sheriff's Department services attributable to operation of the proposed project would be below significant.

(b) County Emergency Response/Evacuation Plans

Upon buildout, the resident and daytime populations on the project site would significantly increase above current levels. These populations would be subject to potential emergencies (e.g., earthquake, fire, flood, etc.). Existing County Emergency Evacuation Plans do not include guidelines for evacuation of the Newhall Ranch Specific Plan site in the event of a natural disaster because it is currently largely undeveloped. However, as noted above, the County's EOC is required to demonstrate compliance with the state's SEMS through a variety of means, including a regular update of the County's Emergency Evacuation Plans. Therefore, the project site would need to be and would be included in the County's evacuation plans as it builds out.[32] As part of this process, the County Sheriff's Department would

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31 Written correspondence from Captain Patti A. Minutello, Los Angeles County Sheriff's Department, Santa Clarita Valley Station, August 4, 2004.

32 Telephone communication with Deputy Patrick A. Rissler, Los Angeles County Sheriff's Department, Santa Clarita Valley Station, June 13, 2005.

formulate and coordinate evacuation routes directly with the community (e.g., town council), including the Los Angeles County Fire Department.[33]

With respect to evacuation routes and access, the project would implement the mobility objectives of the Master Circulation Plan for the Newhall Ranch Specific Plan into the project's circulation system. Regional access to Mission Village would be provided by I-5, which is located approximately 0.25 mile to the east of the project site; and SR-126, which is located approximately 0.25 mile north of the project site. The project proposes to construct the extensions of Commerce Center Drive and Magic Mountain Parkways, which would provide regional access to and from SR-126 and I-5, respectively. Commerce Center Drive and Magic Mountain Parkway would be the major arterial roadways through the Mission Village project. The extension of Commerce Center Drive includes construction of the Commerce Center Drive Bridge. The project circulation plan would provide a system of arterials, residential and commercial collectors, residential public streets, and private drives. (See **Figure 1.0-22, Mission Village Circulation Plan**.) The major access points along I-5 and SR-126 would provide alternative evacuation routes for potential emergencies (earthquake, fire, flood, etc.). Given these alternative evacuation routes, the design of the proposed project would not preclude and, instead, would facilitate implementation of an evacuation plan that would provide for the safe movement of future residents and employees. Consequently, no significant impacts are expected to occur with regard to emergency evacuation of the site or its surroundings.

(c) California Highway Patrol

As buildout of the Mission Village project proceeds and the development population increases, demands for CHP services on the area's highways would increase due to the increased vehicular traffic generated by the project. The CHP has indicated that the addition of 4,412 dwelling units coupled with the proposed commercial sites would increase demands on existing resources.[34] The CHP anticipates that the proposed project would require the CHP to patrol new roadways within the project site, although the roadways would be adjacent to current patrol routes on SR-126 and I-5.[35] The purpose of these patrols would be to provide traffic enforcement, emergency[36] incident management, public service, assistance, and accident investigation. The CHP also has indicated that the proposed project would directly affect the CHP's ability to serve the existing community. Current staffing levels would not allow for daily patrols of the service area to provide traffic enforcement, emergency incident management, public service, and

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33 Telephone communication with Deputy Patrick A. Rissler, June 13, 2005.

34 Written communication with Officer Michelle Esposito, Newhall Area Station, California Highway Patrol, May 13, 2010.

35 Written communication with Officer Michelle Esposito, May 13, 2010.

36 Written communication with Officer Michelle Esposito, May 13, 2010.

traffic collision investigations. Instead, current staffing levels would allow limited coverage to the proposed project on an as-needed basis, and response times to emergency calls would be extended. The CHP has indicated that the proposed project would directly impact the CHP's current staffing levels and resources,[37] and would result in increased response times and reduced levels of service to the existing community.[38]

Because the CHP station is centrally located within the CHP's service area and close to the site of the proposed Mission Village project, a new CHP station likely would not be needed as a result of the proposed project. Also, the current facility was designed to allow for increased demands for personnel and equipment.[39] Given the current staff of 73 uniformed personnel, the facility can accommodate an additional 27 uniformed personnel before the facility reaches capacity.[40] If it is determined that another CHP station is needed in the future, one could be accommodated on the Newhall Ranch Specific Plan site within the Mixed-Use, Commercial, and Business Park land use designations.

Through increased revenues generated by the proposed Newhall Ranch Specific Plan (via motor vehicle registration and driver license fees paid by new on-site residents and businesses), the funding for additional staffing and equipment would be available to the CHP and could be allocated to the Newhall Area Station to meet future demands. Because the revenue base and method of funding allocation presently in place provide for adequate CHP services in the area, it is anticipated that an adequate level of service would be provided in the future through these same funding sources and allocation methods. Additionally, the fiscal impacts analysis referenced in this section shows substantial annual surpluses in tax revenues from the Newhall Ranch Specific Plan. In light of this information, the proposed project would not result in significant impacts to CHP services and no mitigation is required.

7. PROJECT MITIGATION MEASURES

As discussed above, the County previously adopted a mitigation measure as part of the Newhall Ranch Specific Plan to reduce potentially significant, program-level impacts to law enforcement services to a level below significant. The mitigation measure, as it relates to law enforcement services, is set forth below, and is found in the certified Newhall Ranch Specific Plan Program EIR and adopted Mitigation Monitoring Plan for the Newhall Ranch Specific Plan (May 2003). In addition, this EIR identifies recommended mitigation measures specific to the Mission Village project site.

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37 Written communication with Officer Michelle Esposito, May 13, 2010.

38 Written communication with Officer Michelle Esposito, May 13, 2010.

39 Written communication from E. Conley, July 30, 2004.

40 Written communication from E. Conley, July 30, 2004.

The project applicant has committed to implementing both the applicable mitigation measure from the Newhall Ranch Specific Plan and the project specific mitigation measures recommended for the Mission Village project site to ensure that the future development of the project site would not result in unmitigated significant impacts relating to law enforcement services.

a. Mitigation Measure Required by the Adopted Newhall Ranch Specific Plan, as it Relates to the Mission Village Project

The following mitigation measure was adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). This mitigation measure is applicable to the Mission Village project and would be implemented to mitigate the potentially significant program-level impacts on law enforcement services. The "SP" designation preceding the mitigation measure number is a reference to the Specific Plan.

SP 4.17-1 As subdivision maps are submitted to the County for approval in the future, the applicant shall incorporate County Sheriff's Department design requirements (such as those pertaining to site access, site security lighting, etc.) which will reduce demands for Sheriff's service to the subdivisions and which will help ensure adequate public safety features within the tract designs.

b. Additional Mitigation Measures Proposed by this EIR

The following project-specific mitigation measures are recommended to mitigate the potentially significant impacts to law enforcement services that may occur with implementation of the Mission Village project. These mitigation measures are in addition to the measure adopted in the previously certified Newhall Ranch Specific Plan Program EIR. The "MV" designation preceding each measure indicates the mitigation relates specifically to the Mission Village project.

MV 4.11-1 Prior to the commencement of construction activities, the project applicant, or its designee, shall enter into an agreement with the California Highway Patrol for traffic control services during project construction. Such traffic control shall include the posting of reduced construction zone speed limit signs as necessary.

MV 4.11-2 Prior to the commencement of construction activities, the project applicant, or its designee, shall retain the services of a private security company to patrol the construction site(s), as necessary, to minimize the potential for trespass, theft and other unlawful activity associated with construction-related activities.

MV 4.11-3 Prior to the commencement of construction activities, the project applicant, or its designee, shall prepare an approved traffic management plan for construction activities affecting rights-of-way within the jurisdiction of the California Department of Transportation (Caltrans) and the Los Angeles County Department of Public Works.

MV 4.11-4 Prior to the issuance of building permits or certificates of occupancy as applicable, the project applicant, or its designee, shall pay to the County the applicable law enforcement facilities fee required by Los Angeles County Code section 22.74.010, et seq., or, in the alternative, shall enter into an agreement with the County for the in lieu payment of such fees.

8. CUMULATIVE IMPACTS

In order to analyze the cumulative impacts to law enforcement services of this project in combination with other expected future growth, the amount and location of growth expected to occur with buildout of the Santa Clarita Valley, in addition to that of the Mission Village project, was forecast. The Santa Clarita Valley Cumulative Buildout Scenario entails buildout of all lands under the current land use designations indicated in the Santa Clarita Valley Area Plan and County General Plan, the proposed project, and all known pending General Plan Amendment requests for additional urban development in the unincorporated area of the Santa Clarita Valley and the City of Santa Clarita. A list of the future development activity (with and without the project) expected in the valley under the Santa Clarita Valley Cumulative Buildout Scenario is presented below in **Table 4.11-1, Cumulative Development Activity – Santa Clarita Valley Cumulative Buildout Scenario**.

Excluding the proposed project, the total residential population within the valley under this buildout scenario would be 416,395 persons. With the Mission Village project, this total resident population would be 427,197 persons.[41]

a. Los Angeles County Sheriff's Department

Using the desired officer-to-population ratio of one officer per 1,000 population, Santa Clarita Valley buildout (exclusive of the project) would require a total of 416 sworn officers, or 255 more sworn officers than currently work in the valley. The proposed project would increase this total by an additional 11 sworn patrol officers. Meanwhile, for purposes of this analysis, it is assumed that the deputy-to-resident ratio would be at the desired ratio of one officer per 1,000 population, and that each development project would be responsible to ensure that adequate law enforcement services are available. Therefore, if no officers are hired to accommodate the needs of the region as it builds out, a significant cumulative impact would occur.

[41] Household estimates are based upon estimates provided by the County of Los Angeles of 3.17 persons per single-family dwelling and 2.38 persons per multi-family dwelling, per apartment, and per mobile home.

Table 4.11-1
Cumulative Development Activity – Santa Clarita Valley Cumulative Buildout Scenario

Land Use Types	Cumulative Buildout w/o Project[1]	Project	Cumulative Buildout w/ Mission Village[1]
Single-Family	93,412 du	382 du	93,794 du
Multi-Family	47,621 du	4,030 du	51,651 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	18,866,030 sq. ft.	1,555,100 sq. ft.	20,421,130 sq. ft.
Hotel	2,071 room		2,071 room
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	278,590 students	1,156 students	279,529 students
High School	12,843 students	321 students	13,120 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	171,790 sq. ft.	36,000 sq. ft.	207,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufacturing/Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,209.0 ac		1,209.0 ac
Developed Parkland	477.3 ac	26.2 ac	503.5 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator

[1] *Santa Clarita Valley Consolidated Traffic Model (November 2002). Includes existing development, buildout under the existing City of Santa Clarita General Plan, Santa Clarita Valley Area Plan, and active pending General Plan Amendment requests.*

[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

The Sheriff's Department has indicated that the cumulative development of the Newhall Ranch Specific Plan would introduce a population of approximately 67,213 persons, necessitating an increase of 67 deputies and the need for a new station facility in the Specific Plan area.[42] As previously reported, the project applicant has entered into negotiations with the Sheriff's Department regarding a Sheriff Station site that may be made available in connection with development of the full Specific Plan. However, as

42 Written correspondence from Captain Patti A. Minutello, Los Angeles County Sheriff's Department, Santa Clarita Valley Station, November 3, 2004. (**Appendix 4.11**).

previously noted, development of the Mission Village project independent of the remainder of the Specific Plan would not trigger a need for a new station.

All new development projects in the Santa Clarita Valley would be responsible for funding new facilities made necessary by increases in the demand for law enforcement services attributable to each respective project through the same funding mechanism (i.e., the law enforcement facilities fee) as the Mission Village project. Therefore, with the continued allocation of General Fund revenues by the Board of Supervisors to maintain existing levels of service to the Santa Clarita Valley, and the imposition of law enforcement facilities mitigation fees on all new projects in the region, pursuant to Los Angeles County Code, Chapter 22.74, there would be no significant cumulative impacts to law enforcement services provided by the Sheriff's Department within the Santa Clarita Valley.

b. County Emergency Response/Evacuation Plans

Future resident and daytime populations in the Santa Clarita Valley would be subject to the same potential hazards as existing residents. As noted in **Section 1.0, Project Description,** the Mission Village project would provide two major arterial access roadways that would connect the project site to SR-126 and I-5. The proposed circulation plan, therefore, would provide adequate access to/from the project site to facilitate evacuation in the event of an emergency, and provide site access to emergency personnel. Furthermore, the additional access provided by the project would facilitate regionwide evacuation plans, and would be incorporated into the County's Emergency Evacuation Plans, when amended, to provide for the safe evacuation of all Santa Clarita Valley residents and employees. Therefore, the proposed project would not result in potentially significant cumulative impacts relative to emergency response plans.

c. California Highway Patrol

Demands for CHP services on the area's highways and in the unincorporated portions of the Santa Clarita Valley would increase under the Santa Clarita Valley Cumulative Buildout Scenario due to related increases in vehicular traffic generated by such development. An increase in the current number of CHP patrol officers would be required to enforce traffic regulations in new developments, and to respond to traffic accidents and disabled vehicles.

The CHP has indicated approximately six additional officers would be required to accommodate cumulative development.; however, it is not likely that a new CHP station would be needed because the existing CHP site and facilities in the Santa Clarita Valley contain room for expansion if, and when, it is

determined that such expansion is necessary.[43] Nonetheless, cumulative development would increase traffic on existing roadways, the numbers and lengths of roadways patrolled by the CHP, and demand for CHP services in the area. However, through increased revenues generated by cumulative development (via motor vehicle registration fees paid by new residents and businesses), the funding for additional staffing and equipment can and should be allocated by the CHP to the Newhall Area CHP Station to meet future demands, consistent with current practice. As the revenue base and method of funding allocation presently in place provide for adequate CHP services in the area, it is anticipated that an adequate level of service would be provided in the future through these same funding sources and allocation methods. For these reasons, the proposed project would not contribute to potentially significant cumulative impacts on the law enforcement services provided by the CHP.

9. CUMULATIVE MITIGATION MEASURES

Because the proposed project would fully mitigate any potentially significant project-related impacts to law enforcement services, and because cumulative development will be subject to the same or similar required mitigation measures as the proposed project, no additional cumulative mitigation measures are proposed or required.

10. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project Specific Impacts

The increased demand for Sheriff and CHP services that will result with development of the proposed project would be met through increases in law enforcement staffing and equipment, which would be funded by increased taxes and fees paid by Mission Village development, as well as the implementation of appropriate mitigation measures. Therefore, no significant unavoidable project-specific impacts would occur with respect to police protection services.

b. Cumulative Impacts

The increased cumulative development demands on police protection services would be met through increases in law enforcement staffing and equipment, which would be funded by increased taxes and fees paid by new development. Therefore, no significant unavoidable cumulative impacts would occur with respect to police protection services.

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[43] Written communication from E. Conley, Captain, Commander, Newhall Area Station, California Highway Patrol, November 14, 2004 (**Appendix 4.11**).

4.12 FIRE PROTECTION SERVICES

1. SUMMARY

Fire protection and emergency medical response services for the Mission Village project and surrounding area are provided by the County's Fire Department. Fourteen fire stations and three fire camps currently provide fire protection services for the project area. The closest station to the project site that would provide fire protection services is Fire Station 76, located at 27223 Henry Mayo Drive in Valencia. Should a significant incident occur, the resources of the entire Fire Department, not just the station closest to the site, would be available to serve the project. The County's Fire Department and a franchise private ambulance company also provide paramedic services to the area.

The Mission Village project site is located in an area that has been designated as a Very High Fire Hazard Severity Zone (formerly called Fire Zone 4) by the County Fire Department, which denotes the County Forester's highest fire hazard potential.

Pursuant to mitigation adopted by the County as part of its approval of the Newhall Ranch Specific Plan, and project specific mitigation proposed by this EIR, the applicant is currently in discussions with the County's Fire Department with respect to a memorandum of understanding (MOU) for Newhall Ranch, Entrada, and Legacy Village, which collectively, comprise "the Project Area" for the MOU, which would result in the construction of additional fire stations on the Newhall Ranch site, generally, and specifically a new fire station on the Mission Village site. It is expected that the additional fire station (Fire Station 177) would ultimately provide fire protection services for the Mission Village site. The project applicant intends to complete construction of Fire Station 177 such that the station is operational upon issuance of the 5,000th certificate of occupancy for the Project Area as defined in the MOU. Until such time as that station is completed, existing Fire Stations 76 and 124 would be available to serve the project site.

Additionally, the proposed project would be required to meet all County codes and requirements relative to providing adequate fire protection services to the site during both the construction and operational stages of the project. As a result, the project would not diminish the staffing or response times of existing fire stations in the Santa Clarita Valley, nor would it create a special fire protection requirement on the site that would result in a decline in existing service levels. Therefore, with implementation of the adopted Specific Plan mitigation measures, in combination with the recommended project-specific mitigation, the proposed project would not have a significant project-specific or cumulative impact on fire protection services or fire hazards in Santa Clarita Valley.

2. INTRODUCTION

a. Relationship of Project to Newhall Ranch Program EIR

Section 4.18 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with the fire services and hazards for the entire Newhall Ranch Specific Plan. The Newhall Ranch mitigation program was adopted by the County in findings and in the revised Mitigation Monitoring Plan for the Specific Plan. The Newhall Ranch Program EIR concluded that Specific Plan implementation would result in significant impacts, but that the identified mitigation measures would reduce the impacts to below a level of significance. The Newhall Ranch Program EIR also determined that site-specific Wildfire Fuel Modification Plans would be required as the Specific Plan is implemented through the application and processing of tentative subdivision maps for Newhall Ranch. All subsequent project-specific development plans and tentative subdivision maps must be consistent with both the Newhall Ranch Specific Plan, adopted May 2003, and the County of Los Angeles General Plan and Santa Clarita Valley Areawide Plan.

This project-level EIR is tiering from the previously certified Newhall Ranch Program EIR. **Section 4.12** discusses the Mission Village project's existing conditions, potential environmental impacts, applicable mitigation measures from the Newhall Ranch Program EIR, as well as additional mitigation measures recommended by this EIR for the Mission Village project.

3. SUMMARY OF THE NEWHALL RANCH PROGRAM EIR FINDINGS

The Newhall Ranch Specific Plan Program EIR identified certain potentially significant impacts related to fire protection services resulting from implementation of the Specific Plan. Specifically, the Newhall Ranch Program EIR, and related findings, determined that implementation of the adopted Specific Plan would significantly increase the demand for fire protection services on the Specific Plan site and local vicinity in terms of personnel and equipment needed to adequately serve the Specific Plan site at buildout. The majority of the Specific Plan is located in an area that has been designated as Very High Fire Hazard Severity Zone (formerly Fire Zone 4) by the County of Los Angeles Fire Department. The remainder of the site, situated along the Santa Clara River, is designated as Moderate Fire Hazard Severity Zone (formerly Fire Zone 3), which is considered less of a fire hazard area by the County Forester than Very High Fire Hazard Severity Zone due to its relatively flat topography, the presence of the river, and better accessibility.

While the Specific Plan includes the development of two fire stations located on the Newhall Ranch and a third off-site station, without mitigation, fire protection impacts resulting from implementation of the Specific Plan would be significant.

In response to the identified significant impacts, the Final Newhall Ranch Specific Plan Program EIR identified four feasible mitigation measures.[1] The Board of Supervisors found that adoption of the recommended mitigation measures would reduce the identified potentially significant effects to less than significant levels. The Specific Plan's mitigation program for fire protection services and fire hazards includes the following requirements: (1) approval of a Wildfire Fuel Modification Plan for each Newhall Ranch final subdivision map that permits construction in development areas adjacent to Open Area and the High Country Special Management Area (SMA); (2) provisions in each tentative subdivision map and site plan for sufficient fire flow capacity for all proposed residential and non-residential uses; (3) subdivision map and site plan compliance with all applicable building and fire codes and hazard reduction programs for Moderate Fire Hazard Zones or Very High Fire Hazard Severity Zones; (4) provisions for funding the three fire stations in lieu of developer fees, the dedication of two fire station sites, and providing for various equipment needs; and (5) provisions for a MOU with the Fire Department to address first-phase fire protection requirements and the criteria for timing the development for each of the three fire stations.[2] The MOU requirement specified that delivery of fire service for Newhall Ranch would be from either existing fire stations, or one of the three fire stations to be provided pursuant to the Specific Plan's mitigation program. Prior to commencement of the operation of any of the three fire stations, the MOU requirement contemplated that fire service may be delivered to Newhall Ranch from existing fire stations or from temporary fire stations to be provided by the developer at mutually agreed-upon locations. Planned permanent stations located within Newhall Ranch would replace the temporary fire stations.

4. EXISTING CONDITIONS

a. Fire Protection Services

The County's Fire Department provides fire protection service to the project area. Fourteen fire stations and three fire camps support the project area. The location of these stations, the fire suppression camps, temporary fire stations, and fire stations with paramedic units, are illustrated on **Figure 4.12-1, Existing Fire Station Locations**.

Also shown on **Figure 4.12-1** is the location of the existing fire station at the Del Valle Training Facility, which is located west of the project site. The closest fire station to the project site is Fire Station 76, located at 27223 Henry Mayo Drive in Valencia, approximately 0.27 mile from the northern boundary of the

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1 Mitigation Measures 4.18-1 through 4.18-4 in both the certified Final Program EIR (March 9, 1999) and adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

2 See Mitigation Measure 4.18-4 in both the certified Newhall Ranch Program EIR (March 9, 1999) and adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

Mission Village project site. The second closest fire station to the project site is Fire Station 124, located at 25870 Hemingway Avenue in Stevenson Ranch, approximately 1.3 miles from the southeastern boundary of the project site. These distances translate into response times ranging from approximately 5 to 8 minutes for Mission Village as a whole. The closest available district response units would provide fire protection services. Should a significant incident occur, the resources of the entire Fire Department, not just the stations closest to the site, would serve the project site.

Fire suppression camps supply crews on a daily basis to assist in the suppression of wildland fires. They also perform storm-related functions, such as the filling of sandbags, and provide additional manpower at search and rescue incidents. Of the four camps located in the Santa Clarita Valley area, two are staffed with paid fire suppression aids, and the other two are staffed by a workforce comprised of adult male prisoners provided by the California Department of Corrections (CDC). This partnership with the CDC provides the Fire Department with a large labor pool. The closest fire suppression camp to the project site is located at 29300 The Old Road in Saugus.[3]

A description of the operational characteristics of the four fire stations closest to the site and, therefore, most likely to respond to fire and medical emergencies, is provided below. A three-person fire company consists of a captain, a fire fighter specialist, and a fire fighter.[4] A four-person fire company has one additional fire fighter. If the station houses a paramedic squad, a paramedic fills one fire fighter position on the engine. There are no plans for upgrades to seven of the 11 fire stations located in the vicinity of the project site; however, Station 156 has commenced (as of April 2010) construction for the development of a permanent station and is expected to be operational the second quarter of 2011.[5]

(1) Los Angeles County Fire Station 76

Los Angeles County Fire Station 76 is located at 27223 Henry Mayo Drive in Valencia. The station maintains one fire engine and is supported by four firefighters.[6] A five-person hazardous materials unit is located at this station.[7]

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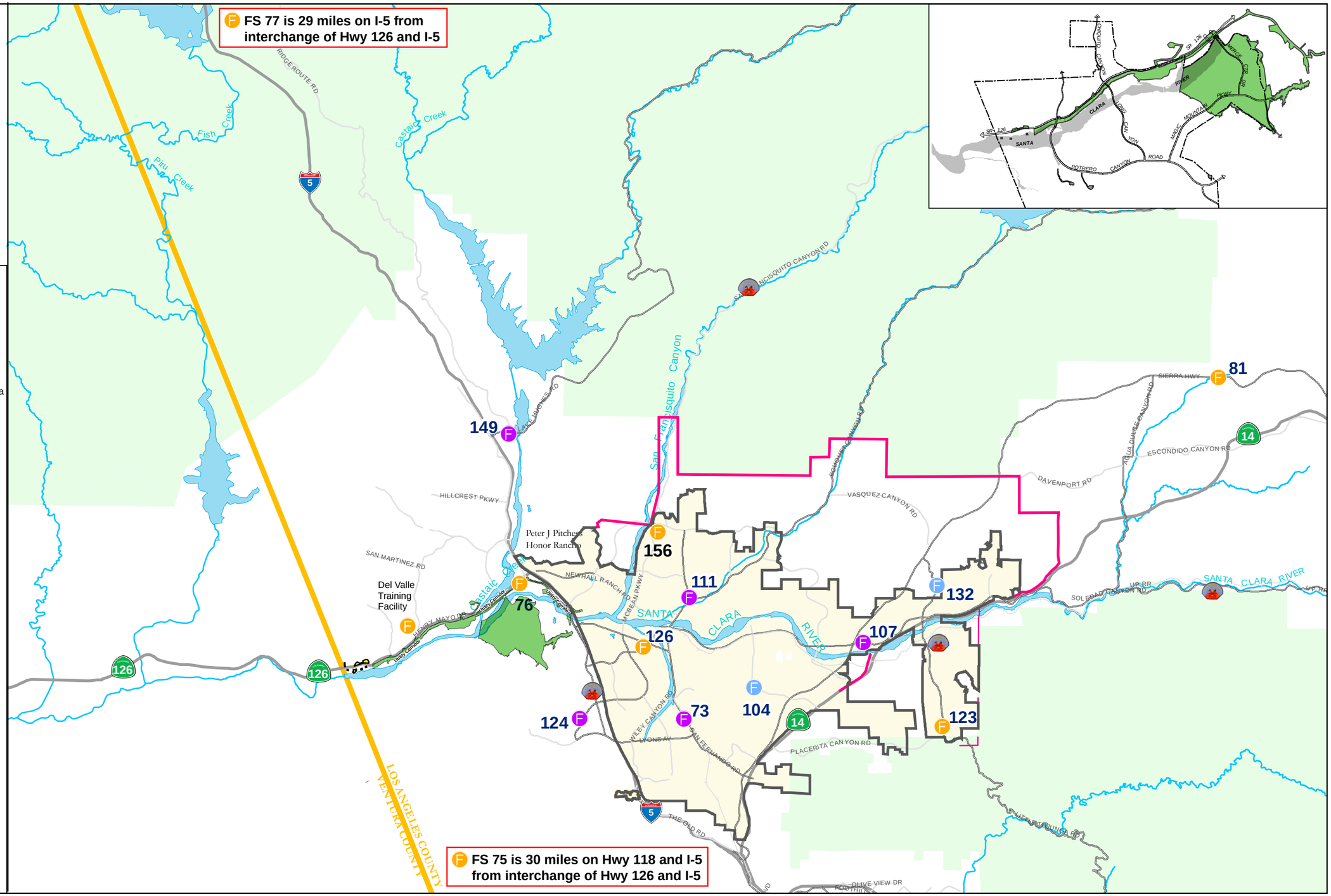
3 Electronic communication, Lorraine Buck, Planning Division, County of Los Angeles Fire Department, March 27, 2009.

4 Written correspondence between Loretta Bagwell, Planning Analyst, Planning Division, Los Angeles County Fire Department, and Impact Sciences, April 7, 2010. If the fire station has a paramedic squad, the 3-person engine company would consist of a captain, a fire fighter specialist, and a fire fighter/paramedic. The same would hold true for a 4-person engine company; one fire fighter would be replaced with a fire fighter/paramedic.

5 Written correspondence between Loretta Bagwell and Impact Sciences, April 7, 2010.

6 Telephone communication, Lorraine Buck, Planning Division, County of Los Angeles Fire Department, February 3, 2009.

7 Telephone communication, Lorraine Buck, February 3, 2009.



Legend:

FS 73	Division & Battalion Headquarters 24875 N. San Fernando Rd., Newhall
FS 75	23310 Lake Manor Dr., Chatsworth
FS 76	27223 Henry Mayo Dr., Valencia
FS 77	46833 Peace Valley Rd., Gorman
FS 81	8710 W. Sierra Hwy, Agua Dulce
FS 104	26622 Golden Valley Rd., Santa Clarita
FS 107	18239 W. Soledad Canyon Rd., Canyon Country
FS 111	26829 Seco Canyon Rd., Valencia
FS 123	26321 N. Sand Canyon Rd., Canyon Country
FS 124	25870 Hemingway Ave., Stevenson Ranch
FS 126	26320 Citrus Dr., Santa Clarita
FS 132	29310 Sand Canyon Rd., Canyon Country
FS 149	31770 Ridge Route, Castaic
FS 156	24525 W. Copperhill Dr., Santa Clarita
	Del Valle Training Facility

- City of Santa Clarita Boundary
- City of Santa Clarita Sphere of Influence Boundary
- County Boundary
- Angeles National Forest
- Project Boundary

Community Safety

- Existing Fire Station
- Temporary Fire Station
- Fire Station with Paramedics
- Fire Camp

GIS Projection - CA State Plane, Zone 5, NAD83, Feet.

2 1 0 2

APPROXIMATE SCALE IN MILES

SOURCE: City of Santa Clarita General Plan, Safety Element - 2008; Los Angeles County Fire Department, Planning Division - 2009

FIGURE **4.12-1**

Existing Fire Station Locations

(2) Los Angeles County Fire Station 124

Los Angeles County Fire Station 124 is located at 25870 Hemingway Avenue in Stevenson Ranch. The station maintains a three-person engine company and a two-person paramedic squad. [8]

(3) Los Angeles County Fire Station 126

Los Angeles County Fire Station 126 is located at 26320 Citrus Avenue in Santa Clarita. The station maintains a three-person engine company and a four-person quint company (a quint is a combination engine/ladder truck apparatus). In addition, a deputy chief and a battalion chief are housed at this station.[9]

(4) Los Angeles County Fire Station 156

Los Angeles County Fire Station 156 is located at 24525 Copperhill Drive in Valencia and has been in service since June 1, 2007. The station maintains a four-person engine company.[10]

b. Service Standards

Nationally recognized response time targets for urban areas are 5 minutes for a basic life support unit (Engine Company) and 8 minutes for an advanced life support unit (paramedic squad).[11] Once Fire Station 150 and permanent Fire Station 104 are operational, it is anticipated that the Los Angeles County Fire Department will meet these goals in the Santa Clarita Valley area.[12]

In response to increased demands for new facilities, equipment, and staffing created by new development, the County has implemented a Developer Fee Program to fund the purchase of station sites, the construction of new stations and facility improvements, and the funding of capital equipment.[13] The developer fees are adjusted annually by the County to reflect changing costs. As of March 1, 2010, the Developer Fee is $0.9927 per square foot of new construction (includes all land uses), and is collected at

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8 Telephone communication, Lorraine Buck, February 3, 2009.

9 Telephone communication, Lorraine Buck, February 3, 2009.

10 Written correspondence with John R. Todd, Chief, Forestry Division, Prevention Service Bureau, Los Angeles County Fire Department, January 3, 2008.

11 Written correspondence between Loretta Bagwell, Planning Analyst, Planning Division, Los Angeles County Fire Department, and Impact Sciences, April 7, 2010.

12 Written correspondence between Loretta Bagwell, Planning Analyst, Planning Division, Los Angeles County Fire Department, and Impact Sciences, April 7, 2010.

13 Telephone communication with Danny Kolker, September 29, 2004.

the time building permits are issued.[14] Funding for staffing and operations comes from the Fire Department's share of local property taxes.[15] The Developer Fee program also allows for funding and land dedication in lieu of developer fees. Payment of the developer fee typically constitutes mitigation in full for development impacts. A credit that can be applied toward unpaid developer fee obligations is typically issued for in lieu donations.[16] The Fire Department prepares a Five-Year Capital Plan to identify anticipated facilities that would be constructed during the five-year planning horizon.[17] This plan is updated annually.[18]

c. Wildland Fire Hazard Potential

The Fire Department designates land in the County in regard to its potential for wildland fire hazards. These designations are made by the County Forester, and are based on multiple criteria, including the following primary characteristics: (1) an area's accessibility, (2) water availability/lack of adequate water supplies, (3) amount and type of vegetative cover, and (4) topography. The two designations used by the Fire Department are Moderate Fire Hazard Zone (formerly Fire Zone 3) and Very High Fire Hazard Severity Zone (formerly Fire Zone 4). Areas within the County not designated as either a Moderate Fire Hazard Zone or Very High Fire Hazard Severity Zone are not considered to be subject to wildland fire hazards. The differences between Moderate Fire Hazard Zone and Very High Fire Hazard Severity Zone designations are relatively minor, in that one or more of the four designation criteria listed above (access, water availability, vegetation, and topography) may pose less of a constraint in Moderate Fire Hazard Zone than in the Very High Fire Hazard Severity Zone. Additionally, the Very High Fire Hazard Severity Zone includes more restrictive building requirements than the Moderate Fire Hazard Zone, and is considered to be the most severe fire zone. Portions of a Very High Fire Hazard Severity Zone may, upon development, meet the criteria of a Moderate Fire Hazard Zone, and may be redesignated as a Moderate Fire Hazard Zone at the discretion of the County Forester.

The Fire Department (in collaboration with CalFire) has designated the Mission Village site as a Very High Fire Hazard Severity Zone, based on the four primary designation criteria.[19] Specifically, the Very High Fire Hazard Severity Zone typically has the following vegetative types or is adjacent to such

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14 Correspondence with Letty Jaramillo, Environmental Review Manager, Los Angeles County Fire Department-Forestry Division-Prevention Bureau, February 8, 2010.

15 Telephone communication with Danny Kolker, September 29, 2004.

16 Written correspondence, Frank Vidales, Acting Chief, Forestry Division, Prevention Services Bureau, May 13, 2009.

17 Written correspondence, Frank Vidales, May 13, 2009.

18 Written correspondence, Frank Vidales, May 13, 2009.

19 California Department of Forestry and Fire Protection, Los Angeles County FHSZ Map, ftp://frap.cdf.ca.gov/fhszlocalmaps/los_angeles/santa_clarita.pdf, accessed April 7, 2010.

communities: chaparral, coastal sage, annual grasslands, riparian, and oak woodlands. Wildland fires are relatively common occurrences in these plant communities, which are found in the Santa Clarita Valley and surrounding area. These plant communities pose a threat to expanding urban development due to their high combustibility and their dense biomass.

During the spring months, wildland vegetation typically begins to lose its moisture content and, by the summer and fall when Santa Ana wind conditions begin to occur, vegetation moisture levels can become very low, which results in a very high wildfire potential. When chaparral and coastal sage growth is younger, it is more succulent, with little or no dead or dying branches; and the growth provides less horizontal fuel continuity; has higher average fuel moisture content; and, as a result, is usually more fire retardant. As these plant species reach 20-plus years in age, their dead-to-live fuel ratio increases, creating more available fuel to carry fire with very high intensities and energy releases.

Historically, large fires tend to burn in Moderate Fire Hazard Zones and Very High Fire Hazard Severity Zones every 20 to 25 years. The County Forester has indicated that wildland fire events have occurred in the Santa Clarita Valley region as recently as October 2007. In the areas where these plant communities border urban development, the frequency of fire events may be diminished as a result of fire prevention and fire suppression activities. Fire prevention activities include prescribed burns, vegetation thinning/removal, and creation of buffer zones; in contrast, fire suppression involves measures, which control fires once they have started (i.e., fuel breaks, use of fire fighting equipment, etc.). Fire prevention for urban development in wildland fire hazard areas generally focuses on restricting the types of building materials used, building design, and incorporating setbacks from areas with flammable vegetation. An area designated as a Moderate Fire Hazard Zone would have less severe fire hazard conditions than an area designated as Very High Fire Hazard Severity Zone, and, therefore, would have fewer restrictions involving building construction and site design. Development within Very High Fire Hazard Severity Zone is required to meet the building construction requirements specified in the County Building and Safety Code, as well as the County Hillside Guidelines. Examples of fire code provisions that development in these areas must meet are presented below.

d. Fire Codes and Guidelines

(1) Water Pressure

The availability of sufficient on-site water pressure is a basic requirement of the Fire Department. The Fire Department requires sufficient water capacity for fire flow at public hydrants in residential locations to provide 1,250 gallons per minute (gpm) at 20 pounds per square inch (psi) residual pressure for a 2-hour duration for single-family residential units, and up to 5,000 gpm at 20 psi residual pressure for a

5-hour duration is required.[20] The required fire flow for commercial/public fire hydrants is up to 5,000 gpm at 20 psi residual pressure for a 5-hour duration.[21] The required fire flow for institutional development is up to 8,000 gallons per minute at 20 psi residual pressure for a 4-hour duration.[22] Final fire flow rates are determined based upon the size of the buildings, their relationship to other structures, property lines, and types of construction used.[23]

The Valencia Water Company has stated that it would have the ability to provide adequate fire flows, in addition to meeting domestic water supply demands.[24]

(2) Fuel Modification

Due to the relatively high fire hazard potential that exists in the Very High Fire Hazard Severity Zone, development within these areas is subject to various governmental codes, guidelines, and programs aimed at reducing the potential fire hazard risks to an acceptable level. The County of Los Angeles has prepared *Fuel Modification Plan Guidelines*, which set forth guidelines and landscape criteria for all new construction to implement ordinances relating to fuel modification planning to help reduce the threat of fires in high hazard areas. Per Section 1117.2.1 of the County of Los Angeles Fire Code: "A fuel modification plan, a landscape plan and an irrigation plan shall be submitted with any subdivision of land or prior to any new construction, remodeling, modification or reconstruction where such activities increase the square footage of the existing structure by at least 50 percent within a 12-month period and where the structure or subdivision is located within areas designated as a Very High Fire Hazard Severity Zone in the Los Angeles County Building Code." A fuel modification plan identifies specific zones within a property, which are subject to fuel modification. A fuel modification zone is a strip of land where combustible native or ornamental vegetation must be modified and/or partially or totally replaced with drought tolerant, fire resistant plants and other low-risk landscape materials.[25]

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20 Los Angeles County Municipal Code, Title 20 Utilities, Chapter 20.16 Design and Construction, Section 20.16.060 Minimum Fire Flow and Fire Hydrant Requirements.

21 Los Angeles County Municipal Code, Title 20 Utilities, Minimum Fire Flow and Fire Hydrant Requirements.

22 Los Angeles County Municipal Code, Title 20 Utilities, Minimum Fire Flow and Fire Hydrant Requirements.

23 Los Angeles County Municipal Code, Title 20 Utilities, Minimum Fire Flow and Fire Hydrant Requirements.

24 SB 610 Water Supplement Assessment for the Mission Village project, dated April 2010, prepared by Valencia Water Company (**Appendix 4.8**).

25 Telephone communication with Assistant Chief Frank Vidales, October 12, 2004 and written correspondence, David R. Leininger, Chief, Forestry Division, Prevention Bureau, County of Los Angeles Fire Department, August 2, 2004

e. Current Site Conditions

The Mission Village project site is currently vacant with some irrigated agricultural uses and abandoned oil and gas operations. Previous uses of the site include cattle grazing operations.

The topography of the Mission Village project site varies considerably, with mesa areas located sporadically along the Santa Clara River, and moderately to steeply sloping terrain in the central and southern portions of the site. Access roads through the project area consist primarily of dirt roadways with some paved roads that are generally in good to poor condition. Vegetation communities located in the project area include disked farm fields; habitat communities include, among others, non-native grassland, upland scrub habitat and sensitive riparian habitat. Please refer to **Section 4.3, Biota**, of this EIR for additional information on the existing biological resources on the Mission Village site, and **Section 2.0, Environmental and Regulatory Setting**, for additional discussion of the current conditions on the Mission Village project site.

There was one call for service during the year 2009, for a wildland fire that occurred approximately 4 miles north of the Mission Village project site.[26]

5. PROPOSED PROJECT IMPROVEMENTS

The project proposes to develop a total of 4,412 residential dwelling units consisting of 382 single-family homes, 4,030 multi-family units, including attached and detached condominiums, age qualified, and apartment units, with a total residential population of 10,802.[27] To facilitate development of the Mission Village tract map site (VTTM 61105), several off-site, project-related improvements (i.e., improvements outside the tract boundary) would be developed on an additional 592.3 acres of land. These project-related components include the following: utility corridor, Magic Mountain Parkway roadway extension, a water quality basin, three water tanks (portions of two water tanks would be located on site), a Southern California Edison electrical substation, conversion of an existing water tank to recycled water tank, and grading associated with construction of the southerly extension of Westridge Parkway. The project would also include 1.555 million square feet of commercial/mixed uses, a 9.5-acre elementary school, fire station, public library, bus transfer station, parks, public and private recreational facilities, trails, and road improvements. The proposed Mission Village fire station would be located south of Magic Mountain Parkway near the intersection of Magic Mountain Parkway and Westside Parkway. **Figure 4.12-2, Proposed Fire Station Locations**, illustrates the approximate locations of the fire stations to

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26 Telephone communication, Loretta Bagwell, Planning Division, Los Angeles County Fire Department, February 18, 2010.

27 Based upon County of Los Angeles estimates of 3.17 persons per single-family household and 2.38 persons per multi-family households.

be constructed in connection with the Newhall Ranch Specific Plan, including the Mission Village fire station.

6. PROJECT IMPACTS

The analysis of potential impacts to fire protection services associated with construction and operation of the proposed project, including the significance criteria applicable to assessing such impacts, is presented below.

a. Significance Threshold Criteria

According to Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, a project would have a significant impact on fire protection services if the project would result in

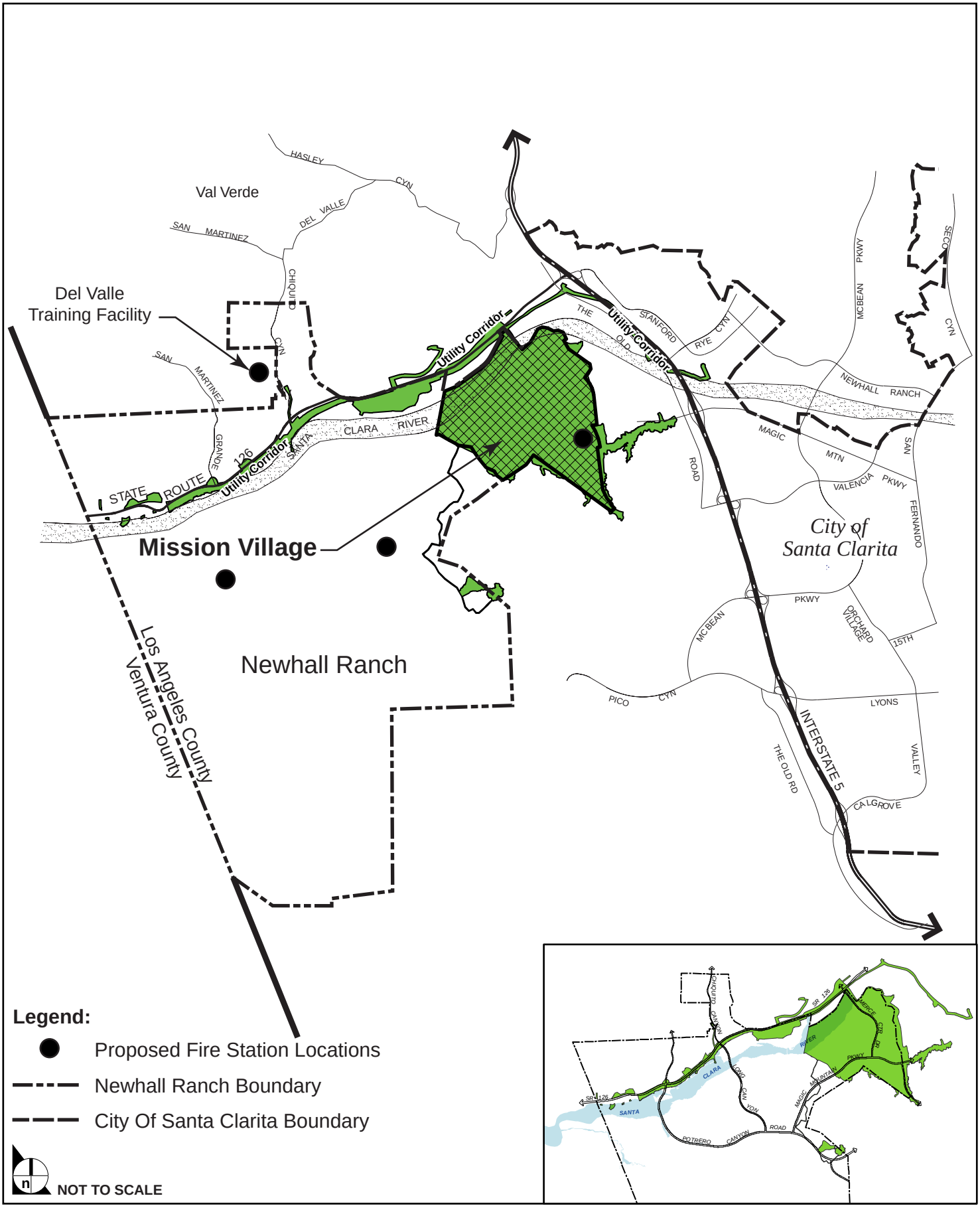
- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities;
- The need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection services; or
- Expose people or structures to a significant risk of loss, injury, or death involving wildfires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

These are the significance criteria to be applied in assessing the potential impacts of the proposed project.

b. Impact Analysis

(1) Construction-Related Impacts

Construction projects result in a variety of operations that have the potential to increase the risk of fire, such as the use of mechanical equipment in vegetated areas, cutting and grinding metal, welding, and the storage of flammable materials such as fuel, wood and other building materials. A large amount of wood framing would occur on the project site during buildout. In association with the wood framing operations, the project's electrical, plumbing, communications, and ventilation systems would be installed in each structure. Although rare, fires do occur at construction sites, and it is expected that the electrical, plumbing, and mechanical systems for the development would be properly installed during framing operations. Installation would be subject to County codes and inspection by County personnel prior to drywalling. In addition, construction sites would also be subject to County requirements relative to water availability and accessibility to fire-fighting equipment. Compliance with County Code requirements would assist in mitigating potential fire-related impacts to a level below significant.



SOURCE: Impact Sciences, Inc. – May 2010

FIGURE **4.12-2**

Proposed Fire Station Locations

32-99•05/10

Because the Mission Village project site is located adjacent to Open Area (i.e., Santa Clara River), a Wildfire Fuel Modification Plan must be prepared in accordance with the County Fuel Modification Ordinance standards and submitted for approval by the County Fire District. The Wildfire Fuel Modification Plan will include construction period requirements, such as (1) a fire watch during welding operations, (2) spark arresters on all equipment or vehicles operating in a high fire hazard area, (3) designated smoking and non-smoking areas, (4) water availability pursuant to County Fire District requirements, and (5) clearance of brush from buffer zones surrounding construction sites prior to initiation of construction. Preparation of a fuel modification plan would assist in mitigating potential construction related impacts to a level below significant.

Based on the applicable code requirements, including preparation of a Wildfire Fuel Modification Plan as required by the Specific Plan and project-specific mitigation, the proposed project would not expose people or structures to a significant risk of loss, injury or death involving wildfires and, therefore, any potentially significant construction-related impacts to fire protection services that would occur as a result of the Mission Village project would be reduced to a level below significant.

Any potential adverse physical effects on the environment associated with construction of the fire station are analyzed in **Section 4.0, Environmental Impact Analysis**, of this EIR. See **Section 4.5, Traffic/Access**; **Section, 4.6, Noise**; and **Section 4.7, Air Quality**.

(2) Operational Impacts

(a) Calls for Service, Station Facilities, and Staffing Levels

Occupancy of the uses constructed within the Mission Village project site would result in an increase in fire hazards and a corresponding increase in the need for fire protection services, including paramedic services. The proposed residential, commercial, office, and mixed-use uses are expected to create the typical range of fire service calls that other such uses create, including kitchen/house fires, garbage bin fires, car fires, electrical fires, etc. All such fires can be adequately suppressed with the types of fire equipment typically found at County fire stations. The proposed project includes no unique or especially hazardous uses, such as industrial facilities that would use or generate large quantities of hazardous and/or toxic materials that would pose an extreme risk of serious accident or fire. Additionally, the tract map project site would be required to comply with all applicable state and County Building Code and Fire Code requirements for such items as types of roofing materials, building construction, brush clearance, water mains, fire hydrant flows, hydrant spacing, access and design, and other hazard reduction programs, for Very High Fire Hazard Severity Zone, as set forth by the County Forester and Fire Warden.

The project could increase the existing rate of calls for service because portions of the development would be located adjacent to natural areas, particularly along the southern, western, and northern edges of the tract map site that have wildfire potential. The applicant, however, must prepare a Fuel Modification Plan pursuant to Section 1117.2.1 of the Fire Code that would retard the spread of wildfire into development areas until the Fire Department's arrival at the site. Moreover, the site is located within an existing service area and the Fire Department indicates that response times within the project region are within the Department's adopted service standards of 5 minutes for basic life support and 8 minutes for advanced life support. Because the project includes the provision of a fire station north of Magic Mountain Parkway at the intersection of Magic Mountain Parkway and Westridge Parkway, it is expected that the response times at project buildout will continue to meet the Department's adopted service standards. Until such time as the Mission Village station is completed, Fire Station 76 and Fire Station 156 would serve the project site.[28] Response times would meet the adopted service standards.

The provision of a fire station as part of the Mission Village project is consistent with the adopted mitigation measures for the Specific Plan, which require that the project applicant, in lieu of the payment of developer fees, provide funding to the County Fire District for the construction of three fire stations, two of which would be located on the Specific Plan site and the third at the Del Valle Training Facility, just outside the Specific Plan boundary. The adopted mitigation also provides that Newhall and the Department enter into a MOU that will set forth the first-phase fire protection requirements (fire protection plan) and the criteria for timing the development of each of the three fire stations. The fire protection plan component of the MOU also will undergo annual review and modification, if necessary. Based in part on the mitigation, the Specific Plan EIR determined that potential impacts to fire protection services would be reduced to levels below significant. The applicant is currently working with the Fire Department to develop the specific items to be covered under the MOU, which would be completed prior to the issuance of any certificate of occupancy. In consideration of the applicant's planned development of the Specific Plan Entrada, and Legacy Village, the applicant and the Fire Department presently are considering the development of four fire stations to serve the area, rather than three. The following are the main points of the draft MOU presently being considered:

- The applicant would construct, improve, and equip four fire stations, each no smaller than 9,600 gross square feet (gsf) in size, and would convey the four fire stations, including the underlying land, to the Fire Department upon completion (the Mission Village station would be 13,500 gsf with a 3,600 gsf apparatus storage building).

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28 Written correspondence between John R. Todd, Chief, Forestry Division, Prevention Bureau, Los Angeles County Fire Department and Daniel Fierros, Planning Assistant, Department of Regional Planning, Impact Analysis Section, January 3, 2008.

- Three of the four fire stations would be located on the Specific Plan site, and the fourth would be located within Legacy Village.
- The applicant would construct the fire stations to the Fire District's specifications.
- Construction completion dates, interim fire service, and permanent station equipment needs will be addressed in detail in the MOU.

With the construction of the Mission Village fire station and implementation of other mitigation measures to reduce potential fire-related impacts, the impact of the Mission Village site on fire protection in the project vicinity would be reduced to a less than significant level.

(b) Wildland Fire Hazards

Development of the proposed project would result in the construction of residential uses, commercial uses, office uses, mixed-uses, institutional uses, and public facilities in areas that have been designated as Very High Fire Hazard Severity Zone. Characteristics of the project site that contribute to these conditions include (1) limited access, (2) lack of adequate water supplies, (3) the types of vegetative cover, and (4) topography. An analysis of the site's fire hazard potential relative to these four factors is presented below.

(1) Access

Regional access to Mission Village would be provided by I-5, which is located approximately 0.25 mile to the east of the project site, and State Route (SR) 126, which is located to the north of the project site. Extensions of Commerce Center Drive and Magic Mountain Parkway, which would be constructed as part of the project, would be the major arterial roadways through the Mission Village project, providing ingress and egress to all portions of the project site. The Magic Mountain Parkway extension would proceed westerly from its existing terminus at The Old Road for a distance of approximately 5,000 feet before intersecting with the project site. The extension of Commerce Center Drive, which includes the construction of the Commerce Center Drive Bridge, would serve central portions of the Newhall Ranch Specific Plan. The new bridge would span the width of the Santa Clara River, equating to a roadway segment approximately 1,350 feet in length and 120 to 129 feet in width. This new bridge will connect Mission Village with the rest of the Newhall Ranch Specific Plan. The project circulation plan (as shown in **Figure 1.0-22, Mission Village Circulation Plan**) would provide a system of arterials, residential and commercial collectors, residential public streets, and private drives throughout the project site, allowing easy access to Commerce Center Drive and Magic Mountain Parkway in case emergency ingress or egress is required from the project site.

All roadways would be constructed in substantial conformance with the requirements of the Specific Plan. The internal circulation plan would be consistent with the approved Specific Plan standards and County standards, as applicable, regarding access (i.e., roadway widths, length of single access streets, cul-de-sac dimensions, and street parking restrictions, etc.) (see **Section 4.5**, **Traffic/Access**, for more information). Additionally, mitigation is proposed requiring that all access roads be constructed consistent with Fire Department access requirements. Consequently, roadways adequate to provide Fire Department access to land uses located throughout Mission Village would be provided and any potentially significant impacts relating to access would be reduced to below a level of significant.

(2) Water Supply

The Conceptual Backbone Water Plan for the Specific Plan includes a dual water system that would provide water service for domestic and non-domestic uses. This system would also provide water supplies to support fire suppression activity in the event of wildland or structural fires. The project's water supply system would include water mains and fire hydrants, and the provision of fire flows to meet County standards. The Valencia Water Company would provide potable water to the Mission Village project. The project is located in water service Zones II and III. The locations of the water service zones and water storage tanks are shown in **Figure 1.0-29, Mission Village Potable Water System**, in **Section 1.0**, **Project Description**. The Zone II service areas will be served by a proposed 4.0-million-gallon reservoir located off site just south of the project boundary and a second proposed 4.0-million–gallon tank located at the existing Westridge Tank site adjacent to Westridge Parkway. The two new reservoirs would receive water via a new 3,500 gpm pump station and 18-inch pipeline constructed along the extension of Commerce Center Drive. Connections are also planned with the existing Zone II water system along Magic Mountain Parkway and Westridge Parkway. The Zone III service areas would be served by an existing 3.3-million gallon reservoir located within the Westridge Community, southeast of the Mission Village project site. Connection to the site would be provided by an existing Zone III line in Westridge Parkway. A total of 11.3 million gallons of storage capacity would be available to meet the emergency and fire flow storage capacity requirements necessary to support the project upon completion.

Given that a long-term source of water must be provided for Specific Plan-related development prior to the issuance of building permits, and that mitigation is provided requiring that the proposed project provide a water supply that meets County fire flow requirements, any potentially significant water-related fire hazards that would result from implementation of the proposed project would be reduced to a level below significant. Please refer to **Section 4.8**, **Water Service**, for more information.

(3) Vegetative Cover

The Mission Village site is currently vacant with some irrigated agricultural uses and abandoned oil and gas operations. As a result, on-site vegetation is generally limited to crops and non-native weeds and grasses. However, the project site is located adjacent to areas with moderate to heavy vegetative cover, particularly along the Santa Clara River and Castaic Creek. The plant communities that make up this cover are highly combustible in the summer, and, without mitigation, would present a high fire hazard to development because burning embers are known to travel substantial distances. The potential for wildland fire hazards would exist at the wildland/urban interface due to (1) the presence of brush, (2) increased human activity, and (3) the potential for fires due to accidental and arson-related causes. The boundaries of this interface would change over time as the proposed project reaches buildout.

However, the potential wildfire risk would be reduced to less than significant as the applicant would be required to prepare a Wildfire Fuel Modification Plan pursuant to Section 1117.2.1 of the County Fire Code and related mitigation measures that would minimize the potential for the spread of wildfire into development areas and off the project site into surrounding undeveloped areas. Components of the plan would include fuel modification zones, a performance schedule and identification of those parties responsible for conducting annual fuel zone maintenance, specific requirements during construction to reduce fire hazards during this time, and the development of landscape and irrigation plans that incorporate fire-resistant plants, shrubs, trees, and groundcover into the project design. With implementation of the required Wildfire Fuel Modification Plan developed for the project, the fire hazard potential in the urban/rural interface zone would be reduced to below a level considered significant.

(4) Topography

Topography is an issue relative to wildland fire hazards because steep slopes are not only inaccessible to fire fighting vehicles, but steep canyons can create updraft conditions (much like a chimney) and a fire in a steep canyon can spread rapidly into adjacent areas. Steep canyons that are densely covered with combustible vegetation are especially hazardous.

The northern portion of the Mission Village project site adjacent to the Santa Clara River consists of relatively level river terraces, however, the central and southern portions of the project site have moderate to steep slopes. Implementation of the project would require that the majority of the slopes on the project site be graded to provide developable areas. As a result, the developed Mission Village site would not exhibit the characteristics that could cause updraft conditions. No significant impact with respect to this criterion would result from the proposed project.

(c) Fire Codes and Guidelines

As indicated above under the "Existing Conditions," all projects must adhere to applicable state and County Fire codes, standards, and guidelines. Mitigation is proposed further requiring compliance with applicable County requirements. As the project builds out, the fire codes, standards, and guidelines would be continually updated by the state and County agencies as knowledge gained from past fires increases.

(d) Conclusion

The proposed project would ultimately be served by three Newhall Ranch fire stations, including one within Mission Village, to be funded and constructed by the project applicant in lieu of developer fees pursuant to the MOU presently being negotiated between Newhall Land and the Fire Department and which is required by mitigation proposed by this EIR. As required by the mitigation, the project applicant also would dedicate land for the three fire station sites in Newhall Ranch, and provide payment for the cost of designated equipment needs (see **Figure 4.12-2**, and Specific Plan EIR **Mitigation Measure 4.18-4**). Additionally, mitigation is proposed requiring the project to implement a Wildfire Fuel Modification Plan, and meet County codes and requirements relative to providing adequate fire protection services to the site during both the construction and operation phases. The required MOU will also address the first-phase fire protection requirements (fire protection plan) and the criteria for developing each of the three fire stations for the Newhall Ranch Specific Plan. As a result, the project would neither diminish the staffing or the response times of existing fire stations in the Santa Clarita Valley, nor would it create a special fire protection requirement on the site that would result in a decline in existing services levels in the valley. Additionally, mitigation is proposed requiring that the project meet minimum water flow requirements and applicable Fire Department access requirements. Therefore, with implementation of the proposed mitigation measures, potential impacts to fire protection services and fire-related hazard impacts associated with both the operation and construction of the proposed project would be reduced to below a level of significance.

7. PROJECT MITIGATION MEASURES

Although the proposed Mission Village project may result in potentially significant impacts related to fire protection services absent mitigation, the County previously adopted mitigation measures required to be implemented as part of the Newhall Ranch Specific Plan that would reduce these impacts to below significant at the program level of review. These mitigation measures, as they relate to fire protection services, are found in the previously certified Newhall Ranch Program EIR and adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). In addition, this EIR identifies recommended mitigation

measures specific to the Mission Village project site. The project applicant has committed to implementing both the applicable mitigation measures from the Newhall Ranch Specific Plan, and the mitigation measures recommended for the Mission Village project to ensure that future project development is safe and would not adversely affect adjacent properties.

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as Related to the Mission Village Project

The mitigation measures (**Mitigation Measure SP 4.18-1** through **4.18-4** below) were adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). The applicable mitigation measures will be implemented to mitigate the potentially significant fire protection service impacts associated with the proposed Mission Village project. These measures are preceded by "SP," which stands for Specific Plan.

SP 4.18-1 At the time of final subdivision maps permitting construction in development areas that are adjacent to Open Area and the High Country SMA, a Wildfire Fuel Modification Plan shall be prepared and submitted for approval by the County Fire Department. The Wildfire Fuel Modification Plan shall include the following construction period requirements: (a) a fire watch during welding operations; (b) spark arresters on all equipment or vehicles operating in a high fire hazard area; (c) designated smoking and non-smoking areas; and (d) water availability pursuant to County Fire Department requirements. The wildfire fuel modification plan shall depict a fuel modification zone in conformance with the Fuel Modification Ordinance in effect at the time of subdivision. Within the zone, tree pruning, removal of dead plant material and weed and grass cutting shall take place as required by the County Forester. Fire resistant plant species containing habitat value may be planted in the fuel modification zone. *(The proposed Mission Village project provides standards that are parallel with standards presented by the Wildfire Fuel Modification Program. Construction vehicles used during the construction of Mission Village would incorporate the use of spark arrestors on all machinery to prevent fires, along with a lookout for fires during welding and activities that could produce large amounts of sparks.)*

SP 4.18-2 Each subdivision and site plan for the proposed Specific Plan shall provide sufficient capacity for fire flows of 1,250 gpm at 20 pounds psi residual pressure for a 2-hour duration for single-family residential units, and 5,000 gpm at 20 psi residual pressure for a 5-hour duration for multi-family residential units and commercial/retail uses, or whatever fire flow requirement is in effect at the time of subdivision and site plan approval. (*All development within the Mission Village project area will be required to comply with the fire flow standards for single-family residential, multi-family residential, commercial uses, and industrial uses as provided in the Los Angeles County Municipal Code, as adopted through the 2006 California Fire Code.*)

SP 4.18-3 Each subdivision map and site plan for the proposed Specific Plan shall comply with all applicable building and fire codes and hazard reduction programs for Fire Zones 3 and 4

that are in effect at the time of subdivision map and site plan approval. (*The proposed Mission Village project will include development standards for construction of residential and commercial uses that would provide for the reduction of fire threats.)*

SP 4.18-4 The developer will provide funding for three fire stations to the Consolidated Fire Protection District of Los Angeles County (the Fire District) in lieu of developer fees. The developer will dedicate two fire station sites for the two fire stations located in Newhall Ranch. The Fire District will dedicate the site for the fire station to be located at the Del Valle Training Facility. Each fire station site will have a building pad consisting of a net buildable area of 1 acre. If the cost of constructing the three fire stations, providing and dedicating the two fire station sites, and providing three engines, one paramedic squad and 63 percent of a truck company exceeds the developer's developer fee obligation for the Newhall Ranch development as determined by the Fire District, the Fire District will fund the costs in excess of the fee obligation.

Two of the three fire stations to be funded by the developer will not exceed 6,000 square feet; the third fire station to be funded by the developer will not exceed 8,500 square feet. The Fire District will fund the cost of any space/square footage of improvement in excess of these amounts as well as the cost of the necessary fire apparatus for any such excess square footage of improvements. The cost of three fire engines, a proportionate share of a truck and one squad to be provided by the developer will be determined based upon the apparatus cost at the time the apparatus is placed in service.

The Fire District and the developer will mutually agree to the requirements of first-phase protection requirements based upon projected response/travel coverage. Such mutual agreement regarding first-phase fire protection requirements (fire protection plan) and the criteria for timing the development of each of the three fire stations will be defined in a Memorandum of Understanding between the developer and the Fire District. Delivery of fire service for Newhall Ranch will be either from existing fire stations or one of the three fire stations to be provided by the developer pursuant to this section. Prior to the commencement of the operation of any of the three fire stations, fire service may be delivered to Newhall Ranch from existing fire stations or from temporary fire stations to be provided by the developer at mutually agreed-upon locations, to be replaced by the permanent stations which will be located within the Newhall Ranch development. The developer and the Fire District will annually review the fire protection plan to evaluate development and market conditions and modify the Memorandum of Understanding accordingly. (*The Mission Village project site will be required to comply with the MOU for the development of Fire Station 177 as specifically provided by Mitigation Measure MV 4.12-2.*)

b. Additional Mitigation Measures Proposed by this EIR

The following project-specific level mitigation measures are recommended to mitigate the potentially significant fire protection impacts that may occur with implementation of the Mission Village project. These mitigation measures are in addition to those adopted in the Final Newhall Ranch Specific Plan Program EIR. To indicate that the mitigation measure relates specifically to the Mission Village project, the mitigation measure is preceded by "MV," which stands for Mission Village.

MV 4.12-1 Prior to approval of a final subdivision map for the project, the applicant must prepare and submit for approval by the County Fire Department a preliminary fuel modification plan, a preliminary landscape plan, and a preliminary irrigation plan for the project, as required by Section 1117.2.1 of the County of Los Angeles Fire Code.

MV 4.12-2 The applicant shall construct a fire station on the Mission Village site, including all ancillary requirements for normal fire station operation such as landscaping, parking, fuel tanks, storage rooms, etc. The applicant also shall provide funding for the purchase of one Fire District standard, fully equipped fire pumper engine, and one Tiller Truck/Quint to be housed at the fire station. The fire station shall be fully equipped to the Fire District's specifications within 120 days of the anticipated operational date of the fire station. Upon completion of construction, the fire station, including the underlying land and equipment, shall be conveyed to the Consolidated Fire Protection District of Los Angeles County (Fire District) in lieu of the payment of any/all developer fees otherwise required of the project. The applicant and the Fire District shall enter into a memorandum of understanding (MOU) detailing the terms of the agreement as generally set forth in this mitigation measure.

The fire station will be constructed on a minimum 1.5 acre site located south of Magic Mountain Parkway at the intersection of Westridge Parkway and "QQ" Street; the location and configuration of the site shall be approved by the Fire District. The fire station shall be approximately 13,500 gsf in size and include a 3,600 gsf apparatus storage building; future changes in federal, state, or local requirements may affect this minimum size. The Fire District shall approve all plans and designs for the fire station prior to the commencement of construction.

The Fire District will evaluate with the applicant the requirements of first-phase protection based upon projected response/travel coverage with the goal of achieving 5-minute response coverage. The results of such evaluation shall include requirements for first-phase fire protection (fire protection plan), and the criteria for timing the development of the fire station shall be outlined in the MOU. Prior to the commencement of operation of the fire station, fire service may be delivered to Mission Village from existing fire stations or from temporary fire stations to be provided by the applicant at mutually agreed-upon locations, to be replaced by the permanent station. The use of such temporary fire stations shall be approved by the Fire District and detailed in the MOU. (*This mitigation measure implements mitigation previously adopted by the County in connection with development of the Newhall Ranch Specific Plan and does not impose upon the applicant an obligation to fund or construct additional fire stations beyond those obligations previously imposed by the County.*)

MV 4.12-3 The proposed development shall provide multiple ingress/egress access for the circulation of traffic, and emergency response issues. Said determinations shall be approved through the tentative map approval.

MV 4.12-4 The development of this project shall comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows and fire hydrants. Specifics for said requirements shall be established during the review and approval process of the tentative map.

MV 4.12-5 This property is located within the area described by the Forester and Fire Warden as a Fire Zone 4, Very High Fire Hazard Severity Zone (VHFHSZ). All applicable fire code and ordinance requirements for construction, access, water mains, fire hydrants, fire flows, brush clearance and fuel modification plans, must be met.

MV 4.12-6 Specific fire and life safety requirements for the construction phase will be addressed at the building fire plan check. There may be additional fire and life safety requirements during this time.

MV 4.12-7 Every building constructed shall be accessible to Fire Department apparatus by way of access roadways, with an all-weather surface of not less than the prescribed width and indicated on the Tentative or Exhibit "A" maps. The roadway shall be extended to within 150 feet of all portions of the exterior walls when measured by an unobstructed route around the exterior of the building.

MV 4.12-8 Access roads shall be maintained with a minimum of 10 feet of brush clearance on each side. Fire access roads shall have an unobstructed vertical clearance clear-to-sky with the exception of protected tree species. Protected tree species overhanging fire access roads shall be maintained to provide a vertical clearance of 13 feet, 6 inches. Applicant to obtain all necessary permits prior to the commencement of trimming of any protected tree species.

MV 4.12-9 The maximum allowable grade shall not exceed 15 percent except where topography makes it impractical to keep within such grade; in such cases, an absolute maximum of 20 percent will be allowed for up to 150 feet in distance. The average maximum allowed grade, including topographical difficulties, shall be no more than 17 percent. Grade breaks shall not exceed 10 percent in 10 feet.

MV 4.12-10 Requirements for access, fire flows and hydrants are to be addressed at the Los Angeles County Subdivision Committee meeting during the subdivision tentative map stage.

MV 4.12-11 Fire sprinkler systems are required in some residential and most commercial occupancies. For those occupancies not requiring fire sprinkler systems, it is encouraged that fire sprinkler systems be installed. This will reduce potential fire and life losses.

MV 4.12-12 Prior to construction, the following items shall be addressed:

a. Installation and inspection of the required all weather access to be provided as determined by either the tentative map review process or building permit issuance.

b. Fire hydrants shall be installed and tested prior to the clearance for the commencement of construction.

INSTITUTIONAL:

MV 4.12-13 The development may require fire flows up to 8,000 gallons per minute at 20 pounds per square inch residual pressure for up to a 4-hour duration as outlined in the 2002 County of Los Angeles Fire Code Appendix III-AA. Final fire flows will be based on the size of buildings, their relationship to other structures, property lines, and types of construction used.

MV 4.12-14 Fire hydrant spacing shall be based on fire flow requirements as outlined in the 2002 County of Los Angeles Fire Code Appendix III-BB. Additional hydrants will be required if hydrant spacing exceeds specified distances.

MV 4.12-15 All access devices and gates shall comply with California Code of Regulations, Title 19, Article 3.05 and Article 3.16. Los Angeles County Fire Department Regulation #5.

COMMERCIAL/HIGH-DENSITY RESIDENTIAL:

MV 4.12-16 The development may require fire flows up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to a 5-hour duration. Final fire flows will be based on the size of buildings, their relationship to other structures, property lines, and types of construction used. Fire flows shall be established as part of the tentative map review process with the submittal of architectural details to determine actual flow requirement. If adequate architectural detail is unavailable during the tentative map review process, maximum fire flows will be established with the ability of the fire flow to be changed during the actual architectural plan review by Fire Prevention Engineering for building permit issuance.

MV 4.12-17 Fire hydrant spacing shall be 300 feet and shall meet the following requirements:

a. No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant.

b. No portion of a building shall exceed 400 feet via vehicular access from a properly spaced public fire hydrant.

c. Additional hydrants will be required if hydrant spacing exceeds specified distances.

d. When cul-de-sac depth exceeds 200 feet on a commercial street, hydrants shall be required at the corner and mid block.

e. A cul-de-sac shall not be more than 500 feet in length, when serving land zoned for commercial use.

MV 4.12-18 Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for all driveways exceeding 150 feet in length and at the end of all cul-de-sacs.

MV 4.12-19 All on-site driveways/roadways shall provide a minimum unobstructed width of 28 feet, clear-to-sky. The on-site driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. The centerline of the access driveway shall be located parallel to, and within 30 feet of an exterior wall on one side of the proposed structure.

MV 4.12-20 Driveway width for non-residential developments shall be increased when any of the following conditions will exist:

a. Provide 34 feet in width, when parallel parking is allowed on one side of the access roadway/driveway. Preference is that such parking is not adjacent to the structure.

b. Provide 36 feet in width, when parallel parking is allowed on each side of the access roadway/driveway. For buildings in excess of 35 feet, minimum paved fire access is 28 feet.

c. Any access way less than 34 feet in width shall be labeled "Fire Lane" on the final recording map, and final building plans.

d. For streets or driveways with parking restrictions: The entrance to the street/driveway and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs stating "NO PARKING – FIRE LANE" in 3-inch-high letters. Driveway labeling is necessary to endure access for Fire Department use.

SINGLE-FAMILY/TWO-FAMILY DWELLING UNITS:

MV 4.12-21 Single-family detached homes shall require a minimum fire flow of 1,250 gallons per minute at 20 pounds per square inch residual pressure for a 2-hour duration. Two-family dwelling units (duplexes) shall require a fire flow of 1,500 gallons per minute at 20 pounds per square inch residual pressure for a 2-hour duration. When five or more condominium units are taking access on a single driveway, the minimum fire flow shall be increased to 1,500 gallons per minute at 20 pounds per square inch residual pressure for a 2-hour duration.

MV 4.12-22 Fire hydrant spacing shall be 600 feet and shall meet the following requirements:

a. No portion of lot frontage shall be more than 450 feet via vehicular access from a public fire hydrant.

b. Lots of 1 acre or more shall place no portion of a structure where it exceeds 750 feet via vehicular access from a properly spaced public fire hydrant.

c. When cul-de-sac depth exceeds 450 feet on a residential street, fire hydrants shall be required at the corner and mid block.

d. Additional hydrants will be required if hydrant spacing exceeds specified distances during the tentative map review process or building permit plan check.

MV-4.12-23 Streets or driveways within the development shall be provided with the following:

a. Provide 36 feet in width on all streets where parking is allowed on both sides.

b. Provide 34 feet in width on cul-de-sacs up to 700 feet in length. This allows parking on both sides of the street.

c. Provide 36 feet in width on cul-de-sacs from 701 to 1,000 feet in length. This allows parking on both sides of the street.

d. For streets or driveways with parking restrictions: The entrance to the street/driveway and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs stating "NO PARKING – FIRE LANE" in 3-inch-high letters. Driveway labeling is necessary to ensure access for Fire Department use.

e. Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road.

MV 4.12-24 A Fire Department approved turning area shall be provided for all driveways exceeding 150 feet in length and at the end of all cul-de-sacs.

LIMITED ACCESS DEVICES (GATES, ETC.):

MV 4.12-25 All access devices and gates shall meet the following requirements:

a. Any single-gated opening used for ingress and egress shall be a minimum of 26 feet in width, clear-to-sky.

b. Any divided gate opening (when each gate is used for a single-direction of travel, i.e., ingress or egress) shall be a minimum width of 20 feet clear-to-sky.

c. Gates and/or control devices shall be positioned a minimum of 50 feet from a public right-of-way, and shall be provided with a turnaround having a minimum of 32 feet of turning radius. If an intercom system is used, the 50 feet shall be measured from the right-of-way to the intercom control device.

d. All limited access devices shall be of a type approved by the Fire Department.

e. Gate detail plans shall be submitted for review and approval to the Fire Department as part of the tentative map submittal or prior to installation. These plans shall show all locations, widths, and details of the proposed gates.

8. CUMULATIVE IMPACTS

In order to analyze the cumulative impacts of this project in combination with other expected future growth, the amount and location of growth that is expected to occur was predicted.

The "Santa Clarita Valley Cumulative Buildout Scenario" entails buildout of all lands under the current land use designations indicated in the Santa Clarita Valley Area Plan and the County General Plan, plus the proposed project, plus all known pending General Plan Amendment requests for additional urban development in the unincorporated area of the Santa Clarita Valley and the City of Santa Clarita. A list of the future development activity (with and without the project) expected in the Valley under this scenario is presented below in **Table 4.12-1**, **Cumulative Development Activity – Santa Clarita Valley Cumulative Buildout Scenario**.

If the Santa Clarita Valley Planning Area builds out consistently with the currently adopted area and general plans, a significant impact on the current level of fire protection services throughout Santa Clarita Valley would occur unless the equipment and personnel resources of the Fire Department were to increase proportionately. However, impacts resulting from new development would be reduced by compliance with County fire codes, standards and guidelines, and incorporation of project-specific mitigation measures to reduce fire protection impacts to less than significant levels, similar to the proposed project. Moreover, new development within the Santa Clarita Valley Planning Area would be required to participate in the Developer Fee Program, which is a County funding mechanism used to mitigate impacts to fire protection services. As the Santa Clarita Valley Planning Area builds out, the level of fire protection services would be increased to keep pace with increased demands; therefore, no significant cumulative fire-related impacts are expected as a result of Valley buildout.

Table 4.12-1
Cumulative Development Activity – Santa Clarita Valley Cumulative Buildout Scenario

Land Use Types	Cumulative Buildout w/o Project[1]	Project	Cumulative Buildout w/MissionVillage[1]
Single-Family	93,412 du	382 du	93,794 du
Multi-Family	47,621 du	4,030 du	51,651 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	18,866,030 sq. ft.	1,555,100 sq. ft.	20,421,130 sq. ft.
Hotel	2,071 room		2,071 room
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	278,590 students	1,156 students	279,529 students
High School	12,843 students	321 students	13,120 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	171,790 sq. ft.	36,000 sq. ft.	231,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufact./Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,209.0 ac		1,209.0 ac
Developed Parkland	477.3 ac	26.1 ac	503.5 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator

[1] *Santa Clarita Valley Consolidated Traffic Model (November 2002). Includes existing development, buildout under the existing City of Santa Clarita General Plan, Santa Clarita Valley Area Plan, and active pending General Plan Amendment requests.*

[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

9. CUMULATIVE MITIGATION MEASURES

Because cumulative development will be subject to the same or similar required mitigation measures as the proposed project, no additional cumulative mitigation measures are proposed or required.

10. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project-Specific Impacts

With implementation of each of the mitigation measures identified above, no significant unavoidable impacts would occur with respect to fire protection services.

b. Cumulative Impacts

No significant unavoidable cumulative impacts have been identified or are anticipated for the proposed project, as it relates to fire protection services.

4.13 EDUCATION

1. SUMMARY

The Newhall School District (Newhall District), Saugus Union Elementary School District (Saugus District), and the William S. Hart Union High School District (Hart District) currently provide public elementary, junior high and senior high school education in the Mission Village project area. The Newhall and Saugus Districts provide elementary school service (kindergarten and grades 1–6) to the project site. The Hart District provides junior high school service (grades 7–8) and senior high school (grades 9–12) service to the project site. The Mission Village project would generate an estimated 969 elementary students, 187 middle school students, and 321 senior high school students for the three districts at buildout.

*The "School Facilities Funding Agreement entered into between the Newhall District and Newhall Land and Farming Company" (Newhall School Funding Agreement), effective January 22, 2010, and included in this EIR (**Appendix 4.13**), would mitigate the proposed Mission Village project's direct and cumulative impacts on education facilities in the Newhall District to a level below significant. Under the Newhall School Funding Agreement, Newhall guarantees to the Newhall District that there will be adequate school facilities available to accommodate every student within the Specific Plan area.*

*The "School Facilities Funding Agreement Between the Saugus Union School District and Newhall Land and Farming Company" (Saugus School Funding Agreement), effective February 18, 1997, and included in this EIR (**Appendix 4.13**), would mitigate the proposed Mission Village project's impacts on the Saugus District. Under the Saugus School Funding Agreement, the applicant and the Saugus District have agreed to a financing schedule and a financing plan, in combination with certain mitigation payments, which will provide permanent facilities, including land, buildings, furnishings and equipment, to house grades K–6 students who will reside in the Newhall Ranch Specific Plan area. Once implemented, the Saugus School Funding Agreement would fully mitigate Mission Village's direct and cumulative impacts on the Saugus School District's educational facilities.*

*Project impacts on the Hart District would be mitigated through the "School Facilities Funding Agreement Between the William S. Hart Union High School District and The Newhall Land and Farming Company" (Hart School Funding Agreement), effective October 1998, and included in this EIR (**Appendix 4.13**). The Hart School Funding Agreement conditionally obligates The Newhall Land and Farming Company to provide up to three additional junior high schools and two additional senior high schools to the Hart District. Once implemented, the Hart School Funding Agreement would fully mitigate Mission Village's direct and cumulative impacts on the Hart District's educational facilities.*

Cumulative student generation under the Development Monitoring System (DMS) Build-Out Scenario and the Santa Clarita Valley Build-Out Scenario cannot be accommodated by existing or presently planned facilities that serve the valley; therefore, the impacts of cumulative development on the school districts would be potentially significant if no additional facilities were constructed. However, compliance, as appropriate, with existing School

Facilities Funding Agreements and other mechanisms (e.g., Senate Bill [SB 50], the Valley-Wide Joint Fee Resolution, and/or new school facilities funding agreements), which require that future development pay its fair-share towards the construction of new school facilities to accommodate the increased population, would reduce potential cumulative development impacts on the school districts to below a level of significance. Moreover, because the direct impacts of the proposed project would be fully mitigated, the project's contribution to any cumulative impacts would not be cumulatively considerable.

No significant unavoidable impacts would result from implementation of the proposed Mission Village project.

2. BACKGROUND

a. Relationship of Project to Newhall Ranch Specific Plan Program EIR

Section 4.16 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with public education for the entire Newhall Ranch Specific Plan. The Newhall Ranch Specific Plan EIR mitigation program was adopted by the County in findings and in the revised Mitigation Monitoring Plan for the Specific Plan. The Newhall Ranch Specific Plan Program EIR concluded that Specific Plan implementation would result in significant impacts on educational services, but that the identified mitigation measures would reduce the impacts to below a level of significance. All subsequent project-specific development plans and tentative subdivision maps must be consistent with the Newhall Ranch Specific Plan, the County of Los Angeles General Plan, and the Santa Clarita Valley Area Plan.

This project-level EIR is tiering from the previously certified Newhall Ranch Specific Plan Program EIR. This section discusses, at a project-specific level, the Mission Village project's existing conditions relative to education, the project's impacts on educational services, the applicable mitigation measures from the Newhall Ranch Specific Plan Program EIR, and any mitigation measures recommended by this EIR for the Mission Village project.

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

The Newhall Ranch Specific Plan Program EIR identified certain potentially significant impacts related to educational services resulting from implementation of the Specific Plan. Specifically, the Newhall Ranch Specific Plan Program EIR, and related findings, determined that implementation of the adopted Specific Plan would significantly increase the demand for educational services on the Specific Plan site and the local vicinity.

Buildout of uses within the Specific Plan would generate approximately 5,016 elementary students, 1,392 junior high students, and 2,372 senior high students. Under the adopted mitigation program, provisions were made to reserve land for five elementary school sites, one junior high school site, and one

high school site within the Specific Plan boundaries with sufficient acreage to construct schools to accommodate the estimated number of students generated at buildout of the Specific Plan. In addition, three school facilities/funding agreements were entered into with the Newhall School District, William S. Hart Union High School District, and Castaic Union School District. These agreements outlined a program for school mitigation fees pursuant to the Valley-Wide Joint Fee Resolution (which constitutes more than the applicant's fair share of school funding per state legislation). The County and the City of Santa Clarita are signatories to the Valley-Wide Joint Fee Resolution. Based on the Newhall Ranch Specific Plan Program EIR and record, the County's Board of Supervisors found that the significant impacts on educational services identified in that EIR were mitigated to below a level of significance by adoption of the specified mitigation measures.[1]

4. EXISTING CONDITIONS

The Newhall School District, Saugus Union School District, and the William S. Hart Union High School District currently provide public elementary, junior high/middle school, and senior high school education for the Mission Village project area. The Newhall and Saugus Districts provide elementary service (grades K–6) as shown in **Figure 4.13-1, School District Boundaries**; while the Hart District provides junior high (grades 7–8) and high school (grades 9–12) service. Current enrollment and design capacities for each of the three districts is addressed below.

a. Newhall School District (Newhall District)

Comprised of nine elementary schools, the Newhall District serves grades K–6 children who reside in the Newhall, Valencia, and Stevenson Ranch areas of the Santa Clarita Valley. The current enrollment and design capacities for the Newhall District are listed in **Table 4.13-1**, **Existing Design Capacities and Enrollments for the Newhall District**.

As indicated on **Table 4.13-1**, there are 10 elementary schools within the Newhall District. Meadows Elementary, Pico Canyon Elementary, and Stevenson Ranch Elementary are operating above their design capacities. Total student capacity within the District is 7,848; this capacity is provided via permanent and temporary (relocatable) classrooms. Total student enrollment in the Newhall District for the 2009–2010 school year is 6,574,[2] which is 84 percent of capacity for the District.

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1 See Mitigation Measures 4.16-1 through 4.16-5 in both the certified Newhall Ranch Specific Plan Program EIR (March 9, 1999) and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

2 Enrollment data provided by Mike Clear, Newhall School District Asst. Superintendent to Business Services as of January 2010 for the 2009–2010 school year on February 22, 2010.

Table 4.13-1
Existing Design Capacities and Enrollments for the Newhall District

School	Grade Levels	Current Enrollment	Design Capacity
McGrath Elementary	K–6	677	720
Meadows Elementary	K–6	625	624
Newhall Elementary	K–6	682	792
Old Orchard Elementary	K–6	550	576
Peachland Elementary	K–6	535	672
Pico Canyon Elementary	K–6	1,001	912
Oak Hills Elementary	K–6	566	984
Stevenson Ranch Elementary	K–6	1,003	960
Valencia Valley Elementary	K–6	660	744
Wiley Canyon Elementary	K–6	775	864
		6,574	**7,848**

Source: Enrollment data as of January 2010 and design capacity provided by Mike Clear, Asst. Superintendent to Business Services, 02/22/2010.

b. Saugus Union Elementary School District

Like other school districts, the Saugus Union Elementary School District has been divided into specific attendance areas. These areas define the geographic attendance limits of each individual school and are adjusted every few years in response to changes in student generation, ethnic balance and other factors. Given the current attendance areas, the project site is located within the service areas of the following Saugus School District public schools as described in **Table 4.13-2, Existing Design Capacity and Enrollments for the Saugus Union Elementary School District.**

Val Verde

Valencia Commerce Center Business Park

Newhall Ranch Specific Plan Boundary

Castaic Creek

Utility Corridor

California Highway Patrol

Utility Corridor

Valencia Industrial Center

CASTAIC UNION ELEMENTARY

Mission Village

SAUGUS UNION ELEMENTARY

NEWHALL ELEMENTARY

River

Clara

Santa

Utility Corridor

Los Angeles County

Ventura County

Westridge

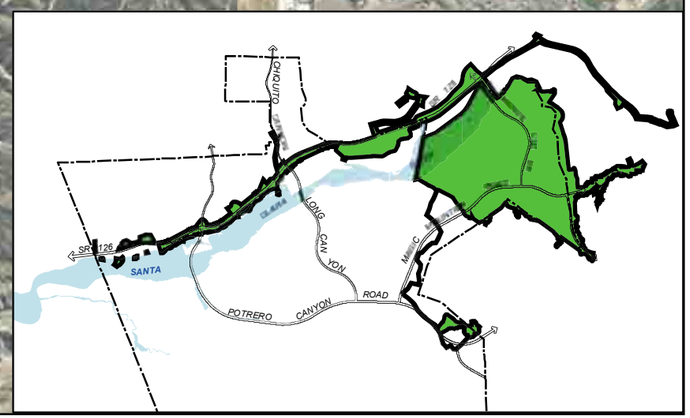
Legend:

- School Distric Boundary
- Mission Village Boundary
- Project Boundary

Note: The William S. Hart Union High School boundary covers the entire Newhall Ranch Specific Plan site.

0.50 0.25 0 0.50

APPROXIMATE SCALE IN MILES



SOURCE: AirPhoto USA – 2006, Los Angeles County May 2006, Impact Sciences, Inc. – August 2010

FIGURE **4.13-1**

School District Boundaries

Table 4.13-2
Existing Design Capacity and Enrollments for the Saugus Union Elementary School District

School	Grade Level	Current Enrollment	Design Capacity
Bridgeport Elementary	K–6	953	950
Cedarcreek Elementary	K–6	600	800
Charles Helmers Elementary	K–6	912	1,035
Highlands Elementary	K–6	638	800
James Foster Elementary	K–6	585	725
Mountainview Elementary	K–6	1,002	1,025
North Park Elementary	K–6	924	930
Plum Canyon Elementary	K–6	711	825
Rio Vista Elementary	K–6	942	1,100
Rosedell Elementary	K–6	678	850
Santa Clarita Elementary	K–6	547	835
Skyblue Mesa Elementary	K–6	480	875
Tesoro Del Valle Elementary	K–6	582	675
West Creek Elementary*	K–6	N/A	775
Total		**9,554**	**12,200**
Schools Closed for the 2010-2011 School Year			
Bouquet Canyon Elementary	K–6	556	625
Emblem Elementary**	K–6	300	950
		856	**1,575**

N/A = not available
* *West Creek Elementary is a new school expected to be opened in fall 2010.*
** *Emblem Elementary School is closed temporarily (school year 2010-2011). This is due to addition of a new classroom building.*
Upon closure of Bouquet Canyon Elementary, students living in the Bouquet Canyon Elementary School neighborhood are assigned to Rosedell Elementary. Students in the Haskell Canyon area are assigned to Foster Elementary. Bouquet students assigned to Foster may transfer to Rosedell to complete their elementary careers. Bouquet students have priority at West Creek during the Open Enrollment period.
Source: Design capacity and 2008-2009 student enrollment information was obtained via electronic communication between Harold Pierre, Director of Facilities Services, and Chris Hampson, Staff Planner Impact Sciences, Inc. on 02/24/10.

As indicated on **Table 4.13-2**, there are 16 elementary schools within the Saugus District. Bridgeport Elementary is the only school operating above its design capacity. Total student capacity within the District is 13,000; this capacity is provided via permanent and temporary (relocatable) classrooms. Total student enrollment in the Saugus District for the 2008–2009 school year was 10,410,[3] which is 80 percent of capacity for the District. The Bouquet Canyon Elementary and Emblem Elementary will be closed at the end of the 2009–2010 school year. West Creek Elementary is scheduled to open in the fall of 2010.

3 Electronic Communication between Harold Pierre, Director of Facilities Services, Saugus Union Elementary School District, and Impact Sciences, Inc., on February 24, 2010.

c. William S. Hart Union High School District (Hart District)

The current enrollment and design capacities for the Hart District high schools are listed in **Table 4.13-3, Existing Design Capacity and Enrollments for the Hart District High Schools**.

Table 4.13-3
Existing Design Capacity and Enrollments for the Hart District High Schools

School	Grade Level	Current Enrollment	Design Capacity
Canyon High	9–12	2,614	2,600
William S. Hart High	9–12	2,222	2,600
Saugus High	9–12	2,560	2,750
Valencia High	9–12	3,462	2,949
Golden Valley High	9–12	2,549	2,385
West Ranch High	9–12	2,724	2,385
	High School Total	16,131	15,669
Arroyo Seco Junior High	7–8	1,300	1,240
La Mesa Junior High	7–8	1,300	1,220
Placerita Junior High	7–8	1,116	1,210
Rio Norte Junior High	7–8	1,192	1,300
Sierra Vista Junior High	7–8	1,248	1,280
Rancho Pico Junior High	7–8	982	1,125
	Junior High Total	7,138	7,375
	District Total	**23,269**	**23,044**

Source: Enrollment and design capacity data provided by Lorna Baril, Senior Administrative Assistant, William S. Hart Union High School District, correspondence to Impact Sciences, Inc., May 7, 2010. Enrollment numbers are current as of March 2010.

As indicated above, there are a total of 11 high schools and six junior high schools within the Hart District. Overall, total student capacity within the Hart District inclusive of junior high and high schools is 23,044. Current total enrollment in the Hart District schools is 23,269 students. The District is operating at a capacity of 101 percent. Specific to the high schools, total high school capacity within the Hart District schools is 15,669.[4] Total student enrollment in the Hart District high schools in March 2010 was 16,131. Overall enrollment in District high schools is greater than total design capacity; however, William S. Hart High and Saugus High are currently operating below individual design capacity, as is Rancho Pico Jr. High. In order to accommodate existing and future students, the Hart District plans to open Castaic High School in fall 2013 or 2014. The design capacity of Castaic High School will be similar to other District high schools.[5]

4 Lorna Baril, William S. Hart Union High School District, electronic correspondence to Impact Sciences, Inc., May 7, 2010.

5 Ibid.

d. School Funding

(1) School Facilities Agreement Between the Newhall School District and Newhall

On December 1, 2009, the Newhall School District entered into a school facilities mitigation and funding agreement with Newhall Land and Farming (Newhall Land) to ensure that development within Newhall Land properties, including Mission Village, either individually or cumulatively with other projects within the District's boundaries, would have no adverse impacts on the District's ability to provide adequate educational opportunities to every student in the District. The agreement establishes the mechanism by which Newhall Land will mitigate the impacts arising from its development projects in order to ensure that school facilities are available for project students. Under the agreement, in lieu of the payment of statutory school fees, Newhall's mitigation obligations will be fully satisfied by providing elementary school sites and necessary funding, and, if agreed by the parties, constructing and equipping one or more of the required elementary schools. The agreement between the District and Newhall Land is referred to as the "Newhall School Facilities Funding Agreement," and is provided in this EIR (**Appendix 4.13**).

(2) School Facilities Agreement Between the Saugus Union School District and Newhall

On February 18, 1997, the Saugus District entered into a school facilities/funding agreement with Newhall Land to ensure that development within the Newhall Ranch Specific Plan, either individually or cumulatively with other projects within District's boundaries, would have no adverse impacts on the District's ability to provide adequate educational opportunities to every student in the District. Under the agreement, Newhall Land will provide the District with school sites and funding towards the design and construction of new elementary schools. In particular, the Financing Schedule and Financing Plan contained in the agreement guarantees to the Saugus District that there will be adequate school facilities available to accommodate every student within the Specific Plan area. The agreement states that the funds and land to be provided to the Saugus District by Newhall constitute the entire extent of Newhall's obligation to provide school facilities for the Specific Plan, inclusive of Mission Village. This agreement is referred to as the "Saugus Union School Facilities Funding Agreement," and is provided in this EIR (**Appendix 4.13**).

(3) School Facilities Funding Agreement Between the William S. Hart Union High School District and Newhall

On October 15, 1998, the Hart District entered into a school facilities funding agreement with Newhall Land, which sets forth Newhall's obligations to mitigate the impacts of the development of Newhall lands, including Mission Village, as to Hart, and the respective obligations of Hart relating to the

provision of school facilities for Newhall students. Under the agreement, Newhall will pay fair-share school impact mitigation payments to the Hart District, and Hart will build as many additional junior and senior high schools as are necessary to house Newhall students. This agreement is referred to as the "Hart School Facilities Funding Agreement," and is provided in this EIR (**Appendix 4.13**).

Compliance with the Hart School Facilities Funding Agreement constitutes the entire extent of the project applicant's obligation to provide the means necessary for the Hart District to provide the school facilities needed to house junior and senior high school students generated by Newhall's projects, inclusive of the proposed Mission Village project. As a result, compliance with the agreement would satisfy all of the proposed project's obligations as to the Hart District with respect to its junior and senior high school impacts, and ensure that the proposed project would have no direct or cumulative impacts on the Hart District. The Hart School Facilities Funding Agreement is grandfathered for purposes of satisfying the provisions of SB 50, and the provisions of the agreement take precedence over any fee limitations imposed by SB 50.

5. PROPOSED PROJECT IMPROVEMENTS

The applicant proposes to develop a total of 4,412 residential dwelling units with a projected total residential population of 10,802; this total includes residents of age-restricted units and a continued-care community.[6] The proposed project also includes approximately 1,555,100 square feet of commercial/mixed use space, an approximate 9.5-acre elementary school, a 20-acre Community Park, a 5-acre Neighborhood Park, one private recreation area, open space, community and local trails, a library site, and roads supporting roadway and infrastructure improvements. Consistent with Section 2.5 (Public Services and Facilities) of the Specific Plan, the Mission Village project includes one of the elementary school sites required by the Newhall Ranch Specific Plan Program EIR and related mitigation program.

The proposed Mission Village Elementary School would be designed for a capacity of 900 students, based on a traditional, single track, nine-month schedule school program. The elementary school would be constructed in accordance with the requirements and specifications contained in the Education Code and the Applicant Handbook for State School Building Lease-Purchase Program published by the Office of Public School Construction, as those requirements and specifications exist at the time of construction. The school would be located on an approximate 9.5-acre site in the central portion of the Mission Village project site with access taken from "EE" Private Drive. This school site is adjacent to an 8.5-acre community recreation center that would be improved and available for joint use with the new elementary school at the time that it opens for operation.

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6 Based upon county of Los Angeles provided estimates of 3.17 persons per single-family dwelling, 2.38 persons per multi-family dwelling and per apartment.

6. PROJECT IMPACTS

The analysis of potential impacts to education facilities associated with construction and operation of the proposed Mission Village project, including the significance criteria applicable to assessing such impacts, follows.

a. Significance Threshold Criteria

According to Appendix G of the *State CEQA Guidelines*, a project would have a significant impact on schools if the project would result in:

- substantial adverse physical impacts associated with the provision of new or physically altered school facilities; or
- the need for new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for school facilities.

b. Impact Analysis

The number of additional students that may be generated by any given development project is determined by the number and type of residential units to be developed. The proposed Mission Village project includes 382 single-family and 4,030 multi-family residential units. As determined in the Newhall School Facilities Funding Agreement and the Saugus Union School Facilities Funding Agreement, age restricted dwelling units (which would be age 55 and over) and continued care retirement community units have been excluded from the analysis as specified in the funding agreements.

The number of students that would be generated by each new housing unit is referred to as the "student generation rate." Student generation rates are largely calculated by categorizing the existing number of students within the particular school district by the type of home in which they live (single family, multi-family, and apartment), and then dividing the total number of students in each category by the total number of homes of each type. Student generation rates per housing type for the Newhall District, Saugus District, and Hart District are provided in **Table 4.13-4, Student Generation Rates**.

Based on the number and type of housing units to be developed by the Mission Village project and the student generation rate for each type of housing unit, the Mission Village project would generate a total of 969 elementary students, 187 junior high school students, and 321 senior high school students (minus age restricted units) (see **Appendix 4.13** for calculations). Impacts on the Newhall District, Saugus District, and Hart District as a result of the Mission Village project are discussed below.

Table 4.13-4
Student Generation Rates

School District	Student Generation Rate		
	Single-Family	Multi-Family	Apartment
Newhall Elementary[1]	0.502	0.285	0.169
Saugus Elementary[2]	0.450	0.200	0.197
Hart Jr. High[3]	0.1270	0.0429	--
Hart Senior High[4]	0.2386	0.0714[3]	--

[1] *Mike Clear, Newhall School District, Asst. Superintendent to Business Services, telephone communication with Impact Sciences, Inc., February 22, 2010.*

[2] *Harold Pierre, Saugus Union School District, Director of Facilities, telephone communication with Impact Sciences, Inc., February 22, 2010. Multi-family rate includes multi-family attached.*

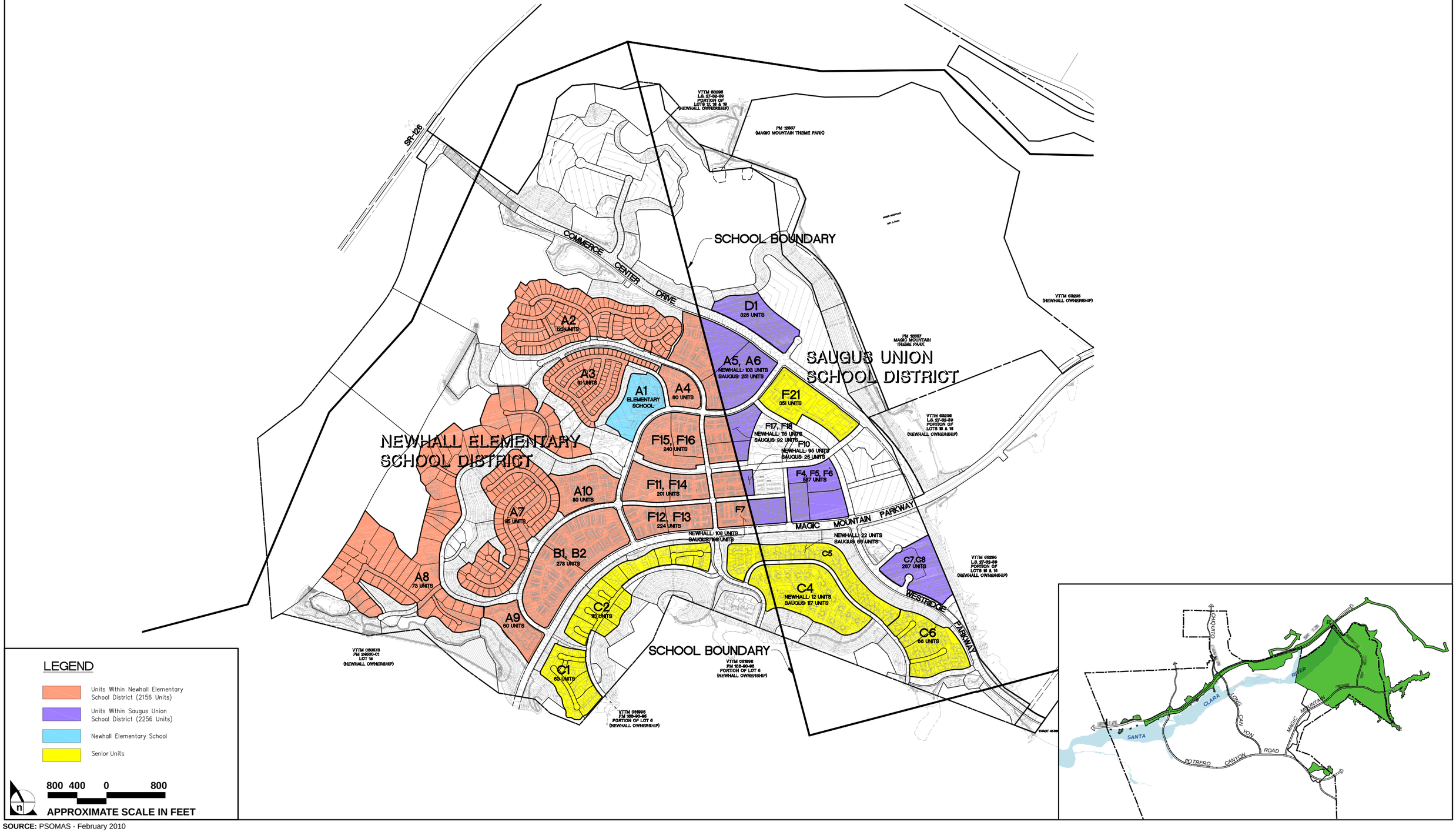
[3] *Lorna Baril, William S. Hart Union High School District, telephone correspondence to Impact Sciences, Inc., November 16, 2009.*

[4] *For a conservative analysis, student generation for Hart Senior High has been calculated on the following basis: 382 single-family units at 0.2386 single family detached generation rate, and 4,030 multi-family and apartment units at the 0.0875 single-family attached generation rate.*

(1) Project Impacts to Newhall and Saugus School Districts

In accordance with the provisions of the Newhall School Facilities Funding Agreement and the Saugus School Facilities Funding Agreement, the approximately 969 elementary students (638 students for Newhall District and 331 students for Saugus District) generated by the Mission Village project would likely attend Oak Hills Elementary School, Bridgeport Elementary, and West Creek Elementary (according to paragraph 1 of the Saugus Newhall Agreement) until the number of elementary students generated within the Mission Village Planning Area reaches 300 students. Under the agreements, at the time 300 students are generated, the proposed Mission Village Elementary School would open and accommodate K–6 students. The Mission Village project site currently is bisected by Newhall District and Saugus District boundaries, shown in **Figure 4.13-2, Planning Area School Boundary**.

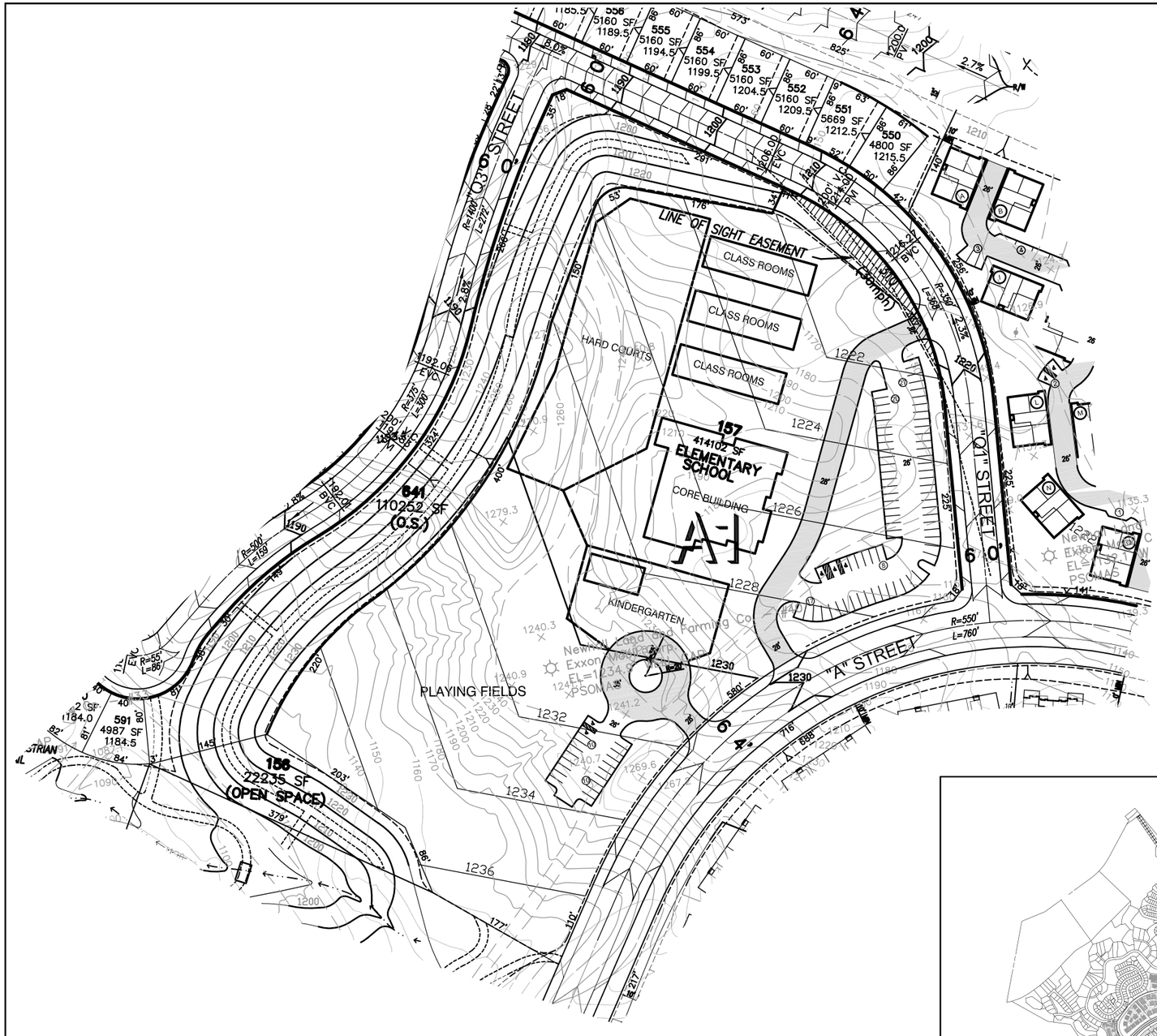
Children of elementary school age will attend schools within the school district in which they reside. Initially, children will attend existing schools within their respective Districts. Children within Newhall District initially will attend the Oak Hills School in Westridge located to the south of the project. In accordance with the Agreements, certain student generation numbers would trigger the requirement that the project applicant provide ready-to-build school sites. In the case of Newhall District, as noted above, the proposed project includes a 9.5-acre site for a school on the Mission Village site in Planning Area A. **Figure 4.13-3, Conceptual Site Plan – Newhall School District Elementary School,** depicts the conceptual plan for the school.

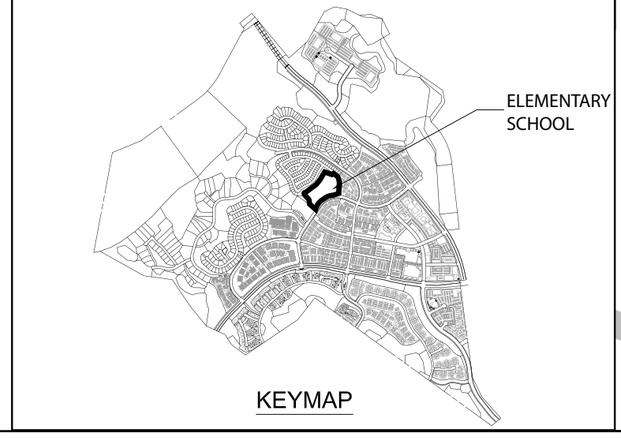


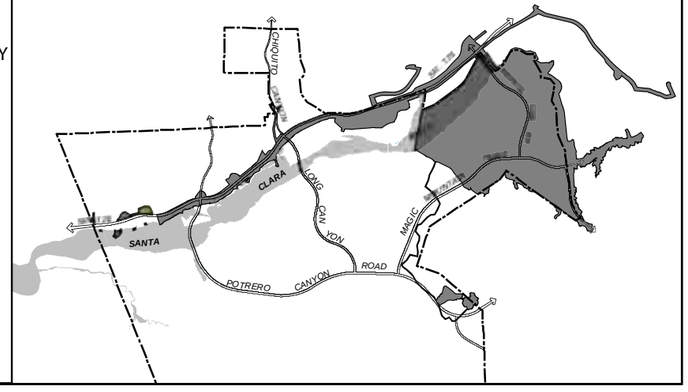
SOURCE: PSOMAS - February 2010

FIGURE **4.13-2**

Planning Area School Boundary







SOURCE: PSOMAS – February 2010

FIGURE **4.13-3**

Conceptual Site Plan - Newhall School District Elementary School

The Saugus District will determine which of the existing schools within its district the children from Mission Village will attend. A Saugus District school is proposed on a planned 7.0 acre site in the adjacent Entrada Community (VTTM 53295). (See **Figure 4.13-4, Conceptual Site Plan – Saugus Union School District Elementary School**.)

Oak Hills Elementary School is located at 26730 Old Rock Road in Valencia, approximately 2.1 miles south-southeast of the project site. Because this school is located over 2 miles from the Mission Village project site, students would require busing. Oak Hills Elementary School has a permanent capacity of 984 students. Student enrollment for calendar year 2009–2010 is 566; therefore, this school is currently operating within design capacity.

Bridgeport Elementary School is located at 23670 Newhall Ranch Road, Santa Clarita, approximately 2.8 miles east of the eastern project boundary. Because this school is located over 2 miles from the Mission Village project site, students would require busing. Bridgeport Elementary School has a permanent capacity of 950 students. Student enrollment for calendar year 2008-2009 was 953; therefore, this school is currently operating over capacity by three students. West Creek Elementary is located at 28767 West Hills Drive, Valencia, approximately 3.0 miles north-northeast of the eastern project boundary. Because this school is located over 2 miles from the Mission Village project site, students would require busing. West Creek Elementary School will open fall 2010 with a permanent capacity of 775 students. Due to budget cuts for the Newhall District, classroom sizes would increase to a 30:1 (student:teacher) ratio.[7] Given the distance of Oak Hills Elementary School, Bridgeport Elementary School, and West Creek Elementary School from the Mission Village site, and the facilities' agreement requirement that Mission Village Elementary School open when a total of 300 Mission Village elementary school students are generated, impacts to the Newhall District's and Saugus District's elementary schools would be less than significant.

(2) Project Impacts to the William S. Hart Union School District

The proposed Mission Village project would generate approximately 187 students in grades 7–8. The Hart District would serve these students. Depending upon the year in which the junior high/middle school students are generated from the Mission Village project, the junior high/middle school students would attend Rancho Pico Junior High School. Rancho Pico Junior High School is located at 26250 Valencia Boulevard in Stevenson Ranch, approximately 5.5 miles southeast of the project site. Because this school is located over 2 miles from the Mission Village site, students would require busing. Rancho Pico Junior High has a permanent capacity of 1,125 students. Student enrollment for calendar year 2009-2010 is 982; therefore, this school is currently operating within capacity. Rio Norte Junior High has a

7 Newhall School District, "Further Budget Reduction Considerations After Initial Recommended Cuts and Shifts on February 16, 2010," http://www.newhallschooldistrict.net/index.php?option=com_content&task=view&id=113&Itemid=1. Accessed on March 12, 2010.

permanent capacity of 1,300 students. Student enrollment for calendar year 2009–2010 is 1,192; therefore, this school is currently operating within capacity. Placerita Junior High has a permanent capacity of 1,210 students. Student enrollment for calendar year 2009-2010 is 1,192; therefore, this school is currently operating within capacity.

The enrollment of an additional 187 junior high students generated by the proposed project would result in an exceedance of the design capacity of Ranch Pico Junior High School. In order to accommodate existing and future students, the remaining junior high students not attending Rancho Pico Junior High would initially attend Rio Norte Junior High and Placerita Junior High, each of which has additional capacity. Therefore, impacts on the Hart District junior high schools would be less than significant.

The proposed Mission Village project would generate approximately 321 senior high school students. The Hart District would serve these students. Depending upon the year in which high school students are generated from the Mission Village project, the high school students would initially attend West Ranch High School (on the Rancho Pico Junior High School campus, which is currently operating within capacity).

Currently, grades 9–12 in the Mission Village project area are served by West Ranch High School (which is eight students in excess of capacity). West Ranch High School is located at 26255 W. Valencia Boulevard in Stevenson Ranch, approximately 5.5 miles south of the project site. Because this school is located more than 2 miles from the project site, busing may be necessary for these students. West Ranch High School has a permanent design capacity of 2,600 students. The Hart District is in the process of locating a site for a high school in the Castaic area, and the proposed Mission Village project would eventually (after 2012) be served by that high school. In order to accommodate existing and future students, the Hart District plans to open Castaic High School, which is scheduled to open in fall 2013 to start accepting ninth grade students.[8] The design capacity of Castaic High School will be similar to other District high schools. General redrawing of school district boundaries would occur once Castaic High School is open for enrollment.[9]

Under the Hart School Facilities Funding Agreement, Newhall would provide up to three additional junior high schools and two high schools to the Hart District that would ensure adequate school capacity to serve the Mission Village project and other Newhall projects. As a result, no significant project impacts on the Hart District's school facilities would occur.

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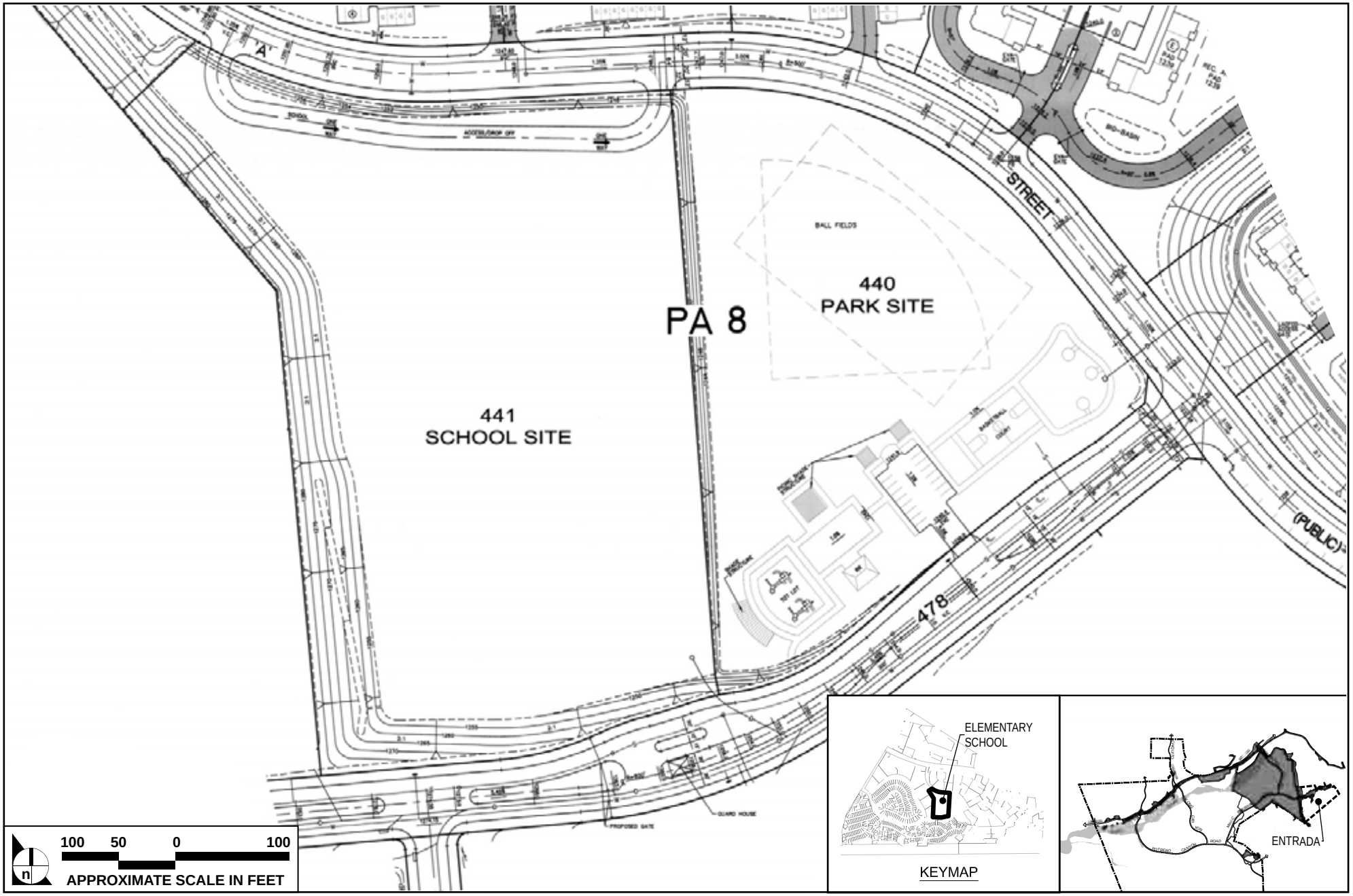
8 Pat Willet, William S. Hart Union High School District, Community Liaison Officer, telephone communication with Impact Sciences, Inc., February 22, 2010.

9 Ibid.



SOURCE: Alliance Engineering – February 2010

FIGURE **4.13-4**

Conceptual Site Plan - Saugus Union School District Elementary School

(3) Construction-Related Impacts

Any potential adverse physical effects on the environment associated with construction of the Mission Village Elementary School are analyzed in **Section 4.0, Environmental Impact Analysis**, of this EIR.

7. MITIGATION MEASURES

Although the proposed Mission Village project may result in potential impacts relative to education absent mitigation, the County previously adopted mitigation measures required to be implemented as part of the Newhall Ranch Specific Plan. These mitigation measures, as they relate to education, are found in the certified Newhall Ranch Specific Plan Program EIR (March 8, 1999) and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). The project applicant has committed to implementing the applicable mitigation measures from the Newhall Ranch Specific Plan to ensure development of the project site would not result in significant impacts relative to education.

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as they Relate to the Mission Village Project

The following mitigation measures (Mitigation Measure Nos. 4.16-1 through 4.16-5) were adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). The applicable mitigation measures will be implemented to mitigate the potentially significant impacts to education facilities associated with the proposed Mission Village project. These measures are preceded by "SP," which stands for Specific Plan.

SP 4.16-1 The Specific Plan developer shall reserve five elementary schools sites, one junior high school site and one high school site, of 7 to 10, 20 to 25, and 40 to 45 acres in size, respectively, depending upon adjacency to local public parks and joint use agreements. *(The Mission Village project includes the reservation of a 9.5-acre elementary school site.)*

SP 4.16-2 The developer of future subdivisions which allow construction will comply with the terms and conditions of the School Facilities Funding Agreement between The Newhall Land and Farming Company and the Newhall School District. *(This measure is applicable to the Mission Village project.)*

SP 4.16-3 The developer of future subdivisions which allow construction will comply with the terms and conditions of the School Facilities Funding Agreement between The Newhall Land and Farming Company and the William S. Hart Union High School District. *(This measure is applicable to the Mission Village project.)*

SP 4.16-4 The developer of future subdivisions which allow construction will comply with the terms and conditions of the School Facilities Funding Agreement between The Newhall Land & Farming Company and the Castaic Union School District (*Only the Newhall,*

Saugus and Hart School Districts are impacted by the Mission Village project. Therefore this mitigation measure is not applicable to the Mission Village project.)

SP 4.16-5 In the event that school district boundaries on the Specific Plan site remain unchanged, prior to recordation of all subdivision maps which allow construction, the developer of future subdivisions which allow construction is to pay to the Castaic Union School District the statutory school fee for commercial/industrial square footage pursuant to Government Code Sections 65995 and 65996, unless a separate agreement to the contrary is reached with the district (*Only the Newhall, Saugus and Hart School Districts are impacted by the Mission Village project. Therefore this mitigation measure is not applicable to the Mission Village project*).

b. Additional Mitigation Measures Proposed by this EIR

Implementation of the above Specific Plan mitigation measures as part of the proposed Mission Village project, in combination with the following additional mitigation measure, would mitigate all impacts to school facilities to below a level of significance. The measure is preceded by "MV," which stands for Mission Village.

MV 4.13-1 The developer of future subdivisions which allow construction will comply with the terms and conditions of the School Facilities Funding Agreement between The Newhall Land and Farming Company and the Saugus Union School District.

8. CUMULATIVE IMPACTS

As required by CEQA, the cumulative impact on schools caused by the project and other related future residential development is assessed in this section. In order to improve the accuracy of estimates of future residential development, the amount of future residential development within the Districts was analyzed under two different scenarios: (a) DMS Build-Out Scenario which includes only pending, recorded and approved residential projects involving land divisions located in the affected school districts; and (b) Santa Clarita Valley Cumulative Build-Out Scenario, a more extensive scenario that anticipates full buildout of both the project and all lands under the current land use designations indicated in the Santa Clarita Valley Area Plan and the Los Angeles County General Plan, plus all known active pending General Plan Amendment requests for additional urban development in the unincorporated area of Santa Clarita Valley and the City of Santa Clarita. Each scenario is discussed below.

a. DMS Build-Out Scenario

The DMS Build-Out Scenario assumes complete buildout of the Mission Village project and those subdivision projects listed in the County's DMS for the Newhall District, Saugus District, and the Hart District. The County's DMS data used for this analysis includes all pending, recorded and approved

residential projects involving land divisions located in these three school districts. Copies of the County DMS Inventory Information reports for the three school districts are included in this EIR (**Appendix 3.0**).

A summary of projected future development within each school district under the DMS Build-Out Scenario is presented in **Table 4.13-5, Summary of Cumulative Projects by School District – DMS Build-Out Scenario (Pending, Approved, and Recorded Projects)**. As shown, the elementary schools in the Newhall and Saugus Districts serve a smaller number of cumulative residential units than the junior and senior high schools in the Hart District. This variation exists because four school districts in the Santa Clarita Valley serve grades K–6 students (Castaic, Newhall, Saugus, and Sulphur Springs), while only two districts serve grades 7–8 students (Castaic, and Hart District), and only one district serves high school students (Hart District).

Table 4.13-5
Summary of Cumulative Projects by School District – DMS Build-Out Scenario
(Pending, Approved, and Recorded Projects)

School District	Residential Units		
	Single-Family	Multi-Family[1]	Total Units
Newhall Elementary			
Cumulative Projects	4,692	3,406	8,098
Proposed Project	382	1,564	1,946
Total	5,074	4,970	10,044
Number of Students Generated[3]	*2,547*	*1,416*	*3,964*
Saugus Elementary			
Cumulative Projects	10,750	5,193	15,943
Proposed Project	0	1,656	1,656
Total	10,750	6,849	17,599
Number of Students Generated[3]	*4,838*	*1,370*	*6,207*
William S. Hart Jr. High			
Cumulative Projects	18,876	10,801[2]	29,677
Proposed Project	382	3,220	3,602
Total	19,258	14,021	33,279
Number of Students Generated[3]	*2,446*	*602*	*3,047*
William S. Hart Sr. High			
Cumulative Projects	23,726	13,557[2]	37,283
Proposed Project	382	3,220	3,602
Total	24,108	16,777	40,885
Number of Students Generated[3]	*5,752*	*1,198*	*6,950*

Source: Los Angeles County Department of Regional Planning, Service Provider Report (April 23, 2003).
Note: Proposed numbers do not add up to the total number of dwelling units on the project site (4,412) because age-restricted units were not included in the school generation impacts

[1] *Includes apartments.*
[2] *Includes 273 mobile home units.*
[3] *Student Generation Rates are included in **Appendix 4.13**.*

Under the DMS Build-Out Scenario (including the proposed project), there would be an additional 10,171 elementary school students, 3,047 junior high school students and 6,950 senior high school students that would need to be served by the Newhall District, Saugus District, and Hart District (student generation calculations are provided in **Appendix 4.13**). Based on an elementary school classroom size of 20 and a junior and senior high school classroom size of 32, these students would require a total of 509 additional elementary school classrooms, 95 additional junior high school classrooms, and 217 additional senior high school classrooms.

Although the Newhall School District total current enrollment is below design capacity, given that some of the existing schools in the district are already operating above design capacity, and the new elementary school would not have enough capacity to serve an additional 10,171 elementary students, the impacts of cumulative development to the Newhall and Saugus Districts under this scenario would be significant if no additional school facilities were built to accommodate the future development.

The Hart District will construct two new high schools with a combined capacity of 5,200 students. These schools are being funded primarily through SB 50 and Hardship funds under SB 50. Although the District total current enrollment is above design capacity, given that existing schools in the district are already operating above design capacity, and that the new Castaic High school would not have enough capacity to serve the projected additional junior and high school students, the impacts of cumulative development to the Hart District under this scenario would be significant if no additional school facilities were built to accommodate the future development.

b. Santa Clarita Valley Cumulative Build-Out Scenario

The Santa Clarita Valley Cumulative Build-Out Scenario entails full buildout of both the project and all lands under the current land use designations indicated in the Santa Clarita Valley Area Plan and the Los Angeles County General Plan, plus all known active pending General Plan Amendment requests for additional urban development in the unincorporated area of Santa Clarita Valley and the City of Santa Clarita. A list of the future development activity (with and without the project) expected in the region under the Santa Clarita Valley Cumulative Build-Out Scenario is presented below in **Table 4.13-6**, **Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario.**

Table 4.13-6
Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario

Land Use Types	Cumulative Buildout w/o Project[1]	Project	Cumulative Buildout w/ Mission Village[1]
Single-Family	93,412 du	382 du	93,794 du
Multi-Family	47,621 du	4,030 du	51,651 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	18,866,030 sq. ft.	1,555,100 sq. ft.	20,421,130 sq. ft.
Hotel	2,071 room		2,071 room
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	278,590 students	1,156 students	279,746 students
High School	12,843 students	321 students	13,164 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	171,790 sq. ft.		171,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufacture/Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,209.0 ac		1,209.0 ac
Developed Parkland	477.3 ac	25 ac	502.3 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; sta = staff; ac = acres; sg = special generator

[1] *Santa Clarita Valley Consolidated Traffic Model, (November 2002). Includes existing development, buildout under the existing City of Santa Clarita General Plan, Santa Clarita Valley Area Plan, and active pending General Plan Amendment requests.*

[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, California Highway Patrol (CHP) Office, and Aqua Dulce Airport.*

The focus of this cumulative impact analysis is on determining whether the cumulative increase in the residential population from Valley buildout, in combination with the project, would adversely impact the affected school districts that serve the residents of the Santa Clarita Valley (i.e., Castaic, Newhall, Saugus, Sulphur Springs, and Hart District). Therefore, the number of students generated by the Santa Clarita Valley Cumulative Buildout Scenario are analyzed below, in **Table 4.13-7**, **Student Generation as a Result of Cumulative Projects.**

Table 4.13-7
Student Generation as a Result of Cumulative Projects

School Districts	Single-Family			Multi-Family			Mobile Homes			Total Students	Number of Classrooms
	Units	Per Unit Rate	Students Generated	Units	Per Unit Rate	Students Generated	Units	Per Unit Rate	Students Generated		
ELEMENTARY											
Newhall (K–6)	13,771	0.502	**6,913**	10,163	0.285[1]	**2,896**	1,497	0.227[1]	**340**	10,149	507
Saugus (K–6)	23,241	0.450	**10,458**	6,963	0.200	**1,393**	50	0.198[2]	**10**	11,861	593
Castaic (K–5)	31,744	0.357	**11,333**	22,349	0.205	**4,582**	25	0.188[3]	**5**	15,919	796
Sulphur Springs (K–6)	21,666	0.336	**7,280**	9,283	0.336	**3,119**	1,219	0.336	**410**	10,808	540
Elementary Totals	90.422		**35,984**	48,758		**11,990**	2,791		**765**	**48,738**	**2,437**
JR. HIGH SCHOOL											
Hart Jr. (7–8)	54,065	0.1270	**6,866**	23,697	0.0429	**1,017**	2,123	0.0850[4]	**180**	8,063	252
Castaic (6–8)	22,381	0.164	**3,670**	16,001	0.0740	**1,184**	25	0.0825[5]	**2**	4,857	152
Jr. High Totals	76,466		**10,537**	39,698		**2,201**	2,148		**182**	**12,920**	**404**
SR. HIGH SCHOOL											
Hart Sr. (9–12)	83,212	0.2386	**19,854**	45,163	0.0714	**3,225**	2,123	0.0796[6]	**169**	23,248	726
Sr. High Totals	83,212		**19,854**	45,163		**3,225**	2,123		**169**	**23,248**	**726**
Total[7]			**66,375**			**17,415**			**1,115**	**84,905**	**3,567**

[1] *Mobile home student generation rate is the midpoint between the multi-family rate of 0.285 and the apartment rate of 0.169 for Newhall Elementary Schools.*
[2] *Mobile home student generation rate is the midpoint between the multi-family rate of 0.200 and the apartment rate of 0.197 for Saugus Elementary Schools.*
[3] *Mobile home student generation rate is the midpoint between the multi-family rate of 0.205 and the apartment rate of 0.170 for Castaic Union Elementary Schools.*
[4] *Mobile home student generation rate is the midpoint between the single-family rate of 0.1270 and the multi-family rate of 0.0429 for Hart Junior High School.*
[5] *Mobile home student generation rate is the midpoint between the multi-family rate of 0.0740 and the apartment rate of 0.0910 for Castaic Union Middle Schools.*
[6] *Mobile home student generation rate is the midpoint between the single-family attached rate of 0.0875 and the multi-family rate of 0.0714 for Hart Senior High School.*
[7] *Assumes 20 students per classroom for the Newhall, Saugus Union, Castaic Union and Sulphur Springs Union School Districts (all elementary schools as well as Castaic Jr. High (6-8)) and 32 students per classroom for the William S. Hart Union High School District (Hart Jr. and Sr. High).*
[8] *Due to overlap of district boundaries, residential unit categories cannot be totaled.*

As shown in **Table 4.13-7**, cumulative development under the Santa Clarita Valley Cumulative Build-Out Scenario would generate 48,738 elementary school students, 12,920 junior high school students, and 23,248 senior high school students that would need to be accommodated by all of the school districts in the Santa Clarita Valley. Capacity for these students has yet to be planned in the school districts that serve the Santa Clarita Valley and, unless they can be accommodated, this scenario would result in a significant impact.

Thus, there would be a cumulative impact under both the DMS Build-Out Scenario and the Santa Clarita Valley Cumulative Build-Out Scenario if the projects projected for future development do not contribute their fair share to mitigate school facility impacts. However, due to the Specific Plan mitigation measures discussed above, which include school facilities/funding agreements in place with the respective school districts, the Mission Village project would not contribute to the identified cumulative impacts on school facilities in the Santa Clarita Valley; and therefore, would not result in a cumulatively considerable impact. Additionally, because such funding mechanisms will be implemented for each new residential development in the Santa Clarita Valley impacts on schools caused by other future residential development also would be mitigated to less than significant levels.

9. CUMULATIVE MITIGATION MEASURES

Because the proposed project would not result in significant cumulative impacts, no further mitigation is required.

10. SIGNIFICANT UNAVOIDABLE IMPACTS

a. Project Specific Impacts

By complying with the provisions of the School Facilities Funding Agreements between Newhall and the Newhall, Saugus, and Hart Districts, and the above mitigation measures, project impacts on school facilities would be reduced to below a level of significance. Therefore, no significant unavoidable project impacts would occur.

b. Cumulative Impacts

By complying with existing school facilities/funding agreements and/or other mechanisms (e.g., SB 50, the Valley-Wide Joint Fee Resolution, or new school facilities/funding agreements), cumulative development within the Santa Clarita Valley would reduce identified cumulative impacts on school facilities to below a level of significance. In addition, the Mission Village project impacts on school facilities in the valley, have been fully mitigated. Therefore, there are no significant unavoidable cumulative impacts on school facilities resulting from implementation of the proposed project.

4.14 PARKS AND RECREATION

1. SUMMARY

The proposed Mission Village project includes a 20-net acre public Community Park, which is consistent with the Specific Plan's Land Use Overlay Community Park designation for the area and would be located along the eastern side of the proposed Commerce Center Drive near the eastern site boundary. It should be noted that the park locations in the Newhall Ranch Specific Plan are overlay designations. The overlay designation allows park location flexibility to situate parks in the best locations to serve future residents as the property develops over time. The proposed project also includes a 5-acre public neighborhood park, 6.9-acre private Community Recreation Center, 4.6 acres of private recreation area, and 2.9-acre private park. The proposed project further provides a hierarchy of community, local and pathway trails, as identified in the Specific Plan, connecting to the Specific Plan's Regional River Trail, which traverses the Santa Clara River. These trails include 18,980 linear feet of community trails, 12,900 linear feet of local trails, and 9,200 linear feet of pathways (7.5 miles of trails). In addition, the project includes 217 acres of River Corridor dedication. The Specific Plan allows a 10 percent (21.7 acres) park land credit for River Corridor dedication. In sum, the proposed project includes a total of 70.4 acres of park and recreational space.

Implementation of these project components would result in a parkland provision equivalent to approximately 9.4 acres per 1,000 persons, which is greater than the Los Angeles County (County) and Quimby Act requirements of 3.0 acres per 1,000 persons. The basic Quimby Act park land obligation for the proposed project is 29.7 net acres of park land; pursuant to the Newhall Ranch Specific Plan, the 71.86 acres by which the proposed project exceeds its Quimby obligation will be credited against other subdivisions within the Specific Plan area. Measured against the identified significance thresholds, the proposed Mission Village project meets County parkland requirements, exceeds Quimby Act parkland standards, and would not result in significant impacts to local parks and recreation facilities by causing substantial physical deterioration to existing recreational facilities. Additionally, the proposed project does not include recreational facilities, or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

Implementation of cumulative projects would incrementally increase demand for local park facilities. However, the proposed project would meet County parkland requirements and exceed the Quimby Act parkland standards. Further, future development projects would be subject to the Quimby Act and County requirements, which would mitigate the demand associated with each future project. As a result, no significant cumulative impacts on County parks and recreation facilities would occur with implementation of the proposed project.

Because the proposed Mission Village project meets the County parkland requirements and exceeds the Quimby Act requirements, no further mitigation measures are required for the proposed project beyond those adopted as part of the Newhall Ranch Specific Plan.

2. BACKGROUND

a. Relationship of Project to Newhall Ranch Program EIR

Section 4.20 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with parks, recreation, and trails for the entire Newhall Ranch Specific Plan. The Newhall Ranch EIR mitigation program was adopted by the County in findings and in the revised Mitigation Monitoring Plan for the Specific Plan. The Newhall Ranch Program EIR concluded that Specific Plan implementation would not result in significant impacts to parks, recreation, and trails, because the Specific Plan set aside sufficient active and passive park space, trails, and open space to meet County and Quimby Act standards. All subsequent project-specific development plans and tentative subdivision maps must be consistent with the Newhall Ranch Specific Plan, the County of Los Angeles General Plan, and Santa Clarita Valley Area Plan.

This project-level EIR is tiering from the previously certified Newhall Ranch Specific Plan Program EIR. This section discusses the Mission Village project's existing conditions, impacts on parks, recreation and trails, applicable mitigation measures from the Newhall Ranch Specific Plan Program EIR, and any mitigation measures recommended by this EIR for the Mission Village project.

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

The Newhall Ranch Specific Plan Program EIR identified certain potentially significant impacts related to parks, recreation, and trails if the Specific Plan were implemented absent mitigation. It was determined that buildout of uses within Newhall Ranch would result in an on-site population of 59,707 residents and, in response to the demand for population-generated parkland, the Specific Plan included land for community and neighborhood parks (186 acres and 55 acres, respectively). The Specific Plan also set aside 4,214 acres of land in the High Country Special Management Area (SMA), and 819 acres of land within the River Corridor SMA, for a total of approximately 5,033 acres in the two designated SMA areas (i.e., permanent open areas). Improvements to community and neighborhood parks were also required under the Specific Plan.[1] The County's Board of Supervisors found that these community and

[1] See Specific Plan, Section 2.8, Recreation and Open Area, p. 2-145, including the calculation of the neighborhood and community park improvement costs, as shown on p. 2-144 in Table 2.8-1.

neighborhood park improvements represented significant public benefits, which were above and beyond the mitigation required by the California Environmental Quality Act (CEQA), or the exactions required of other development.[2]

The Specific Plan included a hierarchy of regional, community and other trails, along with the accelerated dedication of both the High Country SMA and the multi-use trail within the High Country SMA.

Based on the Newhall Ranch Specific Plan Program EIR, the record, and given that the Specific Plan exceeded Quimby Act requirements, the County's Board of Supervisors found that the Specific Plan's impacts to County parks, recreation and trails would remain less than significant with mitigation and the significant public benefits provided.

In summary, the Specific Plan's mitigation program required the Newhall Ranch Specific Plan to provide the following acreages of parks and open areas:[3]

(a) Ten public Neighborhood Parks totaling 55 acres;

(b) Open Areas totaling 1,106 acres, of which 186 acres are Community Parks;

(c) High Country SMA of 4,214 acres;

(d) River Corridor SMA of 819 acres;

(e) A 15-acre lake;

(f) An 18-hole golf course; and

(g) A trail system consisting of:

  (i) Santa Clara River Trail;

  (ii) Salt Creek Corridor

  (iii) Community Trails;

  (iv) Local Trails;

  (v) Pathways; and

  (iii) Unimproved Trails.

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2 See Additional CEQA Findings and Statement of Overriding Considerations for Newhall Ranch, dated May 2003, specifically, pp. 81-82, para. 11, of the adopted Statement of Overriding Considerations.

3 See Mitigation Measures 4.20-1 through 4.20-3 in both the certified Newhall Ranch Program EIR (March 9, 1999) and adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

The Specific Plan mitigation required the applicant to finalize the alignment of trails with the County Department of Parks and Recreation prior to construction. Trail construction must be in accordance with the County's Department of Parks and Recreation trail system guidelines.

In addition to the above mitigation measures, the Specific Plan's Neighborhood Parks and active areas of the Community Parks are required to be improved pursuant to the Specific Plan's list of specified park improvements. The park improvements are required to be provided in accordance with final park plans approved by the County's Department of Parks and Recreation.[4] These park improvements were identified as significant public benefits to be provided under the Specific Plan.[5]

Finally, the Board of Supervisors imposed a Condition of Approval on approximately 1,517 acres of land encompassing the Salt Creek watershed in Ventura County that requires the property to be dedicated in fee and/or by conservation easement, as determined by Ventura County in its sole discretion, to the joint powers authority responsible for overall recreation and conservation of the Newhall Ranch High County SMA. Said land is to be managed in conjunction with, and in the same manner as, the High Country SMA.

4. EXISTING CONDITIONS

a. Los Angeles County Park and Recreation Standards

The County of Los Angeles Department of Parks and Recreation provides local parks and recreation facilities for northwestern Los Angeles County residents living in unincorporated areas, and provides regional parks for all area residents. The County's Department of Parks and Recreation has identified the local parks in the vicinity as neighborhood, community, or regional facilities.[6]

Neighborhood parks are usually 5 acres or more, and are often sited in residential neighborhoods adjacent to elementary schools. They may provide amenities, such as a recreation building, a multi-purpose field, hard court area, play apparatus, picnic passive area, and a service area. Community parks are usually 16 acres or more, unless located adjacent to a secondary school when 10 acres or more may be adequate. They may provide amenities, such as a community building, swimming pool, multi-purpose fields, hard court areas, parking service areas, and play apparatus.[7] Regional facilities include community

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4 See revised Specific Plan (May 2003), Section 2.8, Recreation and Open Area, p. 2-145.

5 See Additional CEQA Findings and Statement of Overriding Considerations for Newhall Ranch, dated May 2003, specifically, pp. 81–82, paragraph 11, of the adopted Statement of Overriding Considerations.

6 James Barber, Los Angeles County Department of Parks and Recreation, communication to Impact Sciences, Inc., July 12, 2004.

7 Los Angeles County Department of Parks and Recreation, Park Facilities and Areas of Jurisdiction, (Los Angeles, California: September 1992), Forward.

regional parks, regional parks, recreation areas, nature preserves, trails, and golf courses. Regional facilities are intended to provide recreational opportunities for a larger group of citizens than neighborhood or community parks.

In the State of California, a city or county may require, as a condition of subdivision approval, the dedication of land, or the payment of a fee in lieu of dedication, or a combination of both, for park and recreational purposes (Gov. Code, section 66477). Under this law, known as the "Quimby Act," the general standard established for parkland dedication is 3 acres per 1,000 persons, unless the amount of existing neighborhood and community parkland in the area exceeds this limit, in which case a local agency may set a higher standard, not to exceed 5 acres per 1,000 persons.[8]

The County has adopted a Quimby Act ordinance that requires a residential subdivider to "provide local park space to serve the subdivision, pay a fee in lieu of the provision of such parkland … provide local park space containing less than the required obligation but developed with amenities equal in value to the park fee, or do a combination of the above."[9] To meet this requirement, the County has identified several types of park and recreation facilities that may satisfy projected needs and are eligible for Quimby credit, including, but not limited to, "publicly or privately owned playgrounds, riding and hiking trails, tennis, basketball or other similar game-court areas, swimming pools, putting greens, athletic fields, picnic areas, and other types of natural or scenic areas as recommended by the director of parks and recreation for passive or active recreation."[10]

Under the County's ordinance, the amount of parkland acreage required from each subdivision is calculated prior to tentative map approval, based on a specific formula that takes into account the number, type (i.e., detached single-family, attached single-family, apartment houses with five or more dwelling units and mobile homes), and average household size of residences approved for that subdivision.[11]

If the parkland requirement is not met by the provision of local park space, the County requires an in-lieu payment, based on a representative land value that is set for each park planning area in the County. For

8 Gov. Code, Section 66477(a)(2).

9 Los Angeles County Ordinance Section 21.24.340(A).

10 Los Angeles County Ordinance Section 21.24.340(C).

11 Los Angeles County Ordinance Section 21.24.340(A); see also Los Angeles County Ordinance Section 21.24.350.

the proposed project, located in Park Planning Area 35A - Valencia/Newhall, the County has established a representative in-lieu fee of $291,767 per acre.[12]

b. Existing County and City Parks

The project site is located within Los Angeles County designated Park Planning Area 35A. Park Planning Area 35A encompasses nearly the entire Santa Clarita Valley, from Sand Canyon on the east to the Los Angeles County/Ventura County line on the west, and from the Angeles National Forest on the north to the crest of the Santa Susana Mountains on the south. The communities within this area include Castaic, Hasley Canyon, Val Verde, Valencia, Newhall, Saugus, and Canyon Country. There are no existing public parks or trails within the project site boundaries; however, there are several existing and proposed parks in the vicinity of the project site. Such facilities include parks maintained by the County of Los Angeles, City of Santa Clarita, Ventura County, State of California, and federal government. A description of the County and City parks within the vicinity of the proposed project follows; descriptions of the other jurisdictional parks are provided in the following subsections.

(1) County Parks

The County maintains 14 developed parks totaling approximately 1,485.6 acres within the vicinity of the project site, in addition to the 8,700-acre Castaic Lake State and County Recreation Area and the 341-acre Placerita Canyon Park, a state park operated by the Los Angeles County Department of Parks and Recreation. County parks are shown on **Figure 4.14-1, County and State Park Facilities**. The majority of these facilities are developed and contain amenities, such as children's play areas, multi-purpose fields, recreation/activity buildings, sand volleyball courts, picnic tables, etc. **Table 4.14-1, Existing and Proposed County Parks and Recreation Facilities in Portions of Park Planning Area 35A near Mission Village**, provides information on County parks within the vicinity of the project site. In addition to the developed parks, the County has approximately 194.1 acres of proposed parkland. Specific County parks of note include the 57.6-acre Val Verde Community Regional Park in proximity to the project site, the 8,700-acre Castaic Lake State and County Recreation Area, and the Castaic Sports Complex.

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12 Los Angeles County Ordinance Section 24.28.140(A)(1). "The residential land values included in subsection A1 of this section shall be adjusted annually, effective July 1st, by the department of parks and recreation….The adjusted representative land values shall apply to…residential subdivision maps that are first advertised by the department of regional planning for hearing before either a hearing officer to the Regional Planning Commission on or after the respective July 1st adjustment date." (Los Angeles County Ordinance section 24.28.140[A][3].)

Table 4.14-1
Existing and Proposed County Parks and Recreation Facilities in Portions of Park Planning Area 35A near Mission Village

	Facilities	Acreage	Location	Condition
1	Hasley Canyon County Park	5.4	28700 W. Quincy St.	Developed
2	Del Valle Park	5.8	28201 W. Sloan Cyn. Rd.	Developed
3	William S. Hart Regional County Park	224.3	24151 San Fernando Rd.	Developed
4	Castaic Sports Complex Community Regional Park	51.0	31320 North Castaic Rd.	Developed
5	Val Verde Community Regional Park	57.6	30300 W. Arlington St.	Developed
6	Placerita Canyon Park (state)	341.0	19152 Placerita Cyn. Rd.	Developed
7	Plum Canyon Park	12.9	0.25 mile east of Bouquet Canyon Rd.	Developed
8	Northbridge Park	9.8	27400 N. Grandview Dr.	Developed
9	Ed Davis/Towsley Canyon Park (state)	168.0	24255 The Old Rd.	Developed
10	Vasquez Rocks County Park	905.0	Aqua Dulce	Developed
11	Castaic Lake State and County Recreation Area[1]	8,700.0	32132 Ridge Route Rd.	Developed
12	Chesebrough Park	5.1	Sunset Hills Dr./McBean Parkway	Developed
13	Copper Hill County Park	4.4	Northbridge Planning Area	Proposed
14	North Lake County Park	15.0	Castaic/Val Verde	Proposed
15	Pacific Crest Park	4.0	Castaic/Val Verde	Proposed
16	Pico Canyon Park	18.0	Pico Canyon	Developed
17	Richard Rioux Memorial County Park	15.5	Stevenson Ranch	Developed
18	Landmark (River Village)	9.7	Newhall/Valencia	Proposed
19	West Creek County Park	15.4	Saugus	Developed
20	Whites Canyon Park	8.5	Canyon Country	Proposed
21	Jake Kuredjian Park	5.0	26265 Pico Canyon Road	Developed
22	Tesoro Adobe Park	2.2	29350 Avenida Rancho Tesoro	Developed
23	Fair Oaks Park	6.0	Southeast of SR-14 and Sand Canyon	Developed
24	Hasley Canyon Equestrian Center	16.0	North of Newhall Ranch	Developed
25	Homestead	16.4	Newhall Ranch	Planned
26	Legacy Village	20.4	Stevenson Ranch Phase V	Planned
27	Mission Village	25.0	Newhall Ranch	Planned
28	Parkplace Park	13.9	Tick Canyon Subdivision	Planned
29	River Village County Park (2 sites)	20.9	East of Landmark Village	Planned
30	Sterling Gateway	7.1	Northeast of Val Verde	Planned
31	Summer Hill	4.9	East of Stevenson Ranch, City limits	Planned
32	Wickham Canyon	6.5	West of Stevenson Ranch, Pico Cyn	Planned
33	Copper Creek Park	6.0	North of Copper Hill Park	Planned
Total:		10,726.7		

Source: County of Los Angeles Department of Parks and Recreation 2007; City of Santa Clarita Department of Parks, Recreation and Community Services 2007; Table CO-2, Draft Conservation and Open Space Element One Valley, One Vision, 2008; Telephone communication, Larry Hensley, Los Angeles County Department of Parks and Recreation, February 5, 2009.

[1] *State-owned park maintained and operated by the County.*

The Val Verde Community Regional County Park covers 57.6 acres, and is located approximately 0.25 mile north of the project site, at 30300 West Arlington Street in the unincorporated community of Val Verde. Existing park improvements include an all-purpose clubhouse building, bath house, swimming pool, ball diamond, parking with security lighting, and drinking fountains. The park also includes picnic areas with tables and barbeques. There is a children's play area, basketball and tennis courts, and horseshoe pits and shuffleboard. In addition, the park offers overnight and day camping for organized groups, including youth organizations.

The 8,700-acre Castaic Lake State and County Recreation Area is a multi-use park located northwest of the project site in the unincorporated area of Castaic, and it includes 2,600 surface acres of water contained in an upper and lower reservoir system. Castaic Lake Reservoir and the surrounding land are owned by the state; however, the County leases the land and operates the upper lake, Castaic Lake Reservoir, and the lower lake, Castaic Lagoon. Facilities at the upper lake include major boat ramps and supporting facilities with fishing, boating, water and jet skiing, and parking for boats and trailers. Development around the 180-acre Castaic Lagoon includes major picnic areas for groups and families, swimming beaches, parking areas, non-motorized boat facilities, and general day-use recreation facilities, such as comfort stations.

The Castaic Sports Complex covers approximately 51 acres, and is located approximately 3 miles north of the project site at 31320 North Castaic Road in the unincorporated Castaic community. The complex includes a gymnasium, community room, kitchen, locker rooms/showers, restrooms, and lobby. The outdoor sports facility includes a multi-purpose court, with lighting for basketball or volleyball, and a jogging/12-station par course. Site improvements include separate play areas for toddlers and children, picnic areas with surrounding landscaping, pathways, security lighting, and parking.

(2) City of Santa Clarita Parks

There are 30 existing or proposed development parks under the jurisdiction of the City of Santa Clarita, the locations of which are listed in **Table 4.14-2**, **Existing and Proposed City of Santa Clarita Parks**, and illustrated on **Figure 4.14-2, Existing and Proposed City of Santa Clarita Parks**. Of the 30 parks totaling 457.0 acres, 10 are either currently undeveloped or partially developed. The developed parks contain amenities such as children's play a reas, multi-purpose fields, restrooms, volleyball courts, picnic tables, etc. The City of Santa Clarita planning area also includes four private golf courses, Valencia Country Club, Vista Valencia Golf Course, Robinson Ranch, and TPC Valencia.

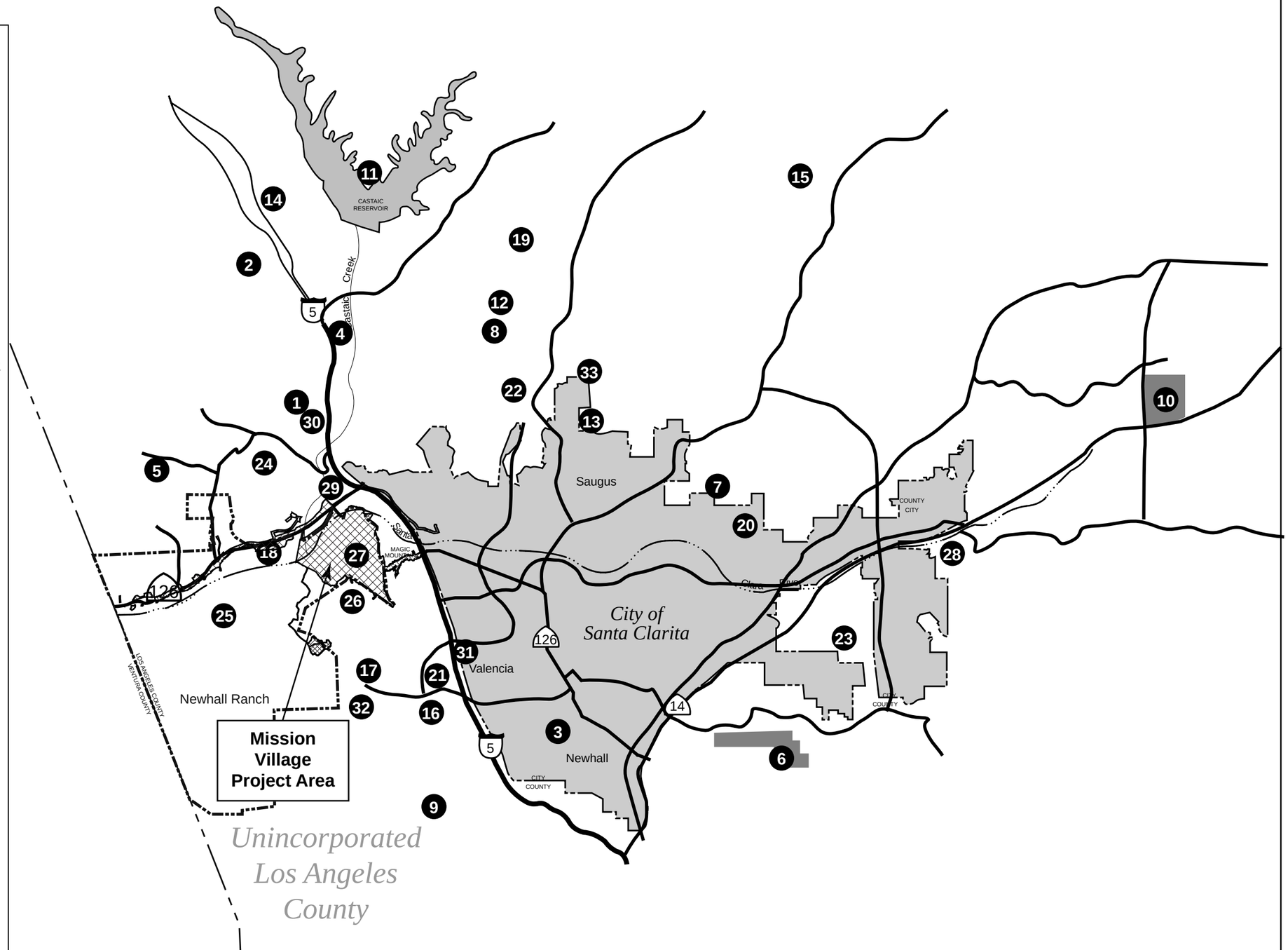
Legend:

Landmark Village Project Area

Park Location

1 Hasley Canyon County Park
2 Del Valle Park
3 William S. Hart Park
4 Castaic Sports Complex
5 Val Verde Community Regional Park
6 Placerita Canyon State Park
7 Plum Canyon Park
8 Northbridge Park
9 Towsley Canyon Park
10 Vasquez Rocks County Park
13 Castaic Lake State and County Recreation Area
12 Chesebrough Park
13 Copper Hill Park*
14 North Lake Park*
15 Pacific Crest*
16 Pico Canyon Park
17 Dr. Richard Rioux Memorial County Park
18 Landmark Village*
19 West Creek Park*
20 Whites Canyon Park*
21 Jake Kuredjian Park
22 Tesoro Adobe Park
23 Fair Oaks Park*
24 Hasley Canyon*
25 Homestead*
26 Legacy Village*
27 Mission Village*
28 Parkplace Park*
29 River Village County Park*
30 Sterling Gateway*
31 Summer Hill*
32 Wickham Canyon*
33 Copper Creek Park*

* = Proposed Parks



NOT TO SCALE

SOURCE: County of Los Angeles Parks and Recreation, City of Santa Clarita Parks, Recreation, and Community Services; Impact Sciences, Inc. – February 2010

FIGURE **4.14-1**

County and State Park Facilities

Table 4.14-2
Existing and Proposed City of Santa Clarita Parks

	Parks	Acreage	Location	Condition
1	North Oaks Park	2.3	27824 N. Camp Plenty Rd.	Developed
2	Almendra Park	4.3	23420 Alta Madera Dr.	Developed
3	Valencia Meadows Park	6.1	25671 Fedala Rd.	Developed
4	Pamplico Park	7.6	22444 Pamplico Dr.	Developed
5	Oak Spring Canyon Park	5.7	28920 Oak Spring Cyn. Rd.	Developed
6	Old Orchard Park	5.4	25023 Avenida Rotella	Developed
7	Valencia Glen Park	7.3	23750 Via Gavola	Developed
8	Begonias Lane Park	4.2	14911 Begonias Lane	Developed
9	Creekview Park	5.0	22200 Park Street	Developed
10	Santa Clarita Park	7.3	27285 Seco Canyon Rd.	Developed
11	H.M. Newhall Memorial Park	14.3	24923 Newhall Ave.	Developed
12	Canyon Country Park	19.3	17615 Soledad Canyon Rd.	Developed
13	Santa Clarita Sports Complex	22.0	26407 Golden Valley Rd.	Developed
14	Bouquet Canyon Park	9.0	28127 Wellston Dr.	Developed
15	Central Park	108.0	27150 Bouquet Canyon Rd.	80 acres developed; 28 acres for future expansion
16	Discovery Park	10.0	27150 Canyon View Dr.	Planned
17	Rivendale Park	20.0	24255 The Old Rd.	Planned
18	Bridgeport Park	16.0	Bridgeport Development	Developed
19	Oak Springs Canyon Park	5.7	28920 Oak Spring Canyon Rd.	Developed
20	Valencia Heritage Park	17.2	Eastcreek Planning Area 1	Developed
21	Circle J. Ranch	5.3	Whites Canyon Rd.	Developed
22	River Village Park	5.0	Riverpark Development	Planned
23	Todd Longshore Park	5.6	28151 Whites Canyon Rd.	Developed
24	Veterans Historical Plaza	0.5	24275 N. Walnut Street	Developed
25	Bridgeport Market Place	4.8	Bridgeport Development	Planned
26	Round Mountain	10.0	Valencia	Planned
27	South Fork Corridor	10.0	South fork of the Santa Clara River	Planned
28	Placerita Canyon	75.0	Adjacent to Placerita Canyon State Park	Planned
29	Future Phases of Santa Clarita Sports Complex	30.0	26407 Golden Valley Rd.	Planned
30	Quigley Canyon	20.0	East Newhall	Planned
Total Park Acreage		457.0		

Source: City of Santa Clarita. Santa Clarita Parks, Recreation and Open Space Master Plan. 2008.

c. State Facilities

State facilities in the vicinity of the project site are described below and illustrated on **Figure 4.14-1, County and State Park Facilities**.

(1) Towsley Canyon Park

This park is located just west of the Calgrove Boulevard/Interstate 5 (I-5) intersection in the Santa Susana Mountains, approximately 3 to 4 miles southeast of the project site. The State of California Mountains and Recreation Conservation Authority owns the 168-acre park. The facilities at this park include hiking trails, mountain bike trails in designated areas, picnicking and barbeque areas, a visitor/nature center, and restroom facilities with a drinking fountain.

(2) Santa Monica Mountains Conservancy and Rim of the Valley Corridor/Trail

The Santa Monica Mountains Conservancy (Conservancy) and Rim of the Valley Corridor (Corridor) includes land in the mountains that surround the San Fernando, Simi, Conejo, and La Crescenta Valleys. The Conservancy is a state agency created in 1980 under the auspices of the Resources Agency. It was initially established to preserve land and provide opportunities for recreation in the Santa Monica Mountains and the Rim of the Valley Corridor. The Conservancy is primarily responsible for funding the acquisition of land with statewide and regional significance.

The Rim of the Valley Corridor is an overlay on private property and the Corridor is a proposal envisioning a 200-mile-plus trail. At the present time, only 10 miles have been acquired in the Santa Susana Mountains in addition to the 47-mile Backbone Trail located in the Santa Monica Mountains. The mountains within the Corridor include the San Rafael and Simi Hills and the Verdugo, San Gabriel, and Santa Susana Mountains. The portion of the Newhall Ranch Specific Plan site generally south of Potrero Canyon is included in the Corridor Plan, but the proposed trail does not cross either the Mission Village site or the remainder of the Specific Plan site.

(3) Santa Clarita Woodlands State Park

This 3,000-plus-acre state park is located west of I-5 and may be accessed via either Lyons Avenue or the Calgrove/The Old Road interchanges. The creation of this park involved a land transaction that included the City of Santa Clarita, Chevron, and the Santa Monica Mountains Conservancy as the primary participants. The transaction involved the donation of 851 acres of land historically owned by Chevron, with the Conservancy purchasing another 2,184 acres.

Legend:

Landmark Village Project Area

Park Location

1 North Oaks Park
2 Almendra Park
3 Valencia Meadows Park
4 Pamplico Park
5 Oak Spring Canyon Park
6 Old Orchard Park
7 Valencia Glen Park
8 Begonias Lane Park
9 Creekview Park
10 Santa Clarita Park
11 H.M. Newhall Memorial Park
12 Canyon Country Park
13 Santa Clarita Sports Complex
14 Bouquet Canyon Park
15 Central City Park (Partially Developed)
16 Discovery Park*
17 Lost Canyon Park*
18 Rivendale at Towsley Park*
19 Bridgeport Park
20 Valencia Heritage Plaza
21 Circle "J" Ranch Park
22 Todd Longshore Park
23 Veteran's Historical Park
24 Bridgeport Market Place*
25 Round Mountain*
26 South Fork Corridor*
27 Placerita Canyon*
28 Future phases of Santa Clarita Sports Complex*
29 Quigley Canyon*

* = Proposed Parks

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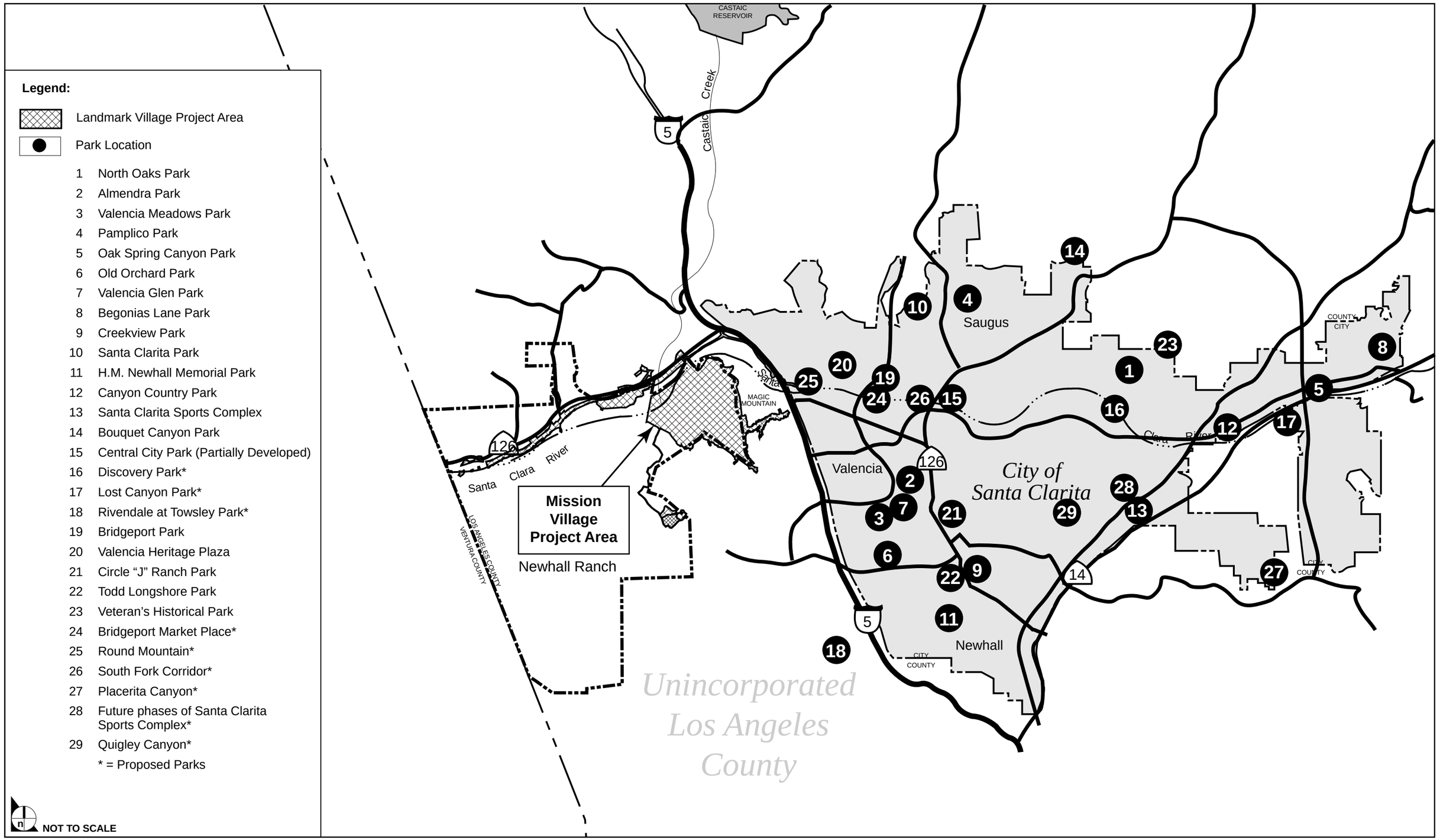


SOURCE: City of Santa Clarita General Plan, City of Santa Clarita Department of Parks, Recreation and Community Services, December 2008; Impact Sciences, Inc. – February 2010

FIGURE **4-14-2**

Existing and Proposed City of Santa Clarita Parks

32-99•02/10

This state park includes the 168-acre Ed Davis/Towsley Canyon Park at 24255 The Old Road in Newhall, the 3-mile Pico Canyon Trail, the 2.4-mile Rice Canyon Trail, and the 3.8-mile East Canyon Trail. The facilities at Towsley Canyon Park include trails for hiking, mountain biking, and equestrian uses; picnic areas; the Sonia Thompson Nature Center; the Towsley Canyon Lodge available for daily or overnight use; and restroom facilities.

(4) Placerita Canyon Park

Placerita Canyon Park is located east of the Antelope Valley Freeway and is accessible from Placerita Canyon Road. It is a state park operated by the Los Angeles County Department of Parks and Recreation, and it contains a nature center, picnic areas, overnight and day camping facilities, a children's play area, hiking trails, and an equestrian campground.

d. Federal Parks in the Project Area

Federal parks in the vicinity of the project site are described below. Please see **Figure 1.0-2**, **Project Vicinity Map,** for the location of those federal parks in closest proximity to the proposed Mission Village project.

(1) Santa Monica Mountains National Recreation Area

The Santa Monica Mountains National Recreation Area (SMMNRA) is located approximately 12 miles southwest of the project site, encompassing approximately 344 square miles, and is approximately 46 miles in an east-west length and 8 to 10 miles in north-south length. The SMMNRA is under the jurisdiction of the National Park Service (NPS), U.S. Department of the Interior. Within the SMMNRA, the NPS owns a total of 8,400 acres in fee and an additional 17 acres in easements.

(2) Angeles National Forest

The Angeles National Forest covers 693,000 acres of land area in the San Gabriel Mountains, which constitutes approximately one-quarter of the land located within Los Angeles County. The U.S. Forest Service administers the National Forest, which is an agency of the U.S. Department of Agriculture. The Angeles National Forest is supervised in districts. The project site is located near two districts: the Saugus District located approximately 8 miles to the north and the Tujunga District located 10 miles to the east.

The Angeles National Forest offers a wide range of camping (with fees) and picnicking facilities. In addition, there are hundreds of miles of trails in the forest, some of which are located near the project site area (see discussion on trails below). There are four reservoirs in the Angeles National Forest, including Castaic and Pyramid Lakes (5 miles northeast and 18 miles north of the site, respectively), which provide

water skiing, fishing, sail boarding, canoeing, jet skiing, and swimming activities. The water reservoirs charge entrance fees, as well as boat launching, boat rental, and overnight camping fees. In addition to the identified recreational opportunities, the Angeles National Forest provides a home for an array of wildlife.

(3) Los Padres National Forest

The nearly 2 million-acre Los Padres National Forest is located primarily in the northern section of Ventura County. However, a portion of the Los Padres National Forest crosses the Los Angeles/Ventura County line, 8 miles north of State Route 126 (SR-126) and the proposed project site.

Various recreation facilities are provided in the Los Padres National Forest, including hiking, equestrian and off-road vehicle trails, and camping areas (with fees) accessible by road and trail. There are 57 dispersed trail camps, 19 developed family campgrounds, and 1 developed group campground. There are many miles of recreation roads utilized by visitors as scenic drives and by off-highway vehicles. The forest has inventoried 373.7 miles of trails, including 17.7 miles of the Gene-Marshall-Piedra Blanca National Recreation Trail, which begins at Reyes Creek Campground and ends at Lion Campground. Other areas found in the Forest include the approximately 9,500-acre Dick Smith Wilderness and the 53,000-acre Sespe Condor Sanctuary (both located in Ventura County).

e. Other Facilities

Lake Piru is located at 4708 Piru Canyon Road, which is just west of the Los Angeles/Ventura County line, approximately 5 miles north of the unincorporated Ventura County community of Piru, and approximately 5 miles northwest of the project site. The lake is owned and operated by the United Water Conservation District and measures approximately 4 miles by 1 mile. The northern portion of this lake is located within the Los Padres National Forest. Water sports offered include water skiing, fishing, and boating supported by a marina with boat rentals, snack bar, and mini-market. There are 238 campsites and comfort stations, laundry facilities, and picnic areas. The payment of a fee is required to enter the park, as well as to launch and rent boats and to camp overnight.

f. Area Trails

The region surrounding the project site is served by an existing and proposed trail system, including both County and regional trails. There are no trails within the project site; however, the Los Angeles County Department of Parks and Recreation has proposed a regional trail that would traverse the project site—the Santa Clara River Trail (following the Santa Clara River Corridor). The Mission Village project would be linked to the Santa Clara Regional River Trail (off site to the northwest) via the extension of other local

trails, and paseos. The Landmark Village project (located west of the project site) would implement a significant portion (3.13 acres, or 11,347 linear feet) of the Specific Plan's Regional River Trail system (the Santa Clara River Trail). This trail would be constructed along the Santa Clara River beginning at the northeastern project boundary along Castaic Creek, and extend west along the river through the entire southern boundary of the Landmark Village project site. In addition, the Los Angeles County Department of Parks and Recreation has proposed the regional Pico Canyon Trail (crossing through Potrero Canyon) west of the project site. There is an extensive existing and proposed trail system in the Santa Clarita Valley area, which includes three regional trails and two local trails. There is also a developed "paseo" system (walkways), which runs through the community of Valencia, east of the project site.

(1) Los Angeles County Trails

The County of Los Angeles Department of Parks and Recreation plans and maintains an extensive system of multi-use trails within the County. The following is a discussion of the elements of this system that are located in the general vicinity of the project site. Trails that are developed and in use are discussed in terms of location, trail length, and other characteristics. Trails that are planned, but not developed, are discussed in terms of general location or alignment, approximate length, anticipated difficulty, and proposed ancillary uses. Specific trails discussed in this section are summarized in **Table 4.14-3, Existing and Proposed County Trails**, and illustrated on **Figure 4.14-3**, **Los Angeles County Trails**.

Table 4.14-3
Existing and Proposed County Trails

Trail Name	Length (miles)	Condition
Los Pinetos Trail	7.0	Developed
Wilson Canyon Channel Trail	2.0	Developed
William S. Hart Park Trail	2.5	Developed
Fish Canyon Trail	6.0	Developed
Bear Canyon Trail	5.0	Developed
Gillette Mine Trail	1.0	Developed
Pico Canyon Trail*	9.0	Developed
Hasley Canyon Trail*	3.4	Partially Built
Castaic Creek Trail*	5.0	Proposed
Mint Canyon Trail*	3.7	Proposed
Gavin Canyon Trail*	8.0	Proposed
Santa Clara River Trail*	30.0	Partially Built

**State-operated trails*
Source: County of Los Angeles Area Plan, One Valley One Vision Draft Program EIR, Section 3.16, Parks and Recreation, 2009.

(a) Los Pinetos Trail

Los Pinetos Trail is a multi-use trail with camping facilities available by reservation. The trail is intended to link the City of Santa Clarita trail system to the partially built Rim of the Valley state trail (discussed below) via the City's partially developed Placerita Canyon Trail. The trail follows a flood control channel through 7 miles of natural area, including Placerita Canyon Natural Area. The Placerita Canyon Natural Area is managed and operated by the Los Angeles County Department of Parks and Recreation.

(b) Wilson Canyon Channel Trail

Wilson Canyon Channel Trail provides 2 miles of moderately difficult hiking in the Angeles National Forest and provides views of the San Fernando Valley and Placerita Canyon. This trail is a link to the partially built Rim of the Valley Trail via the Los Pinetos Trail.

(c) William S. Hart Park Trail

This 2.5-mile-long nature trail winds through the William S. Hart Park past the William S. Hart Museum and designated points of interest, and it provides views of the Santa Clarita Valley. Separate access is provided for equestrian use.

(d) Fish Canyon Trail

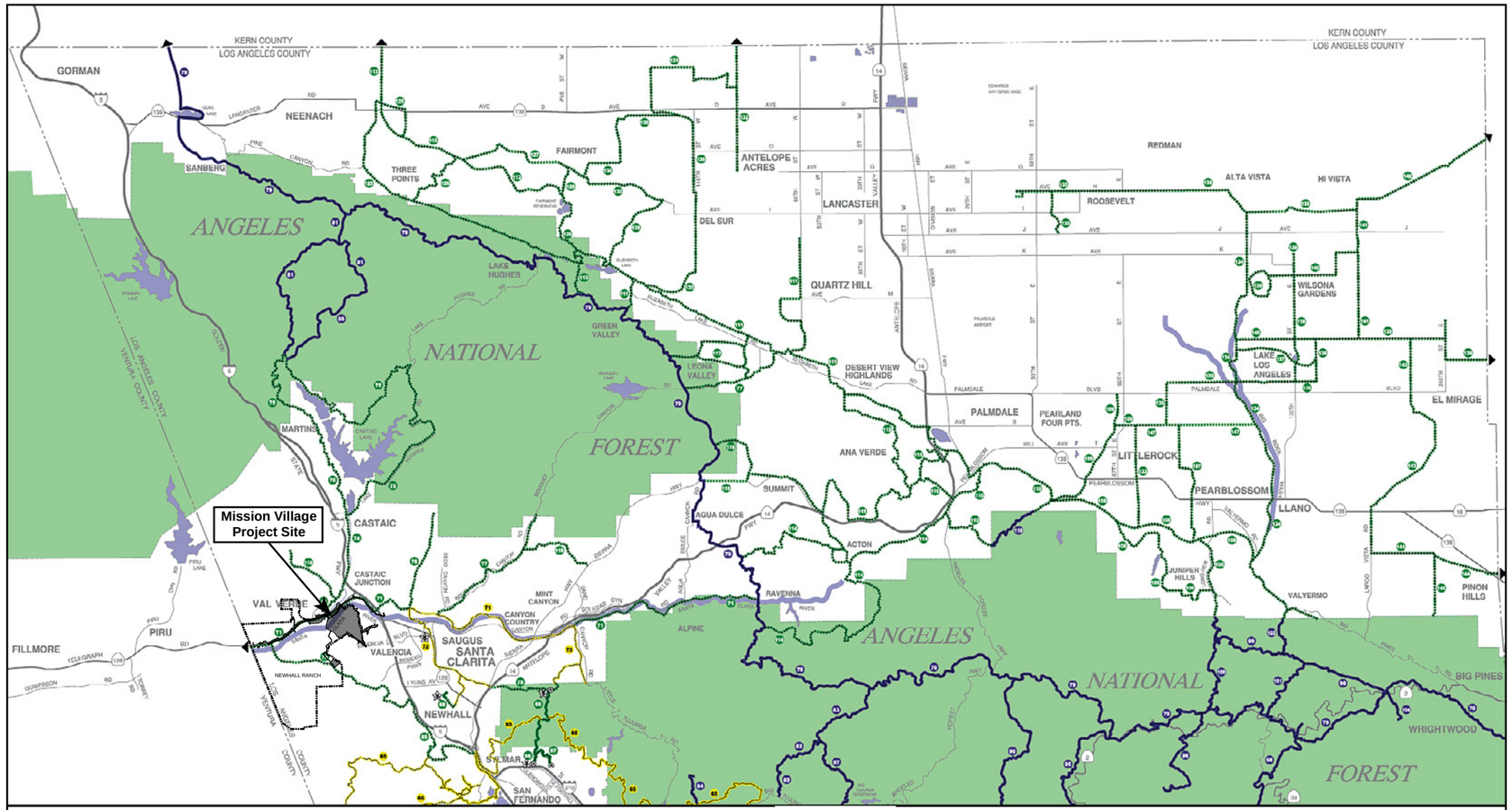
The Fish Canyon Trail travels through the canyon along a year-round stream shaded by oak trees, sycamores, alders, and willows. The 6-mile-long trail passes through Castaic Lake County Regional Area and joins the Pacific Crest Trail. Campgrounds are available.

(e) Bear Canyon Trail

Bear Canyon Trail crosses 5 miles of chaparral area over ridges and summits, through canyons, and eventually connects to the Pacific Crest Trail.

(f) Gillette Mine Trail

The Gillette Mine Trail joins the Pacific Crest Trail after 1 mile of moderately difficult hiking through gold and silver mining ruins.



TRAIL NUMBER	TRAIL LENGTH	TRAIL RATING: ND - Not Difficult, MD - Moderately Difficult, D - Difficult	TRAIL NAME
1	10.0	ND	Los Angeles River Trail
2	16.0	ND	Los Angeles River Trail Extension
3	2.0	ND	Pelos Verdes Trail
4	8.5	ND	Dominguez Channel Trail
5	15.0	ND	Rio Hondo River Trail
6	6.0	ND	Santa Anita Wash Trail
7	2.0	ND	Santa Anita Wash Trail Extension
8	24.0	ND	San Gabriel River Trail
9	3.5	MD	Van Tassel Trail
10	2.0	ND	San Jose Creek Trail
11	28.0	MD	Schabarum Trail
12	2.0	MD	7th Avenue Trail
13	1.3	ND	Whittier Connector Trail
14	9.0	D	Schabarum Extension Trail
15	3.0	D	Schabarum Extension Connector Trail
15	2.0	D	Schabarum Extension Connector Trail
17	2.0	ND	Rowland Heights Connector Trail
18	3.0	MD	Rowland Heights Loop Trail
19	3.0	MD	Walnut Creek Park Trail
20	10.0	MD	Frank G. Bonelli Regional Park Trail
21	8.0	MD	Marshall Canyon Trail
22	2.0	MD	Marshall Canyon Extension Trail
23	1.0	ND	Hastings Debris Basin Trail
24	7.0	D	Altadena Crest Trail
25	1.0	D	Eaton Canyon Park Trail
26	2.0	MD	Chaney/Sunset Ridge Trail
27	3.0	ND	Devil's Gate-Arroyo Seco Trail
28	4.0	ND	Flint Wash Trail
29	2.3	ND	Gould Canyon Trail
30	1.0	ND	Horse Lane
31	4.0	D	La Canada Open Space Trail
32	1.0	MD	La Canada Open Space Extension
33	6.0	MD	San Gabriel River Trail to Mount Baldy
34	7.0	D	Three Park Trail
45	5.0	D	Trancas Canyon Trail
36	20.0	D	Zuma Ridge Trail
37	5.0	D	Zuma Ridge to Westlake Trail

TRAIL NUMBER	TRAIL LENGTH	TRAIL RATING: ND - Not Difficult, MD - Moderately Difficult, D - Difficult	TRAIL NAME
38	2.0	MD	Zuma Ridge/Reagen Connector Trail
39	2.0	MD	Peter Strauss Ranch Loop and Connector Trail
40	6.0	D	Solstice Canyon Trail
41	3.5	D	Mesa Peak Trail
42	5.0	D	Saddle Peak Trail
43	17.0	D	Calabasas Cold Creek Trail
44	4.0	D	Topanga-Henry Ridge Trail to Calabasas
45	4.0	D	Topanga-Henry Ridge Trail to Serrania Park
46	12.0	D	Topanga-Henry Ridge Trail
47	6.3	D	Tuna Canyon Trail
48	1.3	D	Topanga-Henry Ridge Trail to Santa Maria Canyon Trail
49	3.6	D	Stokes Ridge Trail to Calabasas Trail
50	.6	D	Cold Creek And Stokes Ridge Connector Trail
51	5.5	D	Santa Maria Canyon Trail
52	1.5	MD	Santa Maria Canyon Loop Trail
53	2.3	D	Camp Silausen Connector Trail
54	4.5	MD	Valley Circle Scenic Corridor Trail
55	4.0	ND	Las Virgenes Trail
56	1.0	MD	Escondido Falls Trail
57	3.0	D	Stunt High Trail
58	1.3	D	Corral Canyon Trail
59	26.0	D	Coastal Slope Trail
60	2.3	D	Ramirez Canyon Connector Trail
61	1.0	D	Paradise Cove Trail
62	4.0	D	Malibu Creek Trail
63	6.0	ND	Point Dume Connector Trail
64	50.0	D	State Backbone Trail
65	200.0	D	Rim of the Valley Trail
66	7.0	D	Los Pinetos Trail
67	2.0	MD	Wilson Canyon Channel Trail
68	2.5	MD	William S. Hart Park Trail
69	8.0	D	Gavin Canyon Trail
70	9.0	D	Pico Canyon Trail
71	30.0	MD	Santa Clara River Trail
72	5.0	ND	South Fork Trail
73	4.0	MD	Sand Canyon Trail
74	5.0	ND	Castaic Creek Trail

TRAIL NUMBER	TRAIL LENGTH	TRAIL RATING: ND - Not Difficult, MD - Moderately Difficult, D - Difficult	TRAIL NAME
75	2.0	D	Castaic Lake Trail
76	4.0	MD	Cliffie Stone Trail
77	7.0	D	Bouquet Canyon Trail
78	6.0	MD	Piscorita Creek Trail
79	100.0	D	Pacific Crest National Trail
80	6.0	MD	Fish Canyon Trail
81	5.0	MD	Bear Canyon Trail
82	1.0	MD	Gillette Mine Trail
83	9.0	D	Indian Ben to Deer Spring Trail
84	4.0	MD	Oak Springs Trail
85	6.0	D	Trail Canyon Trail
86	5.0	MD	Stone Canyon Trail
87	5.0	D	Condor Peak Trail
88	26.0	D	Gabrielino National Recreation Trail
89	6.0	D	Santa Anita Canyon Trial to Gabrielino Trail
90	20.0	MD	Shoshone Trace Trail
91	9.0	D	Mount Wilson Toll Road
92	7.0	D	Henninger Flats to Shoshone Trace Trail
93	3.5	MD	El Prieto Trail to Sunset Ridge
94	7.5	D	Mount Wilson Trail
95	19.5	D	Silver Moccasin Trail
96	21.0	D	Fish Canyon to Mount Waterman Trail
97	8.0	D	West Fork North Trail
98	14.0	MD	Bear Creek Trail
99	5.0	D	Manzanita Trail
100	5.0	D	Burkhart Trail
101	5.0	MD	Islip to South Fork Trail
102	2.5	MD	Iswasen Peak to Pine Mountain Ridge Trail
103	14.0	D	Mount Baldy Station to Mount San Antonio Trail
104	16.0	D	East Fork to Mine Gulch Trail
105	1.0	D	Devil's Punchbowl Nature Trail
106	6.5	ND	Juniper Hills Trail
107	2.0	ND	Pearblossom Connector Trail
108	10.3	ND	Pearblossom Loop Trail
109	3.0	ND	Little Rock Connector Trail
110	15.0	D	Palmdale Hills Trail
111	16.0	MD	North Side Trail

TRAIL NUMBER	TRAIL LENGTH	TRAIL RATING: ND - Not Difficult, MD - Moderately Difficult, D - Difficult	TRAIL NAME
112	12.5	D	Leona Valley Loop Trail
113	8.0	ND	California Riding and Hiking Trail
114	22.0	MD	Acton Community Trail
115	6.5	ND	Northside Connector Trail
116	17.3	MD	Vasquez Loop Trail
117	2.6	MD	Santa Susana Pass Trail
118	3.4	MD	Hasley Canyon Trail
119	3.7	MD	Mint Canyon Trail
120	.5	ND	Soka Trail
121	.7	MD	Malibu Connector Trail
122	.3	MD	Chumash Indian Trail
123	.7	ND	Izumi Connector Trail
124	3.0	MD	Colby Delton Trail
125	17.0	ND	Three Points Trail
126	3.0	ND	Danielson Trail
127	6.4	ND	Ripley Trail
128	4.8	ND	Munz Trail
129	1.4	ND	Fairmont Connector Trail
130	21.6	ND	California Poppy Trail
131	11.1	ND	Little Buttes Trail
132	6.0	ND	Kern Connector Trail
133	12.5	ND	Little Rock Community Trail
134	18.0	ND	Big Rock Creek Trail
135	17.2	ND	Lancaster Connector Trail
136	3.2	ND	Piute Butte Loop Trail
137	4.3	ND	Lovejoy Buttes Trail
138	6.2	ND	Lake Los Angeles Community Trail
139	20.7	ND	San Bernardino Connector Trail
140	5.1	ND	Saddle Rock Butte Trail
141	6.5	ND	Butte Valley Connector Trail
142	7.0	ND	Las Vegas Trail
143	12.1	ND	Three Sisters Trail
144	5.1	ND	Fort Tejon Extension Trail
145	2.6	ND	Mescal Creek Trail
146	4.0	ND	Avenue O Connector Trail
147	6.5	ND	Avenue S Connector Trail

5 2.5 0 5

APPROXIMATE SCALE IN MILES

SOURCE: County of Los Angeles Department of Parks and Recreation – 2001

FIGURE **4.14-3**

Los Angeles County Trails

(g) Pico Canyon Trail

Pico Canyon Trail is proposed to be roughly 9 miles in length beginning at the intersection of Potrero Canyon and the Santa Clara River just east of the Los Angeles/Ventura County line. Moving in an easterly direction, the trail would generally follow Potrero Canyon, and connect to Pico Canyon ending at the mouth of the canyon just west of I-5. At this juncture, the trail will connect to another County proposed trail (Gavan Canyon Trail) that will connect to the partially built Rim of the Valley Trail.

(h) Hasley Canyon Trail

Hasley Canyon Trail is proposed to follow Hasley Canyon for 3.4 miles in a westerly direction from Castaic Creek. A portion of this trail runs through, and is adjacent to, the Valencia Commerce Center, and is partially built.

(i) Castaic Creek Trail

The Castaic Creek Trail is proposed to link with the Santa Clara River Trail at the intersection of Castaic Creek and the Santa Clara River. The trail is proposed to follow Castaic Creek north for 5 miles to the Castaic Lake State and County Recreation Area, ultimately intersecting with the other proposed County trails located further north.

(j) Mint Canyon Trail

This 3.7-mile-long trail links the Mint Canyon Equestrian Trail to the Bouquet Canyon Trail. The trail runs through Vasquez Canyon.

(k) Gavin Canyon Trail

This approximately 8 mile-long trail links Pico Canyon to Rim of the Valley Trail. The Rim of the Valley/Corridor Trail is discussed further below.

(2) City of Santa Clarita Trails

The City of Santa Clarita has adopted a system of trails to provide pedestrian, bicycle and equestrian connections to residential communities within the City of Santa Clarita and to the Los Angeles County multi-use trail system, as well. City trails are listed below in **Table 4.14-4, Existing and Proposed City Trails**. The Backbone Trails within the City are illustrated in **Figure 4.14-4**, **City of Santa Clarita Backbone Trails**, and are briefly described below.

Table 4.14-4
Existing and Proposed City Trails

Trail Name	Length (miles)	Condition
Bouquet Canyon Trail*	7.0	Developed
Placerita Canyon Trail	8.0	5.0 Miles Developed
Robinson Ranch Trail	1.8	Developed
Cliffie Stone Trail	4.5	Proposed
Santa Clara River Trail	14.5	1.5 Miles Proposed
South Fork Trail	3.4	Developed
Sand Canyon Trail	3.0	0.5 Mile Proposed
Golden Valley Ranch Trail	2.0	Proposed
Iron Canyon Trail	1.0	Proposed
Magic Mountain Trailhead	2.0	Proposed

**State-operated trails*
Source: City of Santa Clarita, One Valley One Vision Draft Program EIR, Section 3.16, Parks and Recreation, 2009.

(a) Bouquet Canyon Trail

The 7-mile-long Bouquet Trail is located between Bouquet Canyon Road and McBean Parkway along the northern side of Newhall Ranch Road. This trail connects to the existing paseo along McBean Parkway and the bicycle trail along Newhall Ranch Road west of McBean Parkway.

(b) Placerita Canyon Trail

The proposed 8-mile-long Placerita Canyon trail starts at Meadview Avenue and extends west along Placerita Canyon Road, turning south over the hill and terminating at Creekview Park in Newhall. Marked by wooden split-rail fencing, the trail provides users with a scenic, off-street trail that will eventually link up with the South Fork and with William S. Hart Park.

(c) Robinson Ranch Trail

The 1.8-mile-long Robinson Ranch Trail is located in the vicinity of Sand and Placerita Canyon. The trail begins in the Placerita Homeowners Association vicinity, which is west of SR-14. The Robinson Ranch Trail continues south to Iron Canyon and then goes west on Iron Canyon to the Sand Canyon Trail.

(d) Cliffie Stone Trail (formerly San Francisquito Creek Trail)

The 4.5-mile-long, multi-use Cliffie Stone Trail is proposed to link with the Santa Clara River Trail at the confluence of San Francisquito Creek with the Santa Clara River. The trail is proposed to follow the creek northward and connect to other proposed County trails located further north.

(e) Santa Clara River Trail

The City of Santa Clarita has adopted the County's plan for trails along the Santa Clara River. This trail project is a 14.5-mile-long multi-use facility along the river that includes a Class I bicycle facility and also accommodates pedestrians and equestrians. Its easternmost terminus is currently south of the project site and north of the Santa Clara River and will, when completed, provide an integral link with existing and planned regional trails within the County of Los Angeles, including the San Francisquito Creek Trail and the Pacific Crest Trail in eastern Santa Clarita Valley. The trail is part of the Santa Clarita Valley Area Plan for integrated trails.[13]

(f) South Fork Trail

This 3.4-mile-long trail runs along the South Fork of the Santa Clara River from Newhall at Orchard Village Road north to the Santa Clara River Trail in Saugus. An extension of this trail from Orchard Village Road to Towsley Canyon Park is proposed.

(g) Sand Canyon Trail

The 3-mile-long Sand Canyon Trail is proposed as a multi-purpose backbone trail. The trail starts at Valley Ranch Road and goes south toward Warmuth Road, eventually reaching beyond Placerita Canyon Road. Future segments will connect north to Lost Canyon Road.

(h) Golden Valley Ranch Trail

The 2-mile-long Golden Valley Ranch Trail had been proposed as a multi-use trail system that would exist on 900-acre open space preserve and that would establish the trailhead adjacent to the proposed residential neighborhood and would connect to the City of Santa Clarita backbone trail system.[14]

(i) Iron Canyon Trail

This 1-mile-long multi-use trail runs along the south side of Iron Canyon Road adjacent to semi-rural areas and the Sand Canyon Trail Corridor.[15]

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13 Los Angeles County Department of Regional Planning, Santa Clarita Valley Area Plan (Los Angeles, California: Comprehensively Updated December 6, 1990), p. 62.

14 City of Santa Clarita, *Parks, Recreation, and Open Space Master Plan Update*, 2008.

15 Ibid.

(j) Magic Mountain Trailhead

The 2-mile-long Magic Mountain Trail is proposed to be located on Magic Mountain Parkway near Tourney Road with a proposed 2-acre trailhead facility. The trail would span from I-5 near The Old Road/Rye Canyon Road junction to the terminus of Anza Drive in the Industrial Center.[16]

(3) Regional Trails

(a) Rim of the Valley Corridor/Trail

The Rim of the Valley Trail is proposed to be 200 miles in length and is located within the Rim of the Valley Corridor. The trail, as proposed, is located on both public and private land. Much of the trail has not been constructed and remains as a proposed trail. At the time of this writing, only 10 miles have been acquired in the Santa Susana Mountains in addition to the 47-mile-long Backbone Trail located in the Santa Monica Mountains. The portion of the trail nearest the project site is located approximately 2.5 miles to the southeast at the Oat Mountain lookout.

(b) Pacific Crest National Trail

A segment of the Pacific Crest National Trail extends for 160 miles through the Angeles National Forest, providing views of the Antelope Valley, varied terrain, vegetation, wilderness, and the San Gabriel Mountains. Campgrounds, picnic areas, and staging areas are available along the trail. In all, the Pacific Crest National Trail traverses 2,500 miles from Canada to Mexico.[17] The trail was established under the national trails system act of 1968 and is part of the national system of recreation and scenic trails. Only foot and equestrian travel is permitted on the trail; motorized vehicles and mountain bicycles are prohibited. Other trails that connect to the Pacific Crest National Trail include Fish Canyon Trail, Bear Canyon Trail, and Gillette Mine Trail. All of these trails are located within the Angeles National Forest land and are north of Castaic Lake. The proposed county Castaic Creek Trail would connect to these trails.

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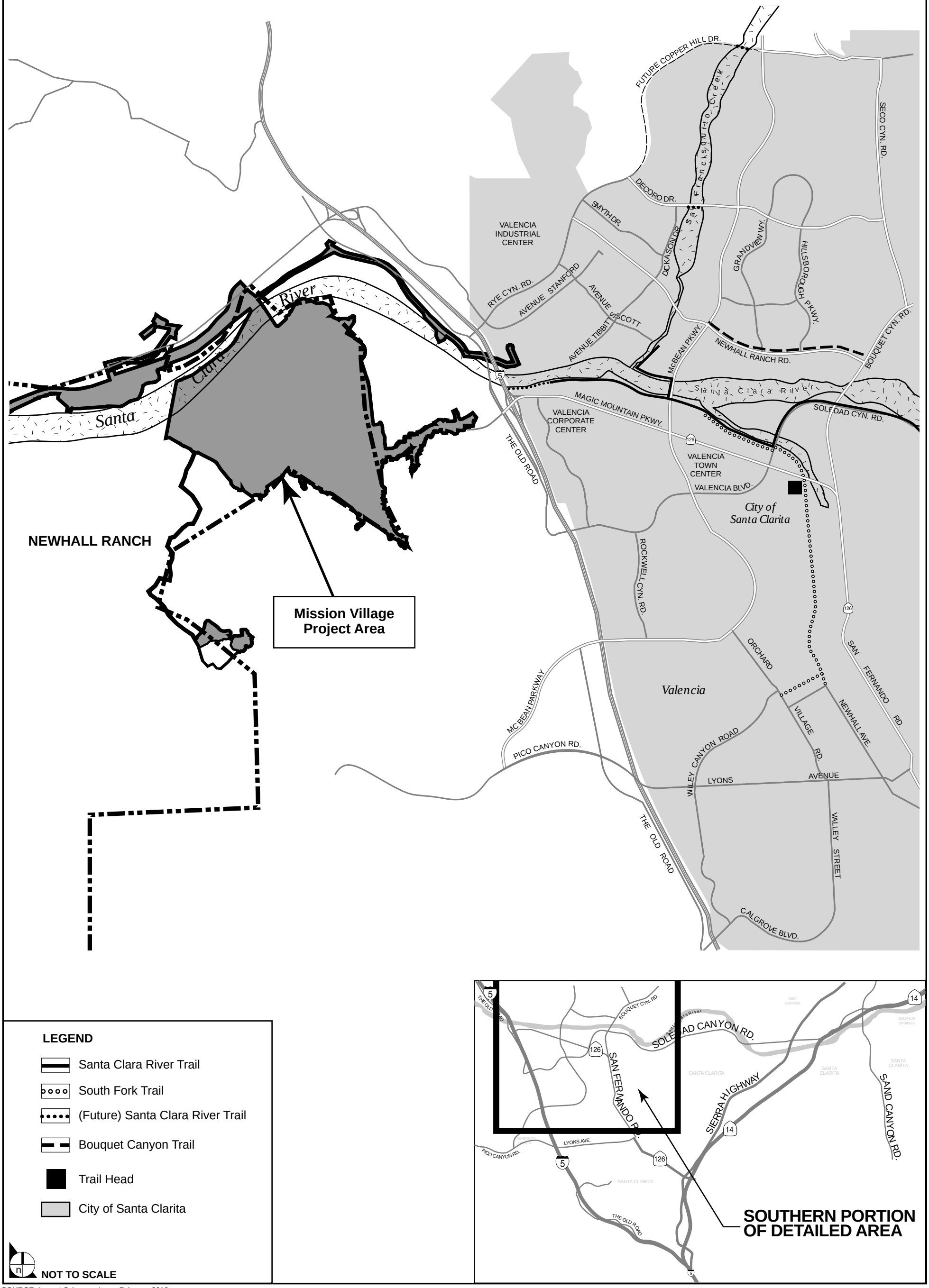
16 City of Santa Clarita Agenda Report, "Santa Clarita Regional Commuter Trail Segment 1, Project T0017," http://www.santa-clarita.com/cityhall/agendas/council/print_item_html.asp?ID=4003, 2009.

17 U.S. Department of Agriculture, Forest Service, Pacific Crest Trail, July 1988, p. 1.



SOURCE: Impact Sciences, Inc. – February 2010

FIGURE **4.14-4**

City of Santa Clarita Backbone Trails

5. PROPOSED PROJECT IMPROVEMENTS

a. Parks and Recreation

Implementation of the proposed project would result in the development of 4,412 dwelling units with a total residential population of 10,802. Consistent with the Specific Plan, the proposed Mission Village project incorporates the following park and recreation components:

- 20-acre public Community Park
- 5.0-acre public Neighborhood Park
- 6.9-acre Private Community Recreation Center
- 4.6 acres of private recreation area
- 2.9-acre private park
- 18,900 linear feet of community trails
- 12,900 linear feet of local trails
- 9,200 linear feet of pathways
- 217 acres of river corridor
- 150 acres of open space (not including 217 acres of river corridor open space)
- 65.6 acres of spineflower preserve

These components are described below.

(1) Public Community Park

A community park, consisting of 20 net acres, is proposed for the Mission Village project, consistent with the Specific Plan's Land Use overlay designation for the area. As depicted on **Figure 4.14-5, Mission Village Parks, Recreation Areas, and Trails**, the community park is proposed along the eastern side of the proposed Commerce Center Drive in the central portion of the project site near the eastern site boundary. This park site is located adjacent to the Open Area along the eastern site boundary to maximize recreational uses for local residents. The community park would include improvements such as tot lot with playground equipment, water fountain, ball fields, tennis/basketball courts, turf areas, vehicular parking, and restrooms. This park will also be accessible by the Specific Plan's bike and pedestrian trail network.

(2) Public Neighborhood Parks

As shown on **Figure 4.14-5**, the proposed Mission Village project includes one neighborhood park. The neighborhood park is proposed at the cul-de-sac of "R" Street and is 5.0 acres in size. This neighborhood park would provide amenities, such as a water fountain, picnic shelter, tot lot with play apparatus, half-court basketball court area, turf, and a comfort station.

(3) Private Community Recreation Center

As shown on **Figure 4.14-5**, a 6.9-acre private Community Recreation Center is proposed in the Village Center area of Mission Village near the "main street" oriented commercial area of the tract map site. The private Community Recreation Center would be provided as a Newhall Ranch wide amenity, and may contain such amenities as a 25,000-square-foot recreational building, pool, spa, wading pool, shade overhead structure, play courts, and/or restroom building. Please see **Figure 1.0-15**. The recreation areas would be fenced and maintained by a homeowners association, and parking would be provided both off- and on-street.

(4) Private Recreation Area

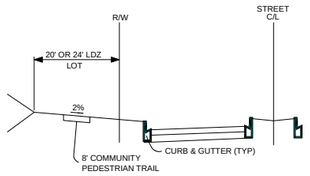
In Neighborhood C, the active adult area, a private neighborhood recreation area would be developed on a total of 4.6 acres. This facility would provide recreational activities for those residents living in Neighborhood C. The amenities may include a recreational building, pool, spa, wading pool, shade overhead structure, play courts.

(5) Private Park

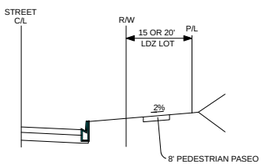
The Village Center will also include a private park located adjacent to the Private Community Recreation Center. The private park will located in the commercial "main street" area of the Village Center and will function as flexible passive open space area.

(6) Open Space

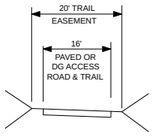
An open space system encompassing approximately 350 acres is located throughout the project site. The open space would function as a separation between development planning areas and also would include utility easements.



Community Trail



Pathway



Local Trail

Local Trail 'A'

Legend:

- Community Trail
- Local Trail
- Local Trail 'A'
- Pathway
- Unimproved Trail
- Limits of Permanent Grading
- Stream Restoration Area
- Facilities (Basins, Water Tanks, Lift Stations)
- Open Space - LDZ (Landscape Development Zone)
- Open Space - Graded
- Open Space - Natural
- Park
- Recreation
- Spineflower Preserve

1200 600 0 1200

APPROXIMATE SCALE IN FEET

SOURCE: PSOMAS – March 2010

FIGURE **4.14-5**

Mission Village Parks, Recreation Areas, and Trails

(7) Trails and Paseos

The approved Specific Plan's Master Trails Plan (Specific Plan, Exhibit 2.4-5) provided broad, general trail alignments and classifications to ensure that Mission Village would be linked to the greater Newhall Ranch via the Regional River Trail and the Community Trail network. See, **Figure 1.0-19, Mission Village Portion of the Newhall Ranch Specific Plan Master Trails Plan**, in **Section 1.0, Project Description**.

Figure 1.0-20, **Mission Village Trails Plan**, in **Section 1.0, Project Description**, depicts the trails that fulfill the intent of the Specific Plan's Master Trails Plan. It provides a tract map level of detail necessary to ensure that each residential neighborhood and community service area is linked to one or more pedestrian, bicycle or paseos, with locations for river trail access points and observation/interpretive points. The Mission Village Trails Plan implements the Specific Plan's objective of providing a hierarchy of trails with varying sizes and functionality. These trails are described below.

(a) Community Trails

As shown on **Figure 1.0-20**, the Mission Village project site would provide an extensive community trail system comprised of 18,980 linear feet throughout the residential portions of the project, and would be linked to the Santa Clara Regional River Trail (off site to the northwest), local trails, and paseos. As depicted in **Figure 4.14-5**, community trails are unified pedestrian and bicycle routes in landscaped parkways. They are located along major roads in order to connect the Villages of the Specific Plan and will have recognizable landscape features to identify these routes for inter-Village walking. The Mission Village community trails are proposed along Magic Mountain Parkway, Commerce Center Drive, and Westridge Parkway and will be located in open space lots (LDZ lots) 24 feet in width. LDZ (Landscape Development Zone) lots are those which accommodate trails and paseos. The total area for these lots is 9.3 acres. The Mission Village site plan proposes a 5-to-8-foot local trail as opposed to the 12-foot trails outlined in the Specific Plan. Section 5.2.2(9) allows for adjustments to trail sections under the substantial conformance determination. An on-street bike lane will be provided, as well.

(b) Local Trails

A local trail is a joint pedestrian/bicycle route which may or may not follow a roadway. As depicted in **Figure 4.14-5**, local trails provide access to amenities, the community trail network, or serve to link Villages of the Specific Plan. Trees and other landscaping materials may line local trails to make them an identifiable route in the Village, but often they follow natural drainages within Open Areas and require little or no landscaping. The Mission Village project includes local trails comprised of 12,900 linear feet, through an open space area west of "Q2" Street and east of "C" Street with connection through the Neighborhood Park to an existing dirt road adjacent to the Santa Clara River (which will not be

improved). A connection from the existing road to the Community Trail along Commerce Center Drive will be provided. Also, as stated above, the Mission Village site plan proposes a 5-to-8-foot-wide trail as opposed to the 12-foot-wide trails outlined in the Specific Plan. Section 5.2.2(9) allows for adjustments to trail sections under the substantial conformance determination.

(c) Pathways

Pathways comprised of 9,200 linear feet and consisting of a multi-purpose bicycle and pedestrian trail are located adjacent to local collector roadways. The pathways are proposed to provide a means of pedestrian access from residential neighborhoods to and from the Community Park, recreation centers, elementary school, and mixed-use/commercial areas. The pathways would adjoin major roadways and certain residential collector streets, and be separated from vehicular traffic by a landscaped parkway (**Figure 1.0-20**). The Mission Village project includes pathways along A, B, and R Streets.

(8) River Corridor

The River Corridor provides for the preservation, enhancement, public use, and management of the Santa Clara River, which flows east-west through the Specific Plan area. The boundaries of the River Corridor SMA will replace the former boundaries of the Significant Ecological Area (SEA) 23 and have been realigned to more accurately reflect the areas of significant biological resources. Development standards are specifically structured to help ensure compatibility of uses within this special resource area. The County's SEA 23 designation is retained for this area. The Mission Village project provides for approximately 217 acres of River Corridor SMA, which forms the northern boundary of the proposed project.

6. PROJECT IMPACTS

The analysis of potential impacts to parks, recreation and trails associated with construction and operation of the proposed Mission Village project, including the significance criteria applicable to assessing such impacts, is presented below.

a. Significance Threshold Criteria

Based on the thresholds of significance identified in Appendix G of the *State CEQA Guidelines*, the proposed project would result in a significant impact to recreation if the project would:

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

- Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment.

The Quimby Act (Gov. Code, section 66477) has established a standard of 3 acres per 1,000 persons as the amount of land necessary to satisfy the park requirement for new subdivisions.[18] The County's Department of Parks and Recreation determines a project's total parkland requirements under its ordinance. Dedication of land, fees in-lieu of dedicated parkland, construction of amenities on dedicated parkland that total less than the standard, but is of equal dollar value to the park fee, or a combination of the three, are all considered to adequately satisfy the requirement and avoid a significant impact.

b. Impact Analysis

In the adopted Specific Plan, the County estimated the Quimby Act requirements for the entire Newhall Ranch area (see Specific Plan, Table 2.8-1). Based on the unit count, average household size and applicable assessment factors, the Quimby Act obligation in acres was calculated at 174 acres for the Specific Plan. The County also estimated the Quimby Act credits to be provided to the Specific Plan. When measured against the Quimby Act requirements, the credits provided under the Specific Plan, which included park improvements, resulted in a total of 2,486 excess Quimby Act credits. In addition, the Specific Plan acknowledged that private recreation centers (including improvements) within neighborhoods are eligible for credit, but were not quantified at the Specific Plan level of planning. **Table 4.14-5**, **Mission Village Estimated Quimby Act Requirements**, below, shows the estimated parkland requirements for the Mission Village project based on the Specific Plan Quimby Act requirements. As shown on **Table 4.14-5**, the estimated Quimby Act requirement for the proposed project is 29.70 acres.

Table 4.14-5
Mission Village Estimated Quimby Act Requirements

Description/Category	Units	Avg. Household Size	Assessment Factor	Obligation in Acres
Detached	382	3.23	0.003	3.70
Multi- Family (with less than 5 units/building)	904	2.29	0.003	6.21
Multi-Family (with 5 or more units/building)	3,126	2.11	0.003	19.79
Total	4,412			**29.70**

18 According to the Quimby Act, 3 acres per 1,000 population is the maximum that can be used, unless the amount of existing Neighborhood and Community Parkland exceeds that limit.

The County Ordinance identifies several types of park and recreation facilities that may satisfy projected needs and that are eligible for Quimby credit. These facilities include, but are not limited to, publicly or privately owned playgrounds, riding and hiking trails, tennis, basketball or other similar game court areas, swimming pools, putting greens, athletic fields, picnic areas, and other types of natural or scenic areas as recommended by the director of parks and recreation for passive or active recreation.[19]

Credits toward meeting County Ordinance park requirements are determined by the County's Department of Parks and Recreation, and are based upon the ordinance and several criteria (e.g., access, improvements, topography, etc.). In this case, the project will provide a 20-acre Community Park, 5-acre neighborhood park, 14.4 net acres of private recreational and private park areas, and 9.3 acres of community trails.

Based on these facilities, the proposed project's expected parkland provision credit is 70.55 acres, as shown in **Table 4.14-6, Estimated Quimby Credits**. As shown in **Table 4.14-5**, above, the basic Quimby park land obligation for the Mission Village subdivision is 29.70 net acres of creditable parkland or its equivalent. Therefore, the park requirement for the proposed project would be fulfilled through the dedication of, and in some cases, improvements to, public community parks, open space, and trails.

As described in Section 1.0, project buildout currently is estimated to occur over several years, with full buildout not expected until 2021. Since market conditions and consumer needs historically change over time, a certain amount of flexibility is necessary in the specific type of residential units that ultimately would be built in order to assure the best mix of residential housing to meet changing market demands.

Even in the unlikely scenario that the Mission Village buildout includes all single-family detached residential, the project's parkland provision would exceed the basic Quimby park land obligation (per Table 4.14-5; 4412 × 3.23 × 0.003= 42.7 acres of parkland obligation).

19 Los Angeles County Ordinance 21.24.340, et seq.

Table 4.14-6
Estimated Quimby Credits

Land				Improvements			
Description/Category	**Acres**	**Credit %**	**Quimby Acres**		**Improv. Costs**	**Acre Equiv.[1]**	**Total Acreage**
Parks:							
Community Park	20	100%	20		$6,650,160	22.79	43.30
Neighborhood Park	5.0	100%	5.0		$2,240,700	7.68	12.85
Private Recreational Area	14.40	100%	14.40				14.40
Subtotal Parks	39.4		39.4				70.55
Trails:							
Community Trails (LDZ Lots)	9.3	100%	9.3				9.3
Total Credit Provided							**101.56**
Quimby Act Requirements							**29.70**
Excess							**71.86**

Source: Impact Sciences, Inc., May 2010.

[1] *The acreage equivalent column is calculated by dividing the improvement cost by the improvement fee (County in-lieu fee) of $291,767 per acre of parkland.*

As estimated in **Table 4.14-6**, a total of 101.56 acres of park credit would be generated, resulting in 71.86 acres over identified requirements. This parkland dedication is equivalent to approximately 9.4 acres per 1,000 persons, which is over 3.1 times greater than the Quimby requirements. Pursuant to the Newhall Ranch Specific Plan, the 71.86 acres by which the subdivision exceeds its Quimby obligation, as shown in **Table 4.14-6**, above, will be credited against other subdivisions within the Newhall Ranch Specific Plan area.

As demonstrated above, local park requirements are exceeded by the project based on the County Ordinance and Quimby Act standards. Since local park needs are exceeded by the proposed project, it is not expected that project residents would, in any appreciable manner, need to use local parks that are located off site, including those located in neighboring unincorporated Los Angeles County communities, in Ventura County, and in the City of Santa Clarita. This is not to say project residents would not use off-site facilities, but that significant park facilities are being provided to fully serve project needs. In fact, because the project exceeds local parkland requirements, it would actually help alleviate the negative condition being created by the existing Countywide shortage of parkland. Consequently, impacts to local parks would be considered beneficial.

As further discussed below, the project would not result in an increase in the use of existing neighborhood and regional parks or other recreation facilities such that substantial physical deterioration of the facility would occur or be accelerated.

(1) Regional Parks

Neither the County's Ordinance nor the Quimby Act specifies regional parkland standards. Regardless of the lack of regional standards, the Newhall Ranch Specific Plan set aside 4,214 acres of land characterized as regional parkland. The provision of regional park facilities would supplement the neighborhood and local parks that are planned as part of this project and other subdivisions developed within the Specific Plan. These facilities would provide opportunities for hiking, picnicking, and viewing of wildlife to residents of this project, the remaining Specific Plan neighborhoods, as well as to the Santa Clarita Valley as a whole.

While it is possible that project residents would use other Los Angeles County Regional Facilities, such as Castaic Lake, Lake Piru in Ventura County, or City of Santa Clarita parks, no significant regional parkland impacts are expected because the project provides a substantial amount of community parks on the site for its residents. Additionally, given the substantial provision of regional parkland that would be provided by the Specific Plan, off-site residents from unincorporated Los Angeles County, Ventura County, and the City of Santa Clarita would likely use the parks proposed by the Specific Plan. Therefore, no significant regional or local off-site impacts would occur.

(2) State and Federal Recreation/Forests

It is anticipated that new residents of Mission Village would use the local, state, and federal parks and recreation areas and forests. As such, increased usage would be considered a potentially adverse impact. However, the state and national park facilities charge user fees for water sports and overnight camping at the reservoirs and camping areas. Additionally, state and federal taxes, which would be paid by residents and businesses located within the proposed project site, would be available for maintenance of these facilities. Consequently, as with regional and local off-site facilities, no significant impacts would occur to state or federal parkland

(3) Other Parks

It is anticipated that project residents would enjoy recreational opportunities provided by Lake Piru and the increased use would be considered an adverse impact. However, similar to state and federal park and recreation areas discussed above, Lake Piru charges an entrance fee in addition to fees for fishing, boating

and camping, which would be available for maintenance of the facilities. Consequently, no significant parkland impacts would occur to Lake Piru.

(4) Impact to Trails

As discussed above, the proposed project incorporates elements of the Newhall Ranch Specific Plan Master Trails Plan. Trails proposed as part of this project would link to the hierarchy of trail systems provided in the Specific Plan, providing access to the regional trail network, Open Areas, and connections between living areas, shopping, work, entertainment, schools, and civic and recreational facilities.

New residents of the proposed project are expected to use the County's and City of Santa Clarita's existing and proposed trail systems in the Santa Clarita Valley area as they are constructed. Anticipated use of the surrounding trails would increase the density of users on such trails once they are constructed. However, most of the County trails are not currently in place. Once the Specific Plan is completed, the trails would connect to those County trails that would be in place at that time. The construction of the proposed project's trails would partially connect to the proposed system of County trails on the Specific Plan site (e.g., Santa Clara River Trail, Pico Canyon Trail). Because the proposed trail alignments would fulfill the objectives of the Santa Clarita Valley Area Plan for parks, recreation and trails, the proposed project is considered to have a beneficial impact on the regional trail system.

In addition, the proposed project does not include recreational facilities that might have an adverse physical effect on the environment. As noted, the recreational facilities to be provided as part of the proposed project include playing fields, swimming pools, picnic facilities, hiking trails, and indoor recreation centers. Resident use of these facilities would not result in an adverse physical effect on the environment. With respect to construction of these facilities, any potential adverse physical effect on the environment associated with such construction is analyzed in **Section 4.0** of this EIR. See, e.g., **Section 4.3, Biota; Section 4.4, Visual Qualities; Section 4.5, Traffic/Access**; **Section 4.6, Noise**; and **Section 4.7, Air Quality**.

7. MITIGATION MEASURES

Although the proposed Mission Village project would not result in a significant impact on parks, recreation, and trail facilities, the County adopted mitigation measures intended to ensure that processing of applications for future subdivisions would provide parks, recreation, and trails consistent with the Newhall Ranch Specific Plan. These mitigation measures are found in the certified Newhall Ranch Specific Plan Program EIR and adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). The project applicant has committed to implementing the applicable mitigation measures from the Newhall

Ranch Specific Plan to ensure that future development of the project site would not result in impacts to parks, recreation, and trail facilities, and would not adversely affect adjacent properties.

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan as they Relate to the Mission Village Project

The following mitigation measures (**Mitigation Measure SP 4.20-1** through **4.20-3**, below) were adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). The applicable mitigation measures will be implemented to ensure that adequate parks, recreation, and trail facilities are available to meet project demand. These measures are preceded by "SP," which stands for Specific Plan.

SP 4.20-1 Development of the Newhall Ranch Specific Plan will provide the following acreages of parks and open area:

- Ten public Neighborhood Parks totaling 55 acres;
- Open Areas totaling 1,106 acres of which 186 acres are Community Parks;
- High Country Special Management Area of 4,214 acres;
- River Corridor Special Management Area of 819 acres;
- A 15-acre lake;
- An 18-hole golf course; and
- A trail system consisting of:
  - Regional River Trail;
  - Salt Creek Corridor;
  - Community trails; and
  - Unimproved trails.

SP 4.20-2 Prior to the construction of the proposed trail system, the Specific Plan applicant shall finalize the alignment of trails with the County Department of Parks and Recreation.

SP 4.20-3 Trail construction shall be in accordance with the County of Los Angeles Department of Parks and Recreation trail system standards.

In addition to the above mitigation measures, the Specific Plan's neighborhood parks and active areas of the Community Parks are required to be improved pursuant to the revised Specific Plan's list of specified park improvements. The park improvements are required to be provided in accordance with the final park plan approved by the County's Department of Parks and Recreation. (See Specific Plan, May 2003, Section 2.8, p. 2-145.)

As a Board of Supervisors' imposed Condition of Approval, approximately 1,517 acres of land encompassing the Salt Creek watershed in Ventura County are required to be dedicated in fee and/or by conservation easement, as determined by Ventura County in its sole discretion, to the joint powers authority, which is responsible for overall recreation and conservation of the Newhall Ranch High County SMA. Said land is to be managed in conjunction with and in the same manner as the High Country SMA.

b. Additional Mitigation Measures Proposed by this EIR

No additional mitigation measures beyond those identified in the Newhall Ranch Specific Plan Program EIR are required or necessary because the Mission Village project would not result in any significant impacts to park, recreation, and trail facilities after implementation of the above Specific Plan mitigation measures.

8. CUMULATIVE IMPACTS

The Santa Clarita Valley Cumulative Build-Out Scenario entails buildout of all lands under the current land use designations indicated in the Santa Clarita Valley Area Plan and the Los Angeles County General Plan, plus the proposed project, plus all known pending General Plan Amendment requests for additional urban development in the unincorporated area of the Santa Clarita Valley and the City of Santa Clarita. A list of the future development activity (with and without the project) expected in the Valley under the Santa Clarita Valley Cumulative Build-Out Scenario is presented below in **Table 4.14-7**, **Cumulative Development Activity – Santa Clarita Valley Cumulative Buildout Scenario**.

Implementation of cumulative projects would incrementally increase demand for local park facilities. However, as discussed above, the proposed project would meet County parkland requirements and exceed the Quimby Act parkland standards and, therefore, would not result in cumulatively considerable impacts. Further, future development projects would be subject to the Quimby Act and County requirements, which would mitigate the demand associated with each future project. As a result, no significant cumulative impacts on County parks and recreation facilities would occur with implementation of the proposed project.

Table 4.14-7
Cumulative Development Activity – Santa Clarita Valley Cumulative Buildout Scenario

Land Use Types	Cumulative Buildout w/o Project[1]	Project	Cumulative Buildout w/ Mission Village[1]
Single-Family	93,429 du	382 du	93,811 du
Multi-Family	43,717 du	4,030 du	47,747 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	18,600,030 sq. ft.	1,555,100 sq. ft.	20,155,130 sq. ft.
Hotel	2,071 rooms		2,071 rooms
Sit-Down Restaurant	283,790 sq. ft.		283,790 sq. ft.
Fast Food Restaurant	23,600 sq. ft.		23,600 sq. ft.
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sq. ft.		54,000 sq. ft.
Car Dealership	411,000 sq. ft.		411,000 sq. ft.
Elem./Middle School	278,440 students	1,156 students	279,746 students
High School	12,958 students	321 students	13,164 students
College	29,948 students		29,948 students
Hospital	247,460 sq. ft.		247,460 sq. ft.
Library	111,790 sq. ft.	36,000 sq. ft.	171,790 sq. ft.
Church	501,190 sq. ft.		501,190 sq. ft.
Day Care	785,000 sq. ft.		785,000 sq. ft.
Industrial Park	41,743,950 sq. ft.		41,743,950 sq. ft.
Business Park	8,424,330 sq. ft.		8,424,330 sq. ft.
Manufacturing/Warehouse	3,932,470 sq. ft.		3,932,470 sq. ft.
Utilities	1,150,240 sq. ft.		1,150,240 sq. ft.
Commercial Office	6,380,520 sq. ft.		6,380,520 sq. ft.
Medical Office	133,730 sq. ft.		133,730 sq. ft.
Golf Course	1,209.0 ac		1,209.0 ac
Developed Parkland	467.8 ac	25.0 ac	492.8 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sq. ft. = square feet; ac = acres; sg = special generator

[1] *Santa Clarita Valley Consolidated Traffic Model, (November 2004). Includes existing development, buildout under the existing Los Angeles County General Plan and Santa Clarita Valley Area Plan, and active pending General Plan Amendment requests.*

[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Aqua Dulce Airport.*

9. CUMULATIVE MITIGATION MEASURES

The proposed project exceeds both the County and the Quimby Act requirements; therefore, it would not contribute to cumulative park, recreational, or trail facility impacts in the region.

10. SIGNIFICANT UNAVOIDABLE IMPACTS

a. Project-Specific Impacts

The proposed Mission Village project includes a 20-acre Community Park, one 5-acre Neighborhood Park, private recreation areas, a trail system, river corridor, and open space. In light of the identified significance thresholds, the project is in compliance with County and Quimby Act parkland standards and would not result in significant unavoidable impacts to local parks and recreation facilities. Implementation of the proposed project would include local trails and paseos. No negative project-related trail impacts would occur; thus no significant unavoidable impacts are expected. In fact, implementation of the project, with its proposed park, recreation, and trail network, would beneficially impact the developing County and City network.

b. Cumulative Impacts

The proposed project exceeds both County and Quimby Act requirements; therefore, it does not contribute to any adverse cumulative parks and recreation impacts in the region. Implementation of cumulative projects would incrementally increase demand for local park facilities in an area where such facilities are already below locally adopted standards. However, compliance with the mitigation outlined above would ensure that the proposed Mission Village project meets the County and Quimby Act standards. No significant cumulative impacts would occur with implementation of the proposed project.

4.15 LIBRARY SERVICES

1. SUMMARY

The Mission Village project site is located in the Valencia Library service area of the County of Los Angeles Public Library (County Library). In addition to the Valencia Library, the Santa Clarita Valley area is served by three other County libraries (Newhall Library, Canyon Country Jo Anne Darcy Library, and Castaic Library) and the Santa Clarita Valley Bookmobile. Existing library facility space in the Santa Clarita Valley does not meet the County Library's service level guidelines.

As part of the County's approval of the Newhall Ranch Specific Plan, the County adopted a library mitigation measure requiring that the developer dedicate up to two library sites and provide funding for the construction and development of library facilities on the Specific Plan site. The total library building square footage to be funded by the developer will not exceed 0.35 net square feet per person. Consistent with that mitigation, the proposed Mission Village project includes a 3.3-acre site for development of a public library in the Village Center area of the project. The Specific Plan mitigation measure also provides that, prior to issuance of the first residential building permit on Newhall Ranch, the County Librarian and developer must develop a mutually acceptable "Library Construction Plan." The plan must outline the library construction requirements and define elements such as location, size, funding, and timing of facilities construction. The Library Construction Plan, a completion schedule, land dedication criteria, and a funding plan must be defined and set forth in a Memorandum of Understanding (MOU) between the developer and County Librarian. With implementation of the Specific Plan mitigation, any potential impacts to library services resulting from the Mission Village project would be reduced to less-than-significant levels.

Based on the County Library's service level guidelines of 0.50 square foot of library facilities per capita and a collection size of 2.0 library material items (books, magazines, periodicals, audio, video, etc.) per capita for an opening day collection in a new library, the development of the proposed Mission Village project would require a total of 3,781 square feet of library facilities and 21,605 items.

With respect to cumulative impacts, new developments occurring within the Santa Clarita Valley would increase demand for books and library space. However, the project's impacts would be fully mitigated and would not contribute to cumulative impacts. Additionally, payment of the Library Developer Fee, $805.00 per residential unit (as of July 1, 2010), by other foreseeable regional projects would reduce potentially significant cumulative impacts on the County Library system to less-than-significant levels.

2. BACKGROUND

a. Relationship of Project to Newhall Ranch Program EIR

Section 4.19 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with libraries for the entire Newhall Ranch Specific Plan. The Newhall Ranch EIR mitigation program was adopted by the County in findings and in the revised Mitigation Monitoring Plan for the Specific Plan. The Newhall Ranch Program EIR concluded that Specific Plan implementation would result in significant impacts to library services, but that the identified mitigation measures would reduce the impacts to below a level of significance. All subsequent project-specific development plans and tentative subdivision maps must be consistent with the Newhall Ranch Specific Plan, County of Los Angeles General Plan, and Santa Clarita Valley Area Plan.

This project-level EIR is tiering from the previously certified Newhall Ranch Specific Plan Program EIR. **Section 4.15** discusses the existing conditions relative to library services for the Mission Village site, potential environmental impacts on library services, applicable mitigation measures from the Newhall Ranch Specific Plan Program EIR, and any mitigation measures recommended by this EIR for the Mission Village project.

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

The Newhall Ranch Specific Plan Program EIR identified certain potentially significant impacts related to library services that would result with implementation of the Specific Plan. The Program EIR, and related findings, determined that Specific Plan implementation would significantly increase demands on library facilities and library materials (books, magazines, periodicals, etc.), absent mitigation. The County Library's adopted planning standards at the time the Newhall Ranch Specific Plan was approved required 0.35 net square foot of facility space and 2.0 library items per capita. Based upon these standards, buildout of uses within the Specific Plan would create a demand for 20,897 square feet of facility space, and a demand for 119,414 library items.

In response, the Specific Plan's mitigation program for library services includes the following requirements: (a) provide funding for a maximum of two libraries (including the site[s], construction, furniture, fixtures, equipment and materials); The total building square footage to be funded by the developer will not exceed 0.35 net square feet per person (b) dedicate a maximum of two library sites located on Newhall Ranch in lieu of the land component of the County's library facilities mitigation fee; and (c) enter into an MOU with the County Librarian to address the library construction requirements

(library construction plan) and the criteria for timing the completion of the library(s). The developer's funding for the libraries facilities shall not exceed the developer's fee obligation at the time of construction under the developer fee schedule.[1]

The Specific Plan's mitigation program for libraries also set forth the timing for construction of the new libraries, as follows:

> *If two libraries are to be constructed, the first library will be completed and operational by the time of County's issuance of the 8,000th residential building permit of Newhall Ranch, and the second library will be completed and operational by the time of County's issuance of the 15,000th residential building permit of Newhall Ranch. If the County Librarian decides that only one library will be constructed, the library will be completed and operational by the time of County's issuance of the 10,000th residential building permit of Newhall Ranch.*[1]

The Board of Supervisors found that adoption of the mitigation measures would reduce the identified potentially significant effects to less-than-significant levels.[2]

4. EXISTING CONDITIONS

a. Los Angeles County Public Library System

The County Library operates facilities and services countywide in both unincorporated and incorporated areas of the County. The project area is located within the unincorporated areas of the County Library's Planning Area 1, which is the Santa Clarita Valley.[3] The project site is located within the Valencia Library service area and currently is served by the Valencia Library.

As illustrated in **Figure 4.15-1, Library Locations**, the County Library provides library services to the entire Santa Clarita Valley area with four libraries and one bookmobile. The four libraries are the Castaic Library, Valencia Library, Newhall Library, and Canyon Country Jo Anne Darcy Library. A description of the four libraries and the Santa Clarita Valley Bookmobile mobile book service is set forth below.[4]

(1) Valencia Library

The Valencia Library, located at 23743 West Valencia Boulevard in Valencia, is located approximately 5.1 miles southeast of the intersection of Commerce Center Drive and State Route (SR) 126. This library is

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1 See Mitigation Measure 4.19-1 in both the certified Newhall Ranch Specific Plan Program EIR and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

2 Ibid.

3 LA County Code, Section 22.72.020.

4 Building sizes, operating hours, collection size, and other information was obtained from the County of Los Angeles Public Library website http://www.colapublib.org/libs, accessed November 20, 2009.

a government publications repository. The library is approximately 23,966 square feet in size and contains approximately 186,178 items (books, periodicals, audiocassettes, videos, etc.) in its collection.[5]

The library recently underwent a complete remodel and reopened on February 1, 2010.[6] The latest remodeling included interior painting of the existing library, voice/data electrical saw cutting, installation of new service desks, installation of new self check-out machines, and the installation of new computer workstations.[7] The remodeled Valencia Library did not undergo expansion of the building; therefore, the Valencia Library remains approximately 23,966 square feet in size.[8] Furthermore, the Valencia Library did not add additional items or computers to its inventory upon completion of the remodeling process.[9]

(2) Newhall Library

The Newhall Library is located at 22704 West 9th Street in Newhall, approximately 8.1 miles southeast of the intersection of Commerce Center Drive and SR-126. This library is approximately 4,842 square feet in size and contains approximately 47,736 items in its collection.[10] The Newhall Library houses the offices for the Santa Clarita Valley Bookmobile.

The contents of the Newhall Library will be moved to a new location at 22601 Lyons Avenue in Santa Clarita, approximately 0.15 mile northeast of the existing Newhall Library.[11] Ground breaking for the new library is scheduled for spring 2010, and construction is scheduled to begin in the summer of 2010.[12] Upon completion, it is estimated that the new library will be approximately 30,752 square feet in size and will accommodate 105,000 to 110,000 items and 70 computers.[13]

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5 Written correspondence from Malou Rubio, Head, Staff Services, County of Los Angeles Public Library, November 20, 2009.

6 Written correspondence from Mosie Blow, Administrative Assistant III, County of Los Angeles Public Library February 18, 2010.

7 Written correspondence from Mosie Blow, February 18, 2010.

8 Written correspondence from Mosie Blow, February 18, 2010.

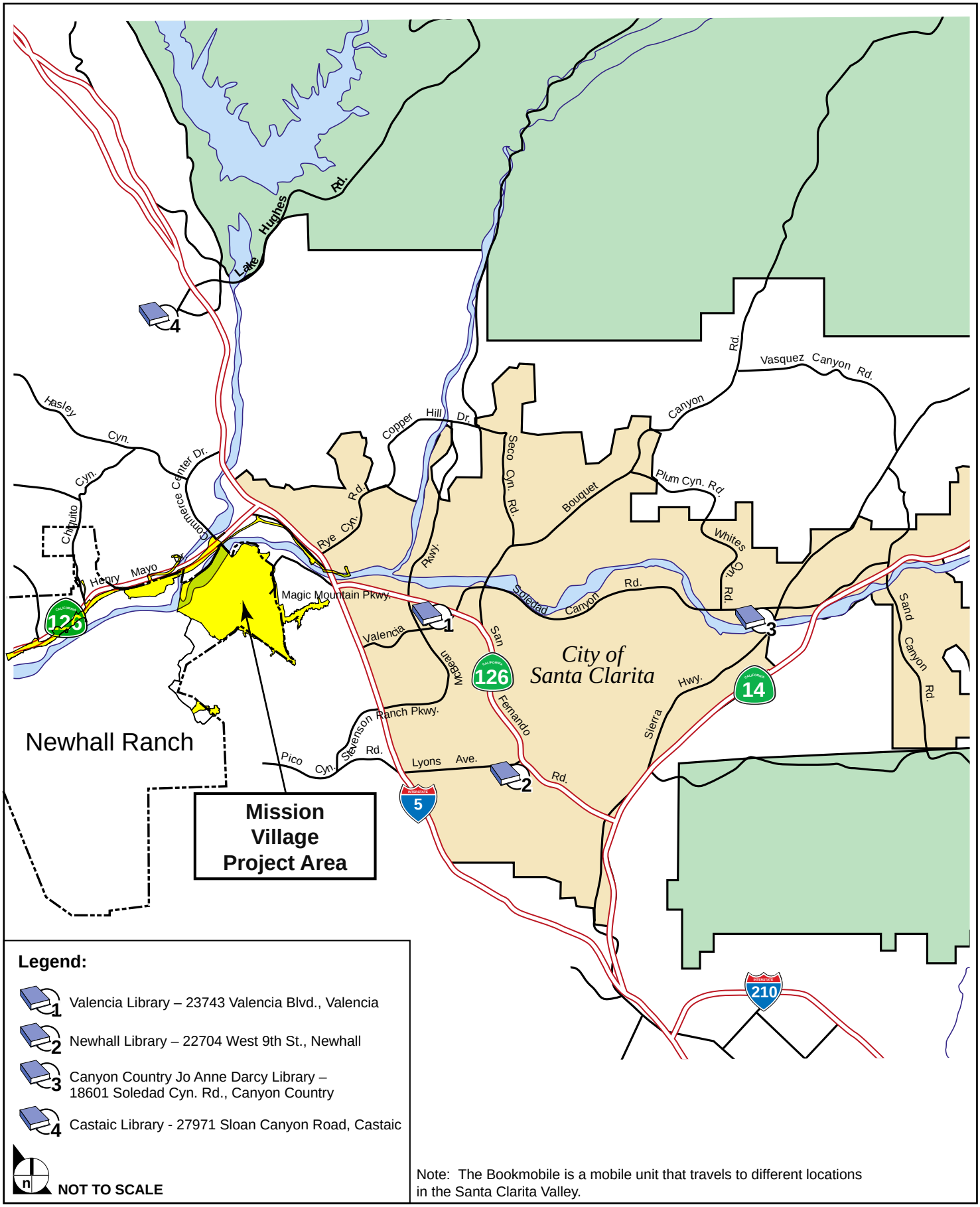
9 Written correspondence from Mosie Blow, February 18, 2010.

10 Written correspondence from Mosie Blow, February 18, 2010.

11 Written correspondence from Mosie Blow, February 18, 2010.

12 City of Santa Clarita, February 18, 2010.

13 Written correspondence from Mosie Blow, February 18, 2010.



Legend:

1. Valencia Library – 23743 Valencia Blvd., Valencia
2. Newhall Library – 22704 West 9th St., Newhall
3. Canyon Country Jo Anne Darcy Library – 18601 Soledad Cyn. Rd., Canyon Country
4. Castaic Library - 27971 Sloan Canyon Road, Castaic

NOT TO SCALE

Note: The Bookmobile is a mobile unit that travels to different locations in the Santa Clarita Valley.

SOURCE: Impact Sciences, Inc. – February 2010

FIGURE **4.15-1**

Library Locations

(3) Canyon Country Jo Anne Darcy Library

The Canyon Country Jo Anne Darcy Library is located at 18601 Soledad Canyon Road in Canyon Country, approximately 8.6 miles east of the intersection of Commerce Center Drive and SR-126. This library is 12,864 square feet in size and contains a total of 82,012 items in its collection.[14]

(4) Castaic Library

The Castaic Library, located at 27971 Sloan Canyon Road in Castaic, is approximately 5.0 miles north of the intersection of Commerce Center Drive and SR-126. This library is approximately 6,985 square feet in size and contains a total of 30,065 items in its collection.[15]

(5) Santa Clarita Valley Bookmobile Mobile Library Services

A bookmobile service is provided to outlying areas of the valley, such as Val Verde, Aqua Dulce, Acton, and the Friendly Valley Senior Community. This bookmobile consists of one vehicle and contains 7,192 items in its collection.[16]

b. Funding and General Level of Service

After the Newhall Ranch Specific Plan was approved, the County Library adopted service level guidelines of 0.35 gross square foot of library facilities and 2.75 library material items per capita for a collection in a built-out library, and 2.0 items per capita for a new community library,[17] which currently serve as current service level guidelines for new library services and facilities. At the time of this writing, valleywide library square footage totals 48,657 square feet and items available for review total 353,183. These totals include square footage from the Valencia Library, Newhall Library, Castaic Library, and Canyon Country Jo Anne Darcy Library, and items from the collections at the Valencia Library, Newhall Library, Castaic Library, Canyon Country Jo Anne Darcy Library, and Santa Clarita Valley Bookmobile. Based on a valleywide population of 252,000 persons, the ratio of library facilities and library material items (e.g., books and other materials) in the Santa Clarita Valley area on a per capita basis is 0.19 square foot per capita and 1.40 items per capita, respectively. Therefore, the existing libraries in the Santa Clarita Valley area do not meet the County Library's service level guideline for library items and do not meet the guideline for available library space per capita.

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14 Written correspondence from Mosie Blow, February 18, 2010.

15 Written correspondence from Mosie Blow, February 18, 2010.

16 Written correspondence from Mosie Blow, February 18, 2010.

17 E-mail correspondence from Malaisha Hughes, County of Los Angeles Public Library, Library Headquarters, January 21, 2005 (**Appendix 4.15**).

Funding sources for the County Library consist of, in descending proportions, property taxes, County General Fund allocation, a special tax, and revenue from fines, fees, and other miscellaneous sources. For several years, the Board of Supervisors has made an allocation from the County General Fund for library services. However, there is no guarantee of ongoing funding from the County General Fund as a specific budget allocation. Decisions on funding for the public library are made on an annual basis by the Board of Supervisors based on total available funding for all County services. The funding in the County Library's operating budget does not provide for the general replacement or expansion of library facilities. Currently, the only funding available for the replacement or expansion of library facilities is that generated from the County's developer fee program. At the present time, the fees collected in the Santa Clarita Planning Area are insufficient for the construction of new facilities.[18]

In 1992, the state shifted property tax revenues from library operations to help finance education. In response to this lost revenue, in 1994, the County Board of Supervisors adopted a community facilities district for extended library services and facilities in the unincorporated areas of the County and 11 cities, including the unincorporated area of the Santa Clarita Valley. On June 3, 1997, Proposition L was passed by a two-thirds majority, which assessed an annual special tax for library services.[19] Effective July 1, 2009, the special tax is $27.29 per parcel. The special tax may increase annually on July 1.[20] The County Library's special tax currently affects the unincorporated areas, including the project site, and 11 cities.

On October 27, 1998, the County Board of Supervisors established a permanent library facilities mitigation fee on all new residential development to mitigate impacts to County Library services. The library fee in Planning Area 1, within which the project site is located, is currently $805.00 per dwelling unit.[21] The County library's mitigation fee is subject to an annual Consumer Price Index (CPI) adjustment on July 1 of each year.[22]

5. PROPOSED PROJECT IMPROVEMENTS

The applicant proposes to develop a total of 4,412 residential dwelling units consisting of 382 single-family homes and 4,030 multi-family dwelling units, including attached and detached condominiums, apartments and age qualified units, with a total residential population of 10,802,[23] The project would also

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18 This includes square footage from the Valencia Library, Newhall Library, Castaic Library, and Canyon Country Jo Anne Darcy Library, and items from the collections at the Valencia Library, Newhall Library, Castaic Library, Canyon Country Jo Anne Darcy Library, and Santa Clarita Valley Bookmobile.

19 Telephone interview with Fred Hungerford, Staff Services, Los Angeles County Public Library, July 7, 1997.

20 Teleophone interview with Diane Lamb, Los Angeles County Public Library, May 7, 2010.

21 County of Los Angeles. Municipal Code. Section 22.72.030. "Establishment of Library Facilities Fees."

22 Ibid.

23 Based upon County of Los Angeles estimates of 3.17 persons per single-family dwelling, 2.38 persons per multi-family dwelling and per apartment.

include approximately 1,555,100 square feet of commercial/mixed use space, a 9.5-acre elementary school, fire station, bus transfer station, parks, public and private recreational facilities, trails, and roadway and infrastructure improvements. The project also includes a 3.3-acre library site for development of a public library in the Village Center area of the project.

6. PROJECT IMPACTS

The analysis of potential impacts to library services associated with operation of the proposed project, including the significance criteria applicable to assessing such impacts, is presented below.

a. Significance Threshold Criteria

Significance threshold criteria specific to library services are not specified in the *State CEQA Guidelines*. However, Appendix G to the *State CEQA Guidelines* addresses public services, such as fire, police, schools, parks, and "other public facilities." Under Section XIII, the proposed project would have a potentially significant impact on public facilities if the project would result in

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

In addition, the County Library has adopted the following service level guidelines:

(a) 0.50 gross square feet of library facilities space per capita; and

(b) 2.75 library material items (books, periodicals, audio cassettes, videos, etc.) per capita for a collection in a built-out community library, and 2.0 items per capita for an opening day collection in a new community library, and one computer per 1,000 capita served.

The County Library uses these standards for planning future library services and facilities.

As proposed, the project would increase demand on existing County Library services through its residential development, as shown in the adopted Newhall Ranch Specific Plan. The impact of the proposed project on library services is addressed below.

b. Impact Analysis

(1) Construction-Related Impacts

As noted, the construction and development of library facilities in connection with implementation of the Newhall Ranch Specific Plan will occur as part of the proposed Mission Village project. Any potential adverse physical effects on the environment associated with construction of the library are analyzed in **Section 4.0, Environmental Impact Analysis**, of this EIR. See, e.g., **Section 4.5, Traffic/Access**; **Section 4.6, Noise**; and **Section 4.7, Air Quality**.

(2) Operational Impacts

Occupancy of the Mission Village project would increase the demand placed on library services at the Valencia Library due to the library's proximity to the project site, thereby increasing the need for additional library facility space and library items. As noted above, the County Library has adopted a planning guideline of 0.50 gross square foot and 2.75 items (books, periodicals, audio cassettes, videos, etc.) per capita for a collection in a built-out library, and 2.0 items per capita for a new community library, and one computer per 1,000 capita served.[24,25]

Based on the adopted County Library's service level guideline of 0.50 gross square foot of library facilities per capita, it is anticipated that a community the population size of Mission Village (10,802 persons) would require a total of 5,401 square feet of library facilities. With respect to library materials, based on the County Library's service level guideline, 29,705 library material items and 10 public computers would be required to serve the project population if the project residents were to utilize a built-out community library, such as the Valencia or Castaic library. However, under the scenario in which a new library is constructed, 21,605 library material items would be required to serve the project population. Please refer to **Appendix 4.15** for calculations.

As discussed previously, the Santa Clarita Valley area presently is under-served with regard to available library space. The County Library staff has indicated that there are no current plans for facilities expansion due to lack of available funding. Consequently, without mitigation, project impacts upon existing library services would be significant.

However, mitigation adopted as part of the County's approval of the Newhall Ranch Specific Plan requires Newhall to dedicate up to two library sites in Newhall Ranch in lieu of the land component of the County's library facilities mitigation fee. As noted above, the proposed project includes a 3.3-acre library site for development of a public library in the Village Area center of the Mission Village project. The Specific Plan mitigation further requires that Newhall provide funding for the library, including

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24 E-mail correspondence from Malaisha Hughes, County of Los Angeles Public Library, Library Headquarters, January 21, 2005 (**Appendix 4.15**).

25 Written correspondence from Malou Rubio, June 28, 2004.

construction, furniture, fixtures, equipment and materials. The total library building square footage to be funded by the developer will not exceed 0.35 net square foot per person. The mitigation also requires that prior to the County's issuance of the first residential building permit for Newhall Ranch, Newhall and the County Librarian are to agree upon a Library Construction Plan to address construction requirements such as location, size, funding, and time of construction, which is to be defined in an MOU between the parties. (The Specific Plan mitigation, **SP 4.19-1**, is set out in full in section 7.a. below.)

The applicant is currently in discussions with the County Librarian to establish library development criteria that comply with the MOU requirements of the Specific Plan. Based on the discussions to date:

- the applicant would dedicate land for, and either provide the funding for or construct, one library within the Mission Village site of the Newhall Ranch Specific Plan; and
- the construction and completion of the library would be consistent with the requirements of the Newhall Ranch Specific Plan.

The adopted Specific Plan mitigation, including the MOU requirements in that mitigation, is deemed to fully mitigate for the Specific Plan's impacts to library services. With this mitigation, impacts to library services resulting from the Newhall Ranch Specific Plan, inclusive of Mission Village, would be reduced to less-than-significant levels.

7. MITIGATION MEASURES

Although the proposed Mission Village project may result in potential impacts to library services absent mitigation, the County previously imposed mitigation measures required to be implemented as part of the Newhall Ranch Specific Plan. The mitigation measure, as it relates to libraries, is found in the previously certified Newhall Ranch Specific Plan Program EIR (March 8, 1999) and adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). The applicant has committed to implementing the applicable mitigation measures from the Newhall Ranch Specific Plan to ensure sufficient availability of library space and materials.

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as they Relate to the Mission Village Project

The following mitigation measure was adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). This mitigation measure is applicable to the Mission Village project and would be implemented to mitigate the potentially significant library service impacts associated with the proposed Mission Village project and future Newhall Ranch Specific Plan projects to ensure sufficient availability of library space and materials. This measure is preceded by "SP," which stands for Specific Plan.

SP 4.19-1 The developer will provide funding for a maximum of two libraries (including the site(s), construction, furniture, fixtures, equipment and materials) to the County Librarian. The

developer will dedicate a maximum of two library sites for a maximum of two libraries located in Newhall Ranch in lieu of the land component of the County's library facilities mitigation fee, in accordance with the provisions of Section 22.72.090 of Section 2 of Ordinance No. 98-0068. The actual net buildable library site area required and provided by the developer will be determined by the actual size of the library building(s), the Specific Plan parking requirements, the County Building Code, and other applicable rules.

The total library building square footage to be funded by the developer will not exceed 0.35 net square feet per person. The developer's funding of construction of the library(s) and furnishings, fixtures, equipment and materials for the library(s) will be determined based on the cost factors in the library facilities mitigation fee in effect at the time of commencement of construction of the library(s).

Prior to County's issuance of the first residential building permit of Newhall Ranch to the developer, the County Librarian and the developer will mutually agree upon the library construction requirements (location, size, funding, and time of construction) based upon the projected development schedule and the population of Newhall Ranch based on the applicable number of average persons per household included in the library facilities mitigation fee in effect at the time. Such mutual agreement regarding the library construction requirements ("Library Construction Plan") and the criteria for timing the completion of the library(s) will be defined in a Memorandum of Understanding (MOU) between the developer and the County Librarian. Such MOU shall include an agreement by the developer to dedicate sufficient land and pay the agreed amount of fees on a schedule to allow completion of the library(s) as described below. The developer's funding for library facilities shall not exceed the developer's fee obligation at the time of construction under the developer fee schedule.

If two libraries are to be constructed, the first library will be completed and operational by the time of County's issuance of the 8,000th residential building permit of Newhall Ranch, and the second library will be completed and operational by the time of County's issuance of the 15,000th residential building permit of Newhall Ranch. If the County Librarian decides that only one library will be constructed, the library will be completed and operational by the time of County's issuance of the 10,000th residential building permit of Newhall Ranch.

No payment of any sort with respect to library facilities will be required under Section 2.5.3.d. of the Specific Plan in order for the developer to obtain building permits for nonresidential buildings.

b. Additional Mitigation Measures Proposed by this EIR

No additional mitigation measures beyond that identified in the Newhall Ranch Specific Plan Program EIR are required or necessary because the Mission Village project would not result in any significant library service impacts after implementation of the above mitigation measure.

8. CUMULATIVE IMPACTS

To analyze the cumulative impacts to library services of the proposed Mission Village project in combination with other expected future growth, the amount and location of growth expected to occur in addition to that of the project was determined. Two separate cumulative development scenarios were utilized to project future growth—the County's Development Monitoring System (DMS) Build-Out Scenario, and the Santa Clarita Valley Cumulative Build-Out Scenario.

a. DMS Build-Out Scenario

The first scenario (referred to as the DMS Buildout Scenario) is based on buildout of the subdivision and parcel maps listed in the County's DMS, plus the proposed project. The County DMS lists all pending, recorded, and approved projects involving land divisions located on unincorporated lands in the Santa Clarita Valley and within the City of Santa Clarita. The most recent County DMS is dated October 2003. A list of the future development activity (with and without the proposed project) expected to occur within the service boundary of the County library system (the Santa Clarita Valley Planning Area 1) is presented below in **Table 4.15-1**, **DMS Build-Out Scenario – Santa Clarita Valley Planning Area 1**.[26]

As **Table 4.15-1** shows, over the buildout period of the project, other development activity will occur throughout the Santa Clarita Valley. This growth will cumulatively impact the County Library system within the Santa Clarita Valley Planning Area. Library impact data on these projects, taken from a recent Inventory Information report prepared by the County's Department of Regional Planning for the three libraries located within the Santa Clarita Valley, are summarized in **Table 4.15-2**.

[26] Los Angeles County Department of Regional Planning, Inventory Information for Library Service, October 12, 2003.

Table 4.15-1
DMS Build-Out Scenario – Santa Clarita Valley Library Planning Area 1

Land Use Types	DMS Buildout without Mission Village[1]	Mission Village	DMS Buildout with Mission Village[1]
Single-Family	62,472 du	382 du	62,854 du
Multi-Family	29,037 du	4,030 du	30,067 du
Mobile Home	1,818 du		1,818 du
Commercial Retail	8,847,337 sf	1,555,100 sf	10,402,437 sf
Hotel	670 rooms		670 rooms
Sit-Down Restaurant	146,340 sf		146,340 sf
Fast Food Restaurant	15,100 sf		15,100 sf
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sf		54,000 sf
Car Dealership	300,000 sf		300,000 sf
Hospital	222,800 sf		222,800 sf
Library	93,110 sf	36,000	129,110 sf
Church	323,190 sf		323,190 sf
Industrial Park	19,042,611 sf		19,042,611 sf
Business Park	3,100,321 sf		3,100,321 sf
Manufacturing/Warehouse	3,006,821 sf		3,006,821 sf
Utilities	1,037,240 sf		1,037,240 sf
Commercial Office	4,086,541 sf		4,086,541 sf
Medical Office	133,730 sf		133,730 sf
Golf Course	345.0 ac		345.0 ac
Developed Parkland	110.1 ac	25 ac	135.1 ac
Special Generator[2]	296.0 sg		296.0 sg

du = dwelling unit; sf = square feet; sta = staff; ac = acres; sg = special generator

[1] *Los Angeles County Department of Regional Planning, Service Provider Report (October 12, 2003) using data for the William S. Hart Union High School District, which encompasses the Santa Clarita Valley Planning Area. Includes existing development as contained in Santa Clarita Valley Consolidated Traffic Model, (2004).*

[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Agua Dulce Airport.*

Table 4.15-2
Cumulative Supply and Demand – DMS Build-Out Scenario

Library	Existing Supply[5]	Existing Demand[1]	Cumulative Demand[2]	Total Demand[3]
Santa Clarita Valley				
Space (square feet)	48,657	62,518	43,398	105,916
Items[4]	353,183	320,598	222,554	543,152
Project				
Space (square feet)	0	0	5,401	5,401
Items	0	0	21,605	21,605
Totals				
Space (square feet)	48,657	62,518	48,799	111,317
Items	353,183	320,598	244,159	564,757

Source: Los Angeles County Department of Regional Planning, Inventory Information for Library Service, (October 12, 2003).

[1] *Represents the square footage and number of books required to serve the existing population.*

[2] *Represents additive requirement of square footage and number of books demanded by DMS plus Project.*

[3] *Represents existing demand plus cumulative demand (does not include existing supply).*

[4] *Items = books, periodicals, audiocassettes, videos, etc.*

[5] *Existing supply updated via written correspondence from Malou Rubio, Head, Staff Services, County of Los Angeles Public Library, November 20, 2009.*

As shown in **Table 4.15-2**, **Cumulative Supply and Demand – DMS Build-Out Scenario**, buildout under the DMS scenario without the project and based on current service level guidelines would result in an additional demand for 43,398 square feet of library space and for 222,554 library items (books, periodicals, audiocassettes, videos, etc.). With the Mission Village project, these numbers would increase by 5,401 square feet and 21,605 items for a total additional demand at DMS Buildout of 48,799 square feet and 244,159 items.

The County requires that new residential development in the valley either pay the current library fee, $805.00 per residential unit as of July 1, 2009, or construct library facilities in the valley, per County Public Library planning and service level guidelines, in order to fully mitigate cumulative impacts on library services. The Newhall Ranch Specific Plan would provide library facilities consistent with the County guidelines and in accordance with the requirements of the Specific Plan mitigation requirements and the ensuing MOU process required as a condition of approval of the Specific Plan. Providing the specified library facilities and materials would reduce the impact of the Newhall Ranch Specific Plan, including the Mission Village project, to a less-than-significant level. Therefore, the Mission Village project's contribution to the cumulative demand for library space and items would not be cumulatively considerable.

b. Santa Clarita Valley Cumulative Buildout Scenario

The Santa Clarita Valley Cumulative Buildout Scenario (SCV) entails buildout of all lands under the current land use designations indicated in the Santa Clarita Valley Area Plan and the County of Los Angeles General Plan, plus the Mission Village project, plus all known pending General Plan Amendment requests for additional urban development in the unincorporated area of the Santa Clarita Valley and the City of Santa Clarita. A list of future development activity (with and without the project) expected in the valley under the SCV Cumulative Buildout Scenario is presented below in **Table 4.15-3**, **Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario (Project Option)**.

Upon buildout of the SCV Cumulative Buildout Scenario, existing population plus new residential development (including the proposed project) would total 426,680 and would create a total per capita demand for 213,340 square feet of library facilities or 164,683 square feet more than the existing 48,657 square feet, and 1,173,370 items, or 820,187 items more than the existing 353,183 items, based on the planning guidelines of 0.5 gross square foot per capita and 2.75 items per capita. Please refer to **Appendix 4.15** for calculations. As previously discussed, development of the Newhall Ranch Specific Plan, including Mission Village, includes the two new library facilities within the Specific Plan area to serve the development and, therefore, the impacts of Mission Village would be fully mitigated and not cumulatively considerable. In addition, the cost of new library facilities required of future development could be partially financed by new tax revenues that new developments would generate for the County on an ongoing basis. And as previously noted, the County requires that new developments either pay the current library mitigation fee, $805.00 as of July 1, 2009, per residential unit, or construct library facilities in the valley, per County Public Library planning and service level guidelines, in order to fully mitigate cumulative impacts on County Library services. Accordingly, cumulative impacts relative to library services would be less than significant.

9. CUMULATIVE MITIGATION MEASURES

All new residential developments in the unincorporated areas of the Santa Clarita Valley area (e.g., single- and multi-family residential projects, mobile homes) would be subject to the library impact fee on a project-by-project basis. No additional mitigation is recommended or required.

Table 4.15-3
Cumulative Development Activity – Santa Clarita Valley Cumulative Build-Out Scenario
(Project Option)

Land Use Types	Cumulative Buildout without Project[1]	Project	Cumulative Buildout with Landmark Village[1]
Single-Family	93,412 du	382 du	93,794 du
Multi-Family	47,621 du	4,030 du	51,651 du
Mobile Home	2,699 du		2,699 du
Commercial Retail	18,866,030 sf	1,555,100 sf	20,421,130 sf
Hotel	2,071 room		2,071 room
Sit-Down Restaurant	283,790 sf		283,790 sf
Fast Food Restaurant	23,600 sf		23,600 sf
Movie Theater	3,300 seats		3,300 seats
Health Club	54,000 sf		54,000 sf
Car Dealership	411,000 sf		411,000 sf
Elem./Middle School	278,590 students	1,156 students	279,746 students
High School	12,843 students	321 students	13,164 students
College	29,948 students		29,948 students
Hospital	247,460 sf		247,460 sf
Library	171,790 sf		171,790 sf
Church	501,190 sf		501,190 sf
Day Care	785,000 sf		785,000 sf
Industrial Park	41,743,950 sf		41,743,950 sf
Business Park	8,424,330 sf		8,424,330 sf
Manufacturing/Warehouse	3,932,470 sf		3,932,470 sf
Utilities	1,150,240 sf		1,150,240 sf
Commercial Office	6,380,520 sf		6,380,520 sf
Medical Office	133,730 sf		133,730 sf
Golf Course	1,209.0 ac		1,209.0 ac
Developed Parkland	468.3 ac	25 ac	493.3 ac
Undeveloped Parkland	1,000.0 ac		1,000.0 ac
Special Generator[2]	413.0 sg		413.0 sg

du = dwelling unit; sf = square feet; sta = staff; ac = acres; sg = special generator

[1] *Santa Clarita Valley Consolidated Traffic Model, (2004). Includes existing development, buildout under the existing City of Santa Clarita General Plan, Santa Clarita Valley Area Plan, and active pending General Plan Amendment requests.*

[2] *Includes Wayside Honor Ranch, Six Flags Magic Mountain, Travel Village, CHP Office, and Agua Dulce Airport.*

10. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project-Specific Impacts

With implementation of the recommended mitigation required by the Specific Plan, the Mission Village project would not result in significant unavoidable impacts to library services.

b. Cumulative Impacts

With implementation of the Specific Plan mitigation measure, in combination with the County's requirement that new development either pay the appropriate impact fees, or construct additional facilities, there are no significant unavoidable cumulative impacts to library services resulting from implementation of the proposed project.

4.16 AGRICULTURAL RESOURCES

1. SUMMARY

Development of the proposed Mission Village tract map and related off-site improvements would convert 160.7 acres of Prime Farmland, 30.1 acres of Unique Farmland, 0.6 acre of Farmland of Statewide Importance, 2.5 acres of Farmland of Local Importance, and 875.6 acres of Grazing Land to non-agricultural uses. The proposed project's irreversible loss of 160.7 acres of Prime Farmland, 30.1 acres of Unique Farmland, and 0.6 acre of Farmland of Statewide Importance is consistent with the findings of the Newhall Ranch Specific Plan Program EIR and is considered a significant impact. Based on the applicable significance thresholds, the loss of Grazing Land is not considered a significant impact. No feasible mitigation exists to reduce the identified significant impacts resulting from the conversion of prime agricultural land to a less-than-significant level and, therefore, these impacts are significant and unavoidable.

With respect to forest resources, development of the proposed Mission Village tract map and related off-site improvements would not conflict with forestland or timberland zoning. In the past, the project site was zoned for agricultural uses; but, with approval of the Newhall Ranch Specific Plan on May 27, 2003, the Mission Village project site was re-zoned as non-agriculture. Therefore, development of the project site would not require a zone change from an existing forestland/timberland zone to a non-forestland/timberland zone, and there would be no related impacts.

The Mission Village project site contains approximately 146.5 acres (approximately 7.9 percent of the 1,854.5-acre project site[1]) of native trees (i.e., oak trees and cottonwood trees, which are considered Forest Land as defined by Public Resource Code section 12220(g)), of which 12.7 acres would be permanently disturbed and 25.8 acres would be temporarily disturbed. Therefore, approximately 0.68 percent (approximately 12.7 acres of native trees) of the 1,854.5-acre project site that contains native trees would be lost, due to development of the project. However, because mitigation is provided in ***Section 4.3***, ***Biota***, *to mitigate the loss of these forest resources, any potentially significant impacts related to such loss would be reduced to a less-than-significant level.*

2. INTRODUCTION

a. Relationship of Project to Newhall Ranch Program EIR

Section 4.4 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with agricultural resources for the entire Newhall Ranch Specific Plan. The Newhall Ranch Specific Plan EIR mitigation program was

1 This total—1,854.5 acres—includes the tract map site and off-site improvement areas.

adopted by the County of Los Angeles (County) in findings and in the revised Mitigation Monitoring Plan for the Specific Plan. The Newhall Ranch Specific Plan Program EIR concluded that Specific Plan implementation would result in significant impacts to agricultural resources and that no feasible mitigation exists that would reduce the impacts to below a level of significance.

This project-level EIR is tiering from the previously certified Newhall Ranch Program EIR. **Section 4.16** discusses the Mission Village project's existing conditions, potential environmental impacts relative to agricultural resources, applicable mitigation measures from the Newhall Ranch Specific Plan Program EIR, and any additional mitigation measures recommended by this EIR for the project.

All subsequent, project-specific development plans and tentative subdivision maps must be consistent with the Newhall Ranch Specific Plan, County General Plan, and Santa Clarita Valley Area Plan.

b. References

The analysis presented in this section is based upon a review of multiple source documents, including review of the following:

- California Department of Conservation, Farmland Mapping and Monitoring Program, Los Angeles County 2008, ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/. Accessed April 1, 2010.
- United States Department of Agriculture Natural Resources Conservation Service, Web Soil Survey, http://websoilsurvey.nrcs.usda.gov/app/.United States Department of Agriculture, Antelope Valley Area Soil Survey.
- United States Department of Agriculture, Soil Conservation Service, Soil Survey Antelope Valley Area California, August 1969.
- California Department of Forestry and Fire Protection, Fire and Resource Assessment Program, Land Cover Map, http://www.frap.fire.ca.gov/data/frapgismaps/download.asp. Accessed April 2, 2010.
- California Department of Forestry and Fire Protection, The 2010 Forest and Range Assessment, Public Review and Comment, http://frap.fire.ca.gov/assessment2010/publicreview.html. Accessed April 1, 2010.
- United States Forest Service, Forest Inventory and Analysis National Program, Forest Inventory Data Online, http://fia.fs.fed.us/tools-data/default.asp. Accessed March 1, 2010.

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

The Newhall Ranch Specific Plan Program EIR identified the conversion of agricultural land to urban use as a significant unavoidable impact associated with Specific Plan buildout. The analysis also found a potential for future residents of the Specific Plan to be incidentally exposed to agricultural-related

activities. The Newhall Ranch Specific Plan Program EIR, and related findings, determined that no feasible mitigation exists for the conversion of 573 acres of Prime Farmland on the Newhall Ranch Specific Plan site.[2] Measures were adopted to protect future Specific Plan residents from incidental exposure to agricultural-related activities on agricultural lands in Ventura County, including the imposition of a development setback from the Los Angeles County/Ventura County line, and requirements to notify prospective homebuyers about the presence of ongoing agricultural activities in Ventura County.[3]

The Newhall Ranch Specific Plan Program EIR acknowledged that cumulative development pressure in the County and the remainder of southern California would continue, leading to a decline in the amount of cultivated agricultural land in the region. The contribution of the Newhall Ranch Specific Plan to the cumulative loss of prime agricultural land in the region was found to be significant.

Based on the Newhall Ranch Specific Plan Program EIR and the record before it, the Board of Supervisors found that the Specific Plan's impacts to agricultural resources would be significant and unavoidable even with implementation of all feasible mitigation measures. Consistent with section 15093 of the *State CEQA Guidelines*, the Board of Supervisors found that the Specific Plan offered overriding economic, legal, social, planning and other public benefits that outweighed the significant unavoidable impacts and made them acceptable.

4. EXISTING CONDITIONS

The information presented in the Newhall Ranch Specific Plan Program EIR, Section 4.4, Agricultural Resources, assessed the existing agricultural setting of the entire Newhall Ranch Specific Plan, including the Mission Village project site, from an agricultural standpoint. Section 4.4 also provided detailed background information and findings regarding the agricultural analysis conducted in connection with the entire Specific Plan site.

In preparing this project-level analysis, this information from the prior Newhall Ranch Program EIR (see Appendix 4.4 in the Newhall Ranch Program EIR) was assessed to determine whether there are any agricultural resources pertinent to the Mission Village project site that were not examined in the prior Newhall Ranch Specific Plan Program EIR. Based on that review, it was determined that all significant

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2 The Newhall Ranch Specific Plan Program EIR determined that implementation of the proposed Specific Plan would result in the conversion of 595 acres of Prime Farmland to urban uses. (Program EIR [March 1999] 4.4-16.) The Los Angeles County Board of Supervisors subsequently directed that revisions be made to the Specific Plan, which resulted in a reduction in the development footprint and a corresponding reduction of 22 acres of impacted Prime Farmland.

3 See Mitigation Measures 4.4-1 and 4.4-2 in both the certified Newhall Ranch Specific Plan Program EIR (March 9, 1999) and adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

agricultural resources associated with development of the Mission Village project site and related off-site improvements were identified in the Newhall Ranch Specific Plan Program EIR and related environmental findings. Therefore, at the project level, this EIR incorporates by reference the existing conditions analysis and background information relating to agricultural resources from the previously certified Newhall Ranch Specific Plan Program EIR.

The following discusses the current level of agricultural production and suitability of farmland on the Mission Village site, and the existing forest land resources.

a. Agricultural Production

Figure 4.16-1, **Current Agricultural Uses**, shows the current agricultural uses on the Mission Village project site. Of the 1,854.5 acres of land comprising the Mission Village tract map site and related off-site improvements, 9.5 acres contain Alfalfa Hay, 85.0 acres are of dry farming, 9.4 acres are of Sudan farming; 6.1 acres are of Sudan Pasture, and 171.2 acres contain vegetable crops.[4] (Information regarding existing water usage on the project site can be found in **Section 4.8**, **Water Service**.) The remaining project site acreage is vacant of agricultural crops. Previous uses of the site included agricultural and cattle grazing operations, and oil and gas operations.

b. Farmland Suitability

Figure 4.16-2, **On-Site Important Farmland**, shows the important farmlands present on the Mission Village site, as defined by the Farmland Map and Monitoring Program (FMMP) of the California Department of Conservation.[5] As shown, the 1,854.5-acre project site (which is inclusive of the related off-site improvements) contains 160.7 acres of Prime Farmland, 30.1 acres of Unique Farmland, 0.6 acre of Farmland of Statewide Importance, 2.5 acres of Farmland of Local Importance, 67.0 acres of Urban and Built-Up Land, 718.1 acres of Other Land, and 875.6 acres of Grazing Land.

According to the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), there are a total of 20 different soil types within the Mission Village project site (including the off-site improvement areas). **Table 4.16-1**, **Project-Site USDA Soil Suitability**, lists these soils and identifies the agricultural activities for which each soil is most suited, or capable (if any), the amount of soil acreage on the project site, and whether or not the soil meets NRCS criteria for Prime Farmland soils. As shown in **Table 4.16-1**, 13 of the 25 soil types meet the USDA NRCS criteria for Prime Farmland soils. These determinations are made whether or not the soils are farmed.

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4 Newhall Land and Farming, February 2010.

5 State of California, Department of Conservation, Los Angeles County Important Farmland Map, ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/2008/ GIS Data 2008. Accessed April 1, 2010.

Table 4.16-1
Project-Site USDA Soil Suitability

Soil Type	Most Suitable Agricultural Activity for Soil Type	Acres of Soil on the Project Site	Meet Prime Farmland Criteria?
Castaic-Balcom silty clay loams (15 to 30%) (CmE)	Range and wildlife habitat	5.2	No
Castaic Balcom Silty Clay Loams (30 to 50%) (CmF)	Range[1]	747.1	No
Castaic-Balcom silty clay loams (30 to 50%) (CmF2)	Range, wildlife habitat, watershed areas, and recreation areas	6.5	No
Castaic-Balcom silty clay loams (50 to 65%) eroded (CmG2)	Wildlife habitat, range, and watershed	0.2	No
Cortina Sandy Loam (0 to 2%) (CyA)	Range, dryland small grains, pasture, irrigated alfalfa, and small grains	26.1	No
Castaic and Saugus Soils (CnG3)	None due to steep slopes and severe erosion	42.7	No
Hanford sandy loam (0 to 2%) (HcA)	Irrigated crops such as alfalfa, small grains, sugar beets, potatoes, and fruit and nut trees	111.7	Yes
Handford sandy loam (2 to 9%) (HcC)	Irrigated crops such as alfalfa, small grains, sugar beets, potatoes, and fruit and nut trees	48.8	Yes
Metz loamy sand (0 to 2%) (MfA)	Irrigated alfalfa and grain, and for nonirrigated grain and range	45.5	Yes
Metz Sandy Loam (2 to 9%) (MfC)	Irrigated crops and dryland farming	25.5	Yes
Metz loam (2 to 5%) (MgB)	Irrigated alfalfa and grain, and for nonirrigated grain and range	4.4	Yes
Mocho sandy loam (0 to 2%) (MoA)	Irrigated crops, dryland grains	4.1	Yes
Mocho Loam (0 to 2%) (MpA)	Dryland and irrigated crops	40.4	Yes
Mocho loam (2 to 9%) (MpC)	Irrigated alfalfa, small grains, sugar beets, potatoes, and fruit and nut trees	9.0	Yes
Riverwash (Rg)	Watershed areas and wildlife habitat	115.1	No
Sandy Alluvial Land (Sa)	Grazing	180.3	No
Saugus loam (30 to 50%) (ScF)	Range, watershed, and wildlife area, home sites.	28.5	No
Saugus Loam (30 to 50%) eroded (ScF2)	Range, wildlife habitat, and watershed	203.2	No
Sorrento loam (0 to 2 %) (SsA)	Irrigated alfalfa, small grains, sugar beets, potatoes, and fruit and nut trees	4.4	Yes

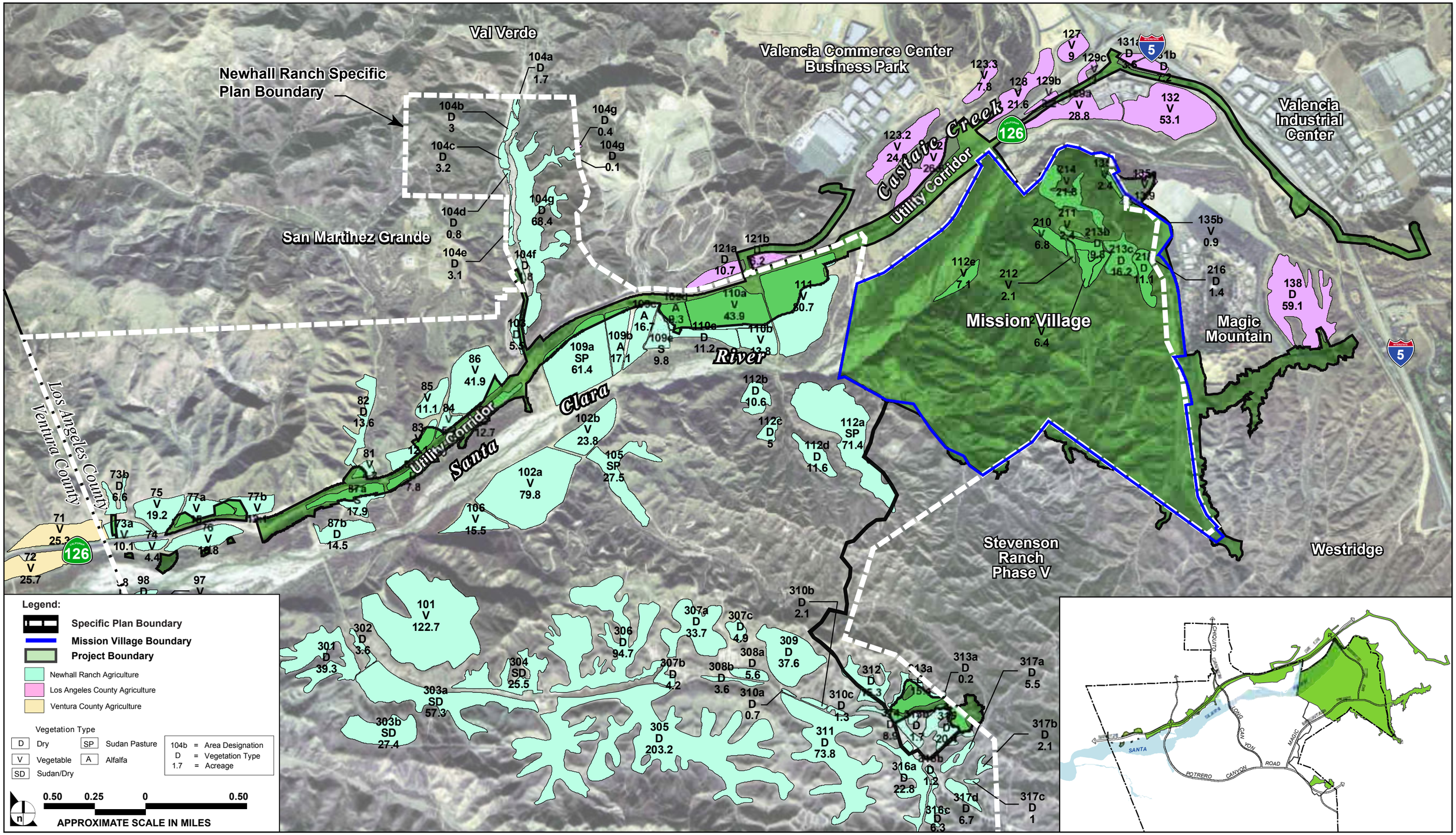
Soil Type	Most Suitable Agricultural Activity for Soil Type	Acres of Soil on the Project Site	Meet Prime Farmland Criteria?
Sorrento Loam (2 to 5%) (SsB)	Irrigated crops, such as alfalfa, green onions, carrots, walnuts, and pasture	25.9	Yes
Terrace Escarpments (TsF)	Incidental grazing	38.5	No
Yolo loam (0 to 2%) (YoA)	Irrigated alfalfa, small grain, sugar beets, and potatoes	56.6	Yes
Yolo Loam (2 to 9%) (YoC)	Irrigated crops and range	43.8	Yes
Zamora loam (2 to 9 %) (ZaC)	Range	57.5	Yes
Zamora Loam (9 to 15%) (ZaD)	Range	16.8	No

Source: Compiled by Impact Sciences, Inc. (February 2010) from the Soil Survey [for the] Antelope Valley.
Note: Column one indicates the soil type and, if applicable, the percentage of specific soil constituents which indicate their suitability as Prime Farmland. Column two indicates the activity most suitable for the particular soil type, column three indicates the amount of acreage, and the fourth column indicates whether or not the soil type is suitable as Prime Farmland.
[1] *Range is defined as open land used for grazing.*

It should be noted that the basis for the soils listed in **Table 4.16-1** that are classified as meeting Prime Farmland criteria is the soil type and ability to produce fertile crops. Even though the soils are classified as meeting Prime Farmland criteria, some locations and areas that contain these soils may not be suitable for or capable of farming, which accounts for the acreage difference of Prime Farmland from the perspective of the California Department of Conservation FMMP and the USDA NRCS soils program. The California Department of Conservation FMMP is updated every two years and provides a more in-depth analysis as to what soil areas should and should not be classified as Important Farmland (which includes Prime Farmland, Unique Farmland, Farmland of Statewide Importance and Farmland of Local Importance). Changes in areas of Important Farmland, according to the FMMP, during each analysis cycle can be attributed to lack of irrigation, fallow non-active fields for five or more years, or the re-planting of once fallow areas classified as Important Farmland.

Figure 4.16-3, Project Site USDA Soil Suitability, identifies the areas of the Mission Village project site (including the related off-site improvements) that are suitable for farming based on the site's capability classes (see Appendix 4.4 of the Newhall Ranch Specific Plan Program EIR for a listing of the capability classes for each of the soils on the site, along with their vegetative soil groups, range site indices, Storie Indices,[6] and soil grades).

6 The Storie Index numerically expresses the relative degree of suitability of a soil for general intensive agriculture. Four general factors are considered in the index rating, including the characteristics of the soil profile and soil depth, the texture of the soil surface, the dominant slope of the soil body, and other factors more readily subject to management or modification (i.e., drainage, flooding, salinity, sodicity, general nutrient level of the soil, and surface microrelief).



SOURCE: AirPhoto USA – 2006, Impact Sciences, Inc. – March 2010

FIGURE **4.16-1**

Current Agricultural Uses

Val Verde

Newhall Ranch Specific Plan Boundary

Castaic Creek

Utility Corridor

Utility Corridor

Utility Corridor

Mission Village

Magic Mountain

River

Clara

Santa

Los Angeles County
Ventura County

LEGACY VILLAGE

Westridge

126

5

5

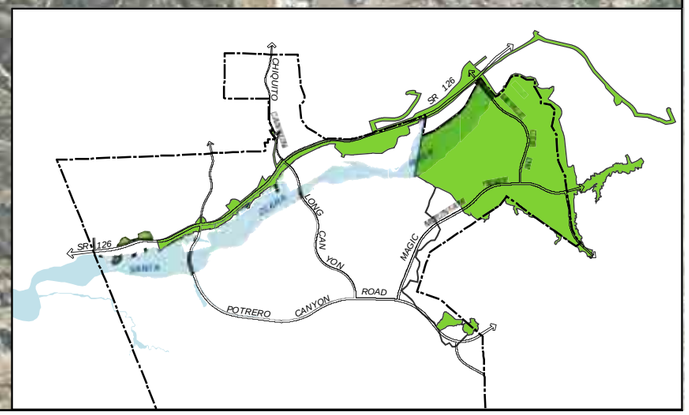
126

Legend:

- Specific Plan Boundary
- Prime Farmland (P) - 137.958 Acres
- Unique Farmland (U) - 13.852 Acres
- Grazing Land (G) - 374.138 Acres
- Urban and Built-Up Land (D) - 12.972 Acres
- Other Land (X) - 611.296 Acres
- Project Boundary
- Perm. Impact Limit

0.50 0.25 0 0.50

APPROXIMATE SCALE IN MILES



SOURCE: AirPhoto USA – 2006, Psomas, Impact Sciences, Inc. – February 2010
State of California Department of Conservation (FMMP) - 2008

FIGURE **4.16-2**

On-Site Important Farmland

Newhall Ranch Specific Plan Boundary

Castaic Creek

Utility Corridor

Utility Corridor

Utility Corridor

Mission Village

Magic Mountain

River

Clara

Santa

Utility Corridor

Los Angeles County
Ventura County

Legacy Village

Westridge

126

5

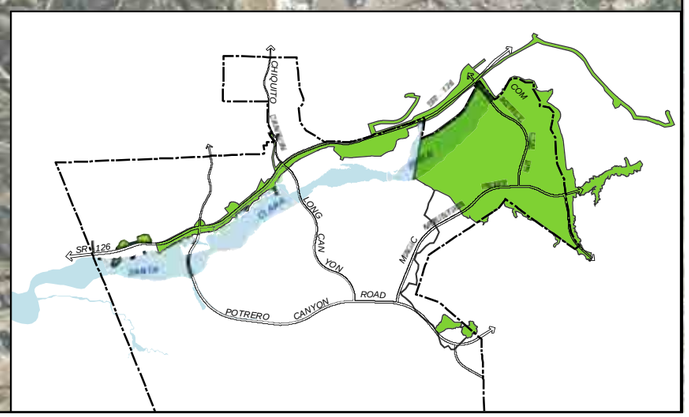
5

Legend:

- Capability Classes III & IV - Very Good - Good
- Capability Classes VI & VII - Very Poor
- Capability Class VIII - Unsuited
- Project Boundary
- Mission Village VTTM Boundary
- Newhall Ranch Specific Boundary

0.50 0.25 0 0.50

APPROXIMATE SCALE IN MILES



SOURCE: AirPhoto USA – 2006, Impact Sciences, Inc. – May 2010

FIGURE **4.16-3**

Project Site USDA Soil Suitability

As shown in **Figure 4.16-3**, based on the USDA NCRS soil suitability or capability classifications, the majority of the Mission Village project site is classified as Very Poor; the portion of the site along the Santa Clara River is classified as Very Good to Good; and, a small portion of the site is classified as Unsuited.

c. Forest Land Resources

According to Public Resources Code section 12220(g), a Forest Land is defined as "land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation and other public benefits." The California Department of Forestry and Fire Protection (CalFire) in collaboration with the United States Forest Service (USDA Forest Service) develops Land Cover Maps that depict the different types of land cover that exists within the State of California, which includes the following classifications: conifer-forest; conifer-woodland; hardwood-woodland; hardwood-forest; shrub; herbaceous; wetland; desert-shrub; desert-woodland; agriculture; urban, barren/other; water; and, not mapped. In order to determine if a project site can be classified as forest land, surveys must be completed to determine if the project site currently contains native trees (including hardwoods) within its boundaries. Trees that are native to the Mission Village project site and the area surrounding the project site include: southern California black walnut; big-leaf maple; white alder; western sycamore; big-cone spruce; canyon oak; coast live oak; valley oak; holly-leaf cherry; and, California ash.

A survey of the Mission Village project site was conducted in November and December 2005, and July and August 2006. Upon completion of the vegetation site surveys, it was determined that there are only three types of native trees that currently exist on the project site. These include oak trees (coast live oaks and valley oaks) and southern cottonwood-willow riparian forest. The project site contains approximately 109.2 acres of southern cottonwood-willow riparian forest, 31.7 acres of coast live oak forest and woodland, and 5.6 acres of valley oak forest and woodland. In total, 146.5 acres of forest resources are present on the project site.

Furthermore, according to the CalFire/U.S. Forest Service Land Cover Maps, the proposed project site is classified as shrub land.[7]

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7 California Department of Forestry and Fire Protection, Fire and Resources Assessment Program, Land Cover Map, http://www.frap.fire.ca.gov/data/frapgismaps/download.asp. Accessed April 1, 2010.

5. PROPOSED PROJECT IMPROVEMENTS

The project proposes to develop a total of 4,412 residential dwelling units consisting of 382 single-family homes and 4,030 multi-family units, including attached and detached condominiums, apartment and age qualified units, with a total residential population of 10,802.[8] The project would also include 1,555,100 square feet of commercial/mixed-uses, a 9.5-acre elementary school, fire station, public library, bus transfer station, parks, public and private recreational facilities, trails, and road improvements. Additionally, as part of the proposed project, the following off-site improvements (i.e., improvements outside the tract map boundary) would be constructed: utility corridor, Magic Mountain Parkway roadway extension, a water quality basin, two water tanks (portions of which would be located on site), Southern California Edison electrical substation, and grading associated with construction of the southerly extension of Westridge Parkway.

Project site grading would require the removal and re-compaction of approximately 29.5 million cubic yards of existing material in a balanced cut and fill operation plus up to 375,000 cubic yards for the electrical substation. Project grading would be consistent with, and would implement, the Specific Plan's approved Conceptual Grading Plan (Specific Plan Exhibit 2.7-1), and the applicable Specific Plan Design Guidelines (Specific Plan Chapter 4, section 4.8) for grading and hillside management.

6. PROJECT IMPACTS

The analysis of potential impacts to agricultural and forest land resources associated with construction and operation of the proposed project, including the significance criteria applicable to assessing such impacts, is presented below.

a. Significance Threshold Criteria

According to Appendix G of the *State CEQA Guidelines*, a project would have a significant impact on agricultural and forest land resources if a project would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;[9]
- Conflict with existing zoning for agricultural use or a Williamson Act contract;

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8 Based upon County of Los Angeles estimates of 3.17 persons per single-family household and 2.38 persons per multi-family household.

9 The Farmland Mapping and Monitoring Program is administered by the California Natural Resources Agency, Department of Conservation.

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

These are the significance criteria to be applied to determine whether the proposed project would result in potentially significant impacts to agricultural and forest land resources.

b. Impact Analysis

(1) Conversion of State Important Farmlands

According to the above significance thresholds, a significant impact would occur if a project converts Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. As previously indicated, the USDA and the Department of Conservation (DOC), pursuant to the Farmland Mapping and Monitoring Program, have identified prime agricultural lands on the Mission Village project site (which includes the related off-site improvements), as well as certain soil types that may favor some agricultural activities. Development of the Mission Village project would convert 160.7 acres of Prime Farmland, 30.1 acres of Unique Farmland, and 0.6 acre of Farmland of Statewide Importance to non-agricultural urban land uses, thereby resulting in a significant impact to 191.4 acres of agricultural resource Farmland. Although the proposed project would convert 875.6 acres of Grazing Land to non-agricultural urban uses, the loss of Grazing Land is not considered a significant impact. The project would not result in other changes in the existing environment which, due to their location or nature, could result in the conversion of important farmland to non-agricultural use.

With respect to mitigation, as part of Los Angeles County's adoption of the Newhall Ranch Specific Plan, the project applicant, Newhall Land, previously committed to dedicate in fee or by conservation easement approximately 1,517 acres of land referred to as the Salt Creek corridor conservation area. This area consists of land in Ventura County adjacent to the western boundary of the Specific Plan site and the Santa Clara River. (See Specific Plan condition of approval (g).) Of the 1,517 acres encompassing the Salt Creek corridor conservation area, Newhall Land has proposed placing an *agricultural* conservation easement over approximately 88 acres of agricultural land designated as prime, unique, and/or soils of statewide importance. Additionally, in the vicinity of Salt Creek, there are approximately 50 additional acres in active agricultural production that are owned by Newhall Land that also contain prime agricultural soils. Due to their proximity to the proposed Salt Creek corridor conservation area, these

additional agricultural lands are included in the proposed agricultural conservation easement. Thus, placing an agricultural conservation easement over a portion of the Salt Creek corridor conservation area (88 acres of cultivated land) and on the adjacent agricultural lands (50 acres of cultivated land) would preserve approximately 138 acres of agricultural land located adjacent to and within the Newhall Ranch Specific Plan site.

The agricultural easement would serve as mitigation for significant impacts to approximately 122.8 acres of agricultural soils designated as prime, unique, or of statewide importance, resulting from construction of infrastructure facilities proposed as part of the Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan (RMDP/SCP). The potential impacts associated with the RMDP/SCP were analyzed by the U.S. Army Corps of Engineers (Corps) and the California Department of Fish and Game (CDFG) in the Newhall Ranch RMDP/SCP Environmental Impact Statement/Environmental Impact Report (EIS/EIR). (See RMDP/SCP Final EIS/EIR at http://www.dfg.ca .gov/regions/5/newhall/.)

The area covered by the RMDP/SCP includes the Newhall Ranch Specific Plan site, which also encompasses the proposed Mission Village project site. A portion of the infrastructure that would be constructed as part of the RMDP/SCP is the same infrastructure that would be constructed as part of the Mission Village project. That is, the RMDP/SCP includes the placement of bank stabilization along portions of the Santa Clara River within the Mission Village project site; the construction of the Commerce Center Drive Bridge within the Mission Village site; construction of a utility corridor, a portion of which would run through the Mission Village project site; and the establishment of a spineflower preserve within the Mission Village site.

The development of these RMDP/SCP project components would result in direct impacts to approximately 122.8 acres of Farmland, a portion of which are located within the Mission Village project site. Thus, the proposed RMDP/SCP agricultural conservation easement would mitigate a portion of the identified significant impacts to agricultural resources that would result with development of the proposed Mission Village project; however, the impacts would not be fully mitigated and, therefore, impacts would remain significant.

The 138-acre Salt Creek agricultural easement proposed as part of the applicant's Newhall Ranch RMDP/SCP project is proposed in response to a request by the CDFG, co-lead agency for the project with the Corps. At the request of CDFG, the applicant investigated available Farmland located within the previously dedicated Salt Creek corridor conservation area and identified 88 acres of Farmland located within the already-dedicated area. CDFG further requested that the applicant expand the agricultural easement by including 50 acres of Farmland located immediately adjacent to the Salt Creek land. Due to

the proximity of the Farmland to the previously dedicated Salt Creek corridor conservation area, the applicant agreed.

In contrast, however, at the local level, the County Board of Supervisors has already considered the effect of the loss of Farmland that would result with development of the Newhall Ranch Specific Plan, which includes the Mission Village project site. Upon approval of the Specific Plan in 2003, the Board made a policy decision to override the significant unavoidable effects to Farmland in favor of the significant public benefits that would accrue with development of the Specific Plan.

Although the 2003 policy decision remains valid, the County has taken a further look at the issue at this EIR project level of review. In that regard, the County rejects as infeasible on environmental, social, and legal grounds any further agricultural conservation easements to mitigate the loss of Farmland. From an environmental perspective, agricultural conservation easements are already required as part of the RMDP/SCP project that would mitigate a portion of the identified Mission Village agricultural impacts. From a social perspective, as noted above, the Board of Supervisors previously made a policy decision to override the impacts to Farmland in favor of the significant public benefits that would accrue with development of the Specific Plan, which includes the Mission Village project site. From a legal standpoint, because the County has not established an adopted agricultural conservation easement program, the imposition of mitigation on a project-by-project basis could result in the inconsistent application of mitigation contrary to constitutional principles of proportionality.

As an alternative mitigation measure, and in order to minimize the premature conversion of agricultural lands and to track that conversion, the project applicant could prepare a phasing map of areas within the proposed project where Farmland soils exist to document the phased discontinuation of existing agricultural activities within the Mission Village Project area over the course of its development. The purpose of the phasing map would be to keep areas with prime, unique, or soils of statewide importance in agricultural production as long as the agricultural operations do not compromise the ability of the applicant to implement the Mission Village project. The length of time that individual areas on the Project area would remain in agricultural production would vary depending on the location of the farming area on the site and buildout timing of the project. For example, farming operations in areas of the Mission Village site that are scheduled for development in the near future may only continue to operate for one to four years. However, agricultural areas located on other portions of the Project area may continue to operate for five years or more. This approach would maintain the viability of existing Project area farming operations to the extent feasible, and would minimize potential regional economic impacts that could result if all farming operations on the Mission Village Project area were to be terminated at a single time. The phasing plan could be implemented with the use of a map depicting the location of the farmed areas, the areas to be phased out of agricultural operations, and the estimated timing of the phase out. A

phasing map is a feasible mitigation measure that would further minimize potential agricultural resource impacts of the proposed project. However, such a mitigation measure would not reduce impacts to agricultural resources to a less-than-significant level.

Other potential mitigation includes the enrollment of existing agricultural land into a Williamson Act contract. However, the use of a Williamson Act or farmland security zone contract to offset the loss of significant agricultural soil in Los Angeles County and on the Mission Village Project area site is not a feasible mitigation measure because Los Angeles County does not have such a land conservation program in effect. Furthermore, the short-term effects of enrolling an existing agricultural operation into a Williamson Act contract would not offset the long-term loss of agricultural soils on the project site.

In conclusion, no feasible mitigation exists to fully reduce the impacts resulting from the conversion of 160.7 acres of Prime Farmland, 30.1 acres of Unique Farmland, and the 0.6 acres of Farmland of Statewide Importance to a less-than-significant level and, therefore, these impacts are significant and unavoidable. These findings are consistent with those made by the Board of Supervisors for the adopted Newhall Ranch Specific Plan.

(2) Conflicts With Local Land Use Plans/Williamson Act Contracts

(a) Local Land Use Plans

Although land within the project site is currently used for agricultural purposes, development of the Mission Village project site would not conflict with existing land use designations and zoning as the project site was rezoned from agricultural uses to non-agricultural uses when the Newhall Ranch Specific Plan was adopted by the Los Angeles County Board of Supervisors on May 27, 2003. (Please see Specific Plan Exhibit 2.3-1, Land Use Plan.) The project site is currently regulated by the Newhall Ranch Specific Plan, which serves as the zoning document guiding land uses within the site, and the proposed Mission Village project is consistent with the Specific Plan. Therefore, no significant impacts relating to conflicts with local land use plans would result from the implementation of the Mission Village project.

As noted in the Newhall Ranch Specific Plan Program EIR, there is the potential for agricultural activities occurring on undeveloped adjacent land within the Specific Plan area or in Ventura County to impact project residents (i.e., dust, noise, odor, chemical exposure, etc.). However, due to the distance of the Mission Village project site from Ventura County (approximately 3 miles), and the lack of active agricultural activity on land adjacent to the tract map site, potential agriculture-related impacts to residents of the proposed project are not considered significant.

(b) Williamson Act Contracts

No lands within Los Angeles County have ever been under Williamson Act contract.[10] As of March 2002, Los Angeles County does not offer Williamson Act contracts.[11] Therefore, no significant impacts with regard to conflicts with Williamson Act contracts would result with implementation of the proposed project.

(3) Conflict With Existing Zoning for Forest Land or Timberland

Although native trees do exist on the Mission Village project site, the proposed project site is not zoned for forest land or timberland. On May 27, 2003, the Los Angeles County Board of Supervisors adopted the Newhall Ranch Specific Plan, and thereby re-zoned the Mission Village project site from agricultural to urban land uses. Therefore, no significant impacts relating to conflicts with existing zoning for forest land or timberland would result from implementation of the proposed project.

(4) Loss or Conversion of Forest Land

As described above, Public Resources Code section 12220(g) defines Forest Land as "land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation and other public benefits." The Mission Village project site is currently vacant of urbanized land uses and contains naturally occurring vegetation. Biological investigations were conducted on the Mission Village project site in November and December 2005, and July and August 2006 in order to determine the type of vegetation that currently exists on the project site. Upon completion of the on-site surveys, it was determined that three types of native trees occur naturally on the Mission Village project site, including southern cottonwood-willow riparian forest, coast live oak forest and woodland, and valley oak forest and woodland.

The project site contains approximately 109.2 acres of southern cottonwood-willow riparian forest, 31.7 acres of coast live oak forest and woodland, and 5.6 acres of valley oak forest and woodland. In total, 146.5 acres of forest resources are present on the project site. It is expected that due to development of the project site, the following acreages would be temporarily disturbed:[12] 22.4 acres of southern cottonwood-willow riparian forest; 3.4 acres of coast live oak forest and woodland; and zero acres of valley oak forest and woodland. In addition, the following acreages would be permanently disturbed: 6.4 acres of southern

10 Department of Conservation website, Division of Land Resource Protection, February 10, 2010.

11 Department of Conservation website, Division of Land Resource Protection, February 10, 2010.

12 Temporarily disturbed by bank stabilization and/or haul roads, but would be revegetated to native vegetation following completion of construction.

cottonwood-willow riparian forest; 4.4 acres of coast live oak forest and woodland; and, 1.9 acres of valley oak forest and woodland.

In sum, the project site contains approximately 146.5 acres of native trees, which constitutes approximately 7.9 percent of the entire project site (approximately 1,854.5 acres). Based on the information provided in the previous paragraph, the total amount of native trees that would be permanently disturbed (removed) with the development of the Mission Village project is 12.7 acres, or 0.68 percent of the 1,854.5-acre project site. This is a potentially significant impact.

Potential impacts to these forest resources also are considered in **Section 4.3**, **Biota**, of this Draft EIR. In that section, mitigation is identified that will reduce such impacts to a level below significance. Specifically, with respect to the southern cottonwood-willow riparian forest present on the project site, previously adopted **Mitigation Measures SP 4.6-1** through **SP 4.6-16** and **SP 4.6-63** will provide habitat restoration and enhancement so as to provide a 1:1 riparian resource replacement. With respect to the coast live oak forest and woodland, and the valley oak forest and woodland present on the project site, proposed **Mitigation Measures MV 4.3-22** and **4.23-8** would provide protective fencing around oaks during clearing and grading activities, and provide for the creation of an oak resource management plan to identify areas suitable for oak woodland enhancement and creation. These mitigation measures would ensure that the proposed project does *not* result in the loss of forest land, thereby reducing potential impacts to forest resources to a level below significant.

Furthermore, upon consultation of the Land Cover Map developed in collaboration by the U.S. Forest Service and CalFire, the Mission Village project site is classified as shrub land, and is not classified as forest land (which would include conifer-forest, conifer-woodland, hardwood-woodland, and hardwood-forest). Since development of the Mission Village project would fully mitigate potential impacts to the three types of forest resources identified above, and since the Mission Village project site is not classified as a forestland or timberland (in accordance with the U.S. Forest Service and CalFire), development of the Mission Village project site would result in a less-than-significant impact in regards to the loss or conversion of forest land.

7. PROJECT MITIGATION MEASURES

No feasible mitigation exists to reduce significant impacts resulting from the conversion of 160.7 acres of Prime Farmland, 30.1 acres of Unique Farmland, and 0.6 acre of Farmland of Statewide Importance on the Mission Village project site to a less-than-significant level. While development of the Newhall Ranch Specific Plan has the potential to result in agriculture-related impacts to project residents as a result of agricultural activities conducted in Ventura County and in the vicinity of the project site, the County adopted mitigation measures for potential agriculture-related impacts as part of the Newhall Ranch

Specific Plan that would reduce impacts to below a level of significance. These mitigation measures are found in the previously adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). The project applicant has committed to implementing these mitigation measures to ensure that future development within the Newhall Ranch Specific Plan area is safe and that such development would not adversely affect adjacent agricultural operations.

With respect to forest land resources, the proposed project would conserve approximately 27 acres of native trees that are found on the project site and provide a 1:1 riparian resource replacement ratio for southern cottonwood-willow riparian forest with implementation of mitigation measures as developed as part of the Newhall Ranch Specific Plan. These mitigation measures are found in the previously adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). The project applicant has committed to implementing these mitigation measures to ensure that future development within the Newhall Ranch Specific Plan area is safe and that such development would not adversely affect native trees (forest land as defined by Public Resources Code section 12220(g)) on the project site or adjacent to the project site. Additional mitigation measures, identified in **Section 4.3**, **Biota**, also are recommended in this EIR to mitigate potential impacts to oak forest and woodland.

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as they Relate to the Mission Village Project

Mitigation measures to reduce potential impacts to residential uses resulting from nearby agricultural or grazing operations were adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). However, due to the distance between the Mission Village project site and such operations in Ventura County or adjacent Specific Plan properties, potential project-related agriculture/residential use conflicts would not be significant and the previously adopted mitigation measures (**Mitigation Measures SP 4.4-1** and **SP 4.4-2**, listed below) are not applicable to the proposed project.

SP 4.4-1 Purchasers of homes located within 1,500 feet of an agricultural field or grazing area are to be informed of the location and potential effects of farming uses prior to the close of escrow. (*This mitigation measure is not applicable to the Mission Village tract map due to its distance from existing agricultural and grazing operations.)*

SP 4.4-2 New homes within 1,500 feet of farming uses within Ventura County, if any, are to be informed that agricultural activities within Ventura County are protected under the County's right-to-farm ordinance, and are to be provided with copies of the County's Amended Ordinance 3730-5/7/85. (*This mitigation measure is not applicable to the Mission Village tract map site due to its distance from Ventura County agricultural activities.*)

b. Additional Mitigation Measures Proposed by this EIR

No feasible mitigation exists to fully reduce the impacts resulting from the conversion of 160.7 acres of Prime Farmland, 30.1 acres of Unique Farmland, and 0.6 acre of Farmland of Statewide Importance on the Mission Village project site to a less-than-significant level; therefore, this impact is considered a significant unavoidable impact. However, the following mitigation measure is recommended to minimize impacts to the extent feasible:

MV 4.16-1 In order to minimize the premature conversion of agricultural lands and to track that conversion, prior to issuance of the first grading permit in areas of Mission Village where agricultural soils designated as prime farmland, unique farmland, and/or farmland of statewide importance exist (Pub. Resources Code section 21060.1), Newhall Land shall prepare a phasing map to document the phased discontinuation of existing agricultural activities located within the Mission Village project area over the course of its development.

With respect to forest land resources, the development of Mission Village would not conflict with existing zoning for forestland and timberland, nor would it result in the loss or conversion of forest land due to mitigation measures identified in **Section 4.3**, **Biota**, of this EIR. Impacts would be less than significant and no additional mitigation measures would be required by this EIR.

8. CUMULATIVE IMPACTS

Conversion of agricultural land to urban uses has a history in Los Angeles County. According to the Los Angeles County 1984 to 2008 Land Use Summary Report[13] prepared by the California Department of Conservation, Division of Land Resource Protection, for the 24 years between 1984 and 2008, approximately 18,870 acres of Important Farmland have been developed into non-agricultural uses. This amount is based on a net decrease of 7,651 acres of Prime Farmland and 12,182 acres of Farmland of Local Importance, and a net increase of 211 acres of Farmland of Statewide Importance and 752 acres of Unique Farmland. During the same time period, approximately 288 acres of Grazing Land was converted to urbanized land uses.

Buildout of the Newhall Ranch Specific Plan and other reasonably foreseeable future related cumulative development in the region will result in the conversion of Important Farmland soils to non-agricultural uses, continuing an ongoing trend in Los Angeles County. Given that implementation of the Mission Village project would eliminate 160.7 acres of Prime Farmland, 30.1 acres of Unique Farmland, and 0.6 acre of Farmland of Statewide Importance, the Mission Village project's contribution to the conversion of Important Farmland in the region to non-agricultural uses is considered cumulatively significant.

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13 California Department of Conservation, Los Angeles County Important Farmland Data Availability, http://redirect.conservation.ca.gov/DLRP/fmmp/county_info_results.asp. Accessed February 2, 2010.

The continued development of agricultural lands also has the potential to result in indirect impacts to agricultural operations such as land use conflicts, crop theft, etc. These indirect impacts could lead to a decline in the profitability of agricultural operations such that adjacent farmland owners may be induced to sell their properties in urbanizing areas. The Mission Village project site is not located adjacent to land zoned for agricultural use, nor is active agricultural land located adjacent to the tract map site. Moreover, mitigation measures have been incorporated into the Specific Plan requiring setbacks separating development within the Newhall Ranch Specific Plan from agricultural activity in Ventura County. Therefore, the Mission Village project would not contribute significantly to this indirect cumulative impact. The conversion of agricultural lands to urban uses is a policy issue that lies in the hands of the local jurisdiction. Such conversion in Los Angeles County may not be considered significant, whereas, it may be significant in another jurisdiction. Each cumulative project should be evaluated on a case-by-case basis relative to its impact on local agricultural productivity.

The U.S. Forest Service and the CalFire determines Land Cover Changes in the State of California based on the collaborative effort of modeling changes using the California Land Cover Mapping and Monitoring Program (LCMMP).[14] The LCMMP provides data for four different regions in California, including the Southern Sierra, Northeastern California, South Coast area, and the North Coast area. The South Coast area (where the Mission Village project site is located) covers 19.9 million acres. The area covers some or most of Imperial, Kern, Los Angeles, Monterey, Orange, Riverside, San Benito, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura counties. The South Coast area also encompasses four national forests (Angeles, Cleveland, Los Padres, and San Bernardino) and other federal, state and privately owned land.[15]

On a statewide basis, as of 2007, the U.S. Forest Service surveyed and classified approximately 33,387,405 acres of forestland in California and approximately 19,335,993 acres of timberland in California.[16] On a regional scale, CalFire in collaboration with the U.S. Forest Service using the LCMMP, has mapped and classified an area of approximately 2,200,000 acres of hardwoods in the South Coast area of California. [17]

As discussed above, the development of the Mission Village project site would result in the loss of approximately 12.7 acres of forest land resources. Compared to the 2007 inventory of forestland in the state of California, the proposed project would result in the loss of approximately 0.00004 percent of the

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14 United States Department of Agriculture Forest Service and California Department of Forestry and Fire Protection, Monitoring Land Cover Changes in California, South Coast Project Area, July 2002, p. iv.

15 Monitoring Land Cover Changes in California, South Coast Project Area, July 2002, p. iv.

16 United States Department of Agricultural Forest Service, Forest Inventory and Analysis National Program, Forest Inventory Data Online, http://fia.fs.fed.us/tools-data/default.asp. Accessed March 1, 2010.

17 United States Department of Agricultural Forest Service and California Department of Forestry and Fire Protection, Monitoring Land Cover Changes in California, July 2002, p. 8.

existing forestland in the State of California. Compared to the 2007 inventory of timberland in the State of California, the proposed project would result in the loss of approximately 0.00007 percent of the existing timberland in the State of California. Furthermore, with the development of the Mission Village project site, and the loss of 12.7 acres of forestland (native trees – hardwoods), the 12.7 acres of forestland on the project site would represent approximately 0.00058 percent of the existing inventory of hardwoods within the South Coast Area of the State of California.

Therefore, the Mission Village project would not contribute significantly to this indirect cumulative impact. The loss of forestland and timberland to urban uses is a policy issue that lies in the hands of the local jurisdiction. Such loss of forestland and timberland in Los Angeles County may not be considered significant, whereas, it may be significant in another jurisdiction. Each cumulative project should be evaluated on a case-by-case basis relative to its impact on local forestland and timberland resources.

9. CUMULATIVE MITIGATION MEASURES

No feasible mitigation measures exist to reduce the identified cumulative impacts to a less than significant level.

With respect to forest land resources, the project's cumulative contribution to the loss of forestland would be less than significant; therefore, no cumulative mitigation measures would be required.

10. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project-Specific Impacts

The irreversible loss of 160.7 acres of Prime Farmland, 30.1 acres of Unique Farmland, and the 0.6 acre of Farmland of Statewide Importance as a result of development of the Mission Village project is considered to be a significant project impact. No feasible mitigation exists to reduce the impact of this loss to a less than significant level. Therefore, the project-specific impacts resulting from the loss of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance are considered significant and unavoidable.

b. Cumulative Impacts

The conversion of Important Farmland to non-agricultural uses on the Mission Village site constitutes a loss of an irreplaceable resource and is considered to be a significant cumulative impact. No feasible mitigation exists to reduce the identified significant impacts; therefore, the impact is a significant and unavoidable cumulative impact.

4.17 UTILITIES

1. SUMMARY

The Mission Village proposed project would require energy resources and infrastructure to serve the project site. Current projections for energy supply and demand by Southern California Edison (SCE) and the Southern California Gas Company (SCGC) indicate that these utility providers would have sufficient electricity and natural gas resources to serve the project site. In addition, the proposed project would exceed the statewide energy efficiency requirements set forth in Title 24 of the California Code of Regulations by 15 percent. Further, consistent with the Newhall Ranch Specific Plan Program Environmental Impact Report (EIR), providing electricity and natural gas to the Mission Village project site would not require a considerable extension of distribution infrastructure.

Importantly, several of Mission Village's design features would reduce its demand for energy resources, and further ensure that all impacts to utilities-related resources are less than significant. First, as indicated above, Mission Village's residential, commercial, and public buildings would exceed current state efficiency standards (i.e., Title 24 of the California Code of Regulations) by at least 15 percent, thereby reducing the overall demand for electricity and natural gas resources. (See ***Section 4.23, Global Climate Change****,* ***Mitigation Measures MV 4.23-1*** *and* ***4.23-2****.) In addition, the project applicant may rely on renewable energy sources to meet a portion of the project's energy demands, and is evaluating the feasibility of energy efficient municipal lighting and smart meter programs. (See* ***Section 4.23, Global Climate Change****,* ***Mitigation Measures MV 4.23-3*** *and* ***4.23-4*** *and discussion of potentially feasible programs regarding municipal lightings and smart meters). With implementation of the mitigation measures from the certified Newhall Ranch Specific Plan Program EIR, and implementation of the "green" project design features summarized above (and discussed in further detail below), the Mission Village project is anticipated to result in less than significant impacts to electricity and natural gas resources and infrastructure.*

2. INTRODUCTION

a. Relationship of Project to Newhall Ranch Specific Plan Program EIR

Sections 4.13 and 4.14 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with natural gas and electricity resources, respectively, for the entire Newhall Ranch Specific Plan. The Newhall Ranch Specific Plan Program EIR concluded that Specific Plan implementation would result in significant impacts to natural gas and electricity resources, but that the identified mitigation measures would reduce the impacts to a less than significant level. The recommended mitigation measures were incorporated into the County's project approvals via the adopted Mitigation Monitoring Plan. All subsequent project-specific

development plans and tentative subdivision maps within the Specific Plan, including the plans for the Mission Village project, must be consistent with the Newhall Ranch Specific Plan, and the County of Los Angeles General Plan and Santa Clarita Valley Areawide Plan.

This project-level EIR tiers from the previously certified Newhall Ranch Specific Plan Program EIR. Accordingly, this section discusses, at the project-specific level, the Mission Village project's existing conditions relative to utilities, the project's impacts on energy resources, the applicable mitigation measures from the Newhall Ranch Specific Plan Program EIR, and additional mitigation measures recommended by this EIR for the Mission Village project.

b. References for this EIR Section

The technical analysis relied upon in this section was prepared by ENVIRON International Corporation. ENVIRON's report is entitled, "Utilities Technical Report: Mission Village" (April 2010), and is found in Draft EIR **Appendix 4.23**. (Specifically, ENVIRON's Utilities Technical Report is included within its Climate Change Technical Report as Appendix E.) All additional documents, reports, etc., cited in this section are incorporated by reference and available for public inspection and review at the Los Angeles Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012.

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

a. Electricity

Buildout of the Specific Plan would place new demands on electrical services provided by SCE, including the need for new delivery infrastructure. However, the Newhall Ranch Specific Plan Program EIR concluded that neither the Specific Plan nor anticipated cumulative development would have a significant impact on the electrical services provided by SCE.

In order to ensure that impacts to electricity resources would not be significant, and because petroleum-based energy is a nonrenewable and finite resource, the Specific Plan's Mitigation Monitoring Plan includes a measure confirming that all development within the Specific Plan is subject to the conservation measures required under Title 24, Part 6, of the California Code of Regulations. Title 24 would assure responsible electricity consumption by the Specific Plan developer, residents, employees, and others. In addition, the Specific Plan would be required to meet the requirements of SCE in terms of infrastructure relocation (if applicable).

(Please note that environmental safety concerns relative to the high-power transmission lines on the project site and electromagnetic fields are discussed in **Section 4.19, Environmental Safety**, of the Mission Village Draft EIR.)

b. Natural Gas

Buildout of uses in the Specific Plan would place new demands on natural gas service provided by SCGC, including the need for new delivery infrastructure. However, the Newhall Ranch Specific Plan Program EIR concluded that neither the proposed Specific Plan (including the proposed water reclamation plant), nor anticipated cumulative development would have a significant impact on natural gas resources provided by SCGC.

In order to ensure that impacts to natural gas resources would not be significant, and because natural gas is a nonrenewable and finite resource, the Specific Plan's Mitigation Monitoring Plan includes a measure confirming that all development within the Specific Plan is subject to the conservation measures required under Title 24, Part 6, of the California Code of Regulations. Title 24 which would assure responsible natural gas consumption on the part of the Specific Plan developer, residents, employees, and others. In addition, the Specific Plan would be required to meet the requirements of SCGC in terms of infrastructure relocation (if applicable) and development within SCGC easements.

(Please note that potential safety impacts relative to placing development in proximity to SCGC high-pressure transmission lines are discussed in **Section 4.19, Environmental Safety**, of the Mission Village Draft EIR.)

4. EXISTING CONDITIONS

As discussed above, the information presented in the Newhall Ranch Specific Plan Program EIR assessed the existing setting of the entire Newhall Ranch Specific Plan, including the Mission Village project site. It was determined that all significant natural gas and electricity impacts were identified, adequately addressed and avoided or mitigated in the Specific Plan Program EIR and related environmental findings. Therefore, at the project level, this EIR incorporates by reference the existing conditions analysis and background information relating to natural gas and electricity resources and infrastructure from the certified Newhall Ranch Specific Plan Program EIR (Sections 4.13 and 4.14).

a. Electricity

California has the lowest electricity per capita in the nation.[1] In fact, while the national electricity per capita rate has steadily increased, California's electricity per capita rate has remained stable for more than 30 years because of the state's energy efficiency standards and conservation programs.[2]

Approximately 68 percent of California's electricity is produced in-state, with the remaining electricity coming from out-of-state imports.[3] The state's electricity generation system provides over 306,000 gigawatt-hours per year.[4] Current electricity forecasts are "markedly lower" than past forecasts due to the lower anticipated economic growth, both in the short- and long-term, and increasing energy efficiencies.[5]

The Mission Village tract map site currently is vacant, and no electrical distribution infrastructure presently exists on the site. The Saugus Substation, located east of I-5, is the origin of centrally located transmission lines that terminate in Chatsworth, Fillmore, Thousand Oaks, Ventura, and Bakersfield. Existing infrastructure in proximity to the project site includes an SCE transmission tower located north of State Route (SR) 126 and east of Chiquita Canyon Road, and a 66-kilovolt (kV)/16-kV overhead electric power line that runs parallel to SR-126. Approximately 22,100 feet of electrical lines run under Magic Mountain Parkway, Commerce Center Drive and Westridge Parkway. Finally, throughout the project site, there are SCE easements, including those for pole mounted electrical lines.

b. Natural Gas

Approximately 13.5 percent of California's natural gas is produced in-state; the remaining portion of the natural gas supply comes from the Southwest (40 percent), the Rocky Mountains (23 percent), and Canada (23.5 percent).[6] According to the 2008 California Gas Report, natural gas demand in California is expected to grow at a modest rate of just 0.1 percent per year from 2008 to 2030.[7] Residential demand, in particular, is expected to increase at an annual average rate of 0.3 percent, which is half the rate that was projected in the 2006 California Gas Report.[8] Commercial demand is expected to remain unchanged,

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1 *Summary of the 2007 Integrated Energy Policy Report*, California Energy Commission, p. 3.

2 *2009 Integrated Energy Policy Report*, California Energy Commission, p. 4.

3 Id. at p. 2.

4 Id. at p. 48.

5 Id. at p. 3.

6 Ibid. at p. 11.

7 *2008 California Gas Report*, California Gas and Electric Utilities, p. 7. See also *California Gas Report 2009 Supplement*, California Gas and Eletric Utilities.

8 Ibid.

whereas industrial demand is estimated to decline by 1.0 percent on an annual basis.[9] As provided in the 2008 California Gas Report, the state is projected to have adequate natural gas resources to meet the statewide demand during the 2008 to 2030 time frame.[10]

With regards to the SCGC service area, gas demand for all market sectors is expected to grow at an annual average rate of just 0.02 percent from 2008 to 2030.[11] In comparison, the 2006 California Gas Report projected an annual growth rate of 0.15 percent from 2006 to 2025.[12] According to the 2008 California Gas Report, the difference between the two forecasts is caused by the slump in the housing market for the next few years, a reduced employment forecast, and aggressive energy efficiency savings goals.[13]

The Mission Village tract map site currently is vacant and no natural gas infrastructure exists on the site. There is an existing gas distribution main pipeline that runs east/west within the southern right-of-way for SR-126, and extends to Chiquito Canyon Road from The Old Road. In addition, there is a 34-inch, high-pressure main pipeline that traverses the central portion of the Newhall Ranch Specific Plan site, connecting to the Saugus Substation located on the eastern side of I-5 and across from Magic Mountain Theme Park.

c. Energy Conservation

The California Energy Commission (CEC) was created as the state's principal energy planning organization in 1974, in order to meet the energy challenges facing the state in response to the 1973 oil embargo. The CEC is charged with six basic responsibilities when designing state energy policy: (1) forecasting statewide electricity needs; (2) licensing power plants to meet those needs; (3) promoting energy conservation and efficiency measures; (4) developing renewable energy resources and alternative energy technologies; (5) promoting research, development and demonstration; and (6) planning for and directing state response to energy emergencies.[14]

Title 24, Part 6, of the California Code of Regulations contains the CEC's Energy Efficiency Standards for Residential and Nonresidential Buildings. Title 24 was first established in 1978, in response to a legislative mandate to reduce California's energy consumption. Since that time, Title 24 has been updated

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9 Ibid.

10 Id. at pp. 14, 15, and 18.

11 Id. at p. 62.

12 Ibid.

13 Ibid.

14 *Summary of the 2007 Integrated Energy Policy Report*, California Energy Commission, p. 2.

periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

At the time the Newhall Ranch Specific Plan Program EIR was certified, the 2001 update to Title 24 contained the governing set of standards. However, on April 23, 2008, the CEC adopted the 2008 Standards, which must be followed by projects that submit an application for a building permit on or after January 1, 2010. The CEC adopted the 2008 Standards for a number of reasons: (1) to provide California with an adequate, reasonably priced, and environmentally sound supply of energy; (2) to respond to Assembly Bill 32 (AB 32; the Global Warming Solutions Act of 2006), which requires California to reduce its carbon footprint to 1990 levels by 2020; (3) to pursue the statewide policy that energy efficiency is the resource of choice for meeting California's energy needs; (4) to act on the findings of California's Integrated Energy Policy Report, which indicate that the 2008 Standards are the most cost-effective means to achieve energy efficiency, reduce the energy demand associated with water supply, and reduce greenhouse gas emissions; (5) to meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures in the update of all state building codes; and (6) to meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards.[15]

As indicated above, in addition to Title 24, AB 32 is anticipated to result in the future regulation of energy resources in California. (See **Section 4.23, Global Climate Change**, for additional information on AB 32.) In order to achieve these emission reductions, it is generally accepted that California will need to improve its overall energy efficiency, which includes the use of more renewable energy resources. Pursuant to AB 32, the California Air Resources Board will work with other state agencies (including the CEC), to implement feasible programs and regulations that reduce emissions and improve energy efficiency.[16]

Additional operative energy conservation programs and policies within California are highlighted briefly below:[17]

- **Senate Bill 107:** This legislation, which addresses California's Renewables Portfolio Standard (RPS), requires retail sellers of electricity to procure 20 percent of retail sales from renewable energy by 2010.

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15 See http://www.energy.ca.gov/title24/2008standards/index.html, last visited on April 5, 2010.

16 See http://www.arb.ca.gov/cc/ghgsectors/ghgsectors.htm#electric, last visited on April 5, 2010 [highlights targeted improvements for the energy sector].

17 See also *2009 Integrated Energy Policy Report*, *supra*, pp. 20-40 [containing additional information regarding California's energy-related policies and activities].

- **Assembly Bill 1613:** This legislation, also known as the Waste Heat and Carbon Emissions Reduction Act, was designed to encourage the development of new combined heat and power systems in California with a generating capacity of up to 20 megawatts (MW).

- **Senate Bill 1:** This legislation enacted the Governor's Million Solar Roofs program and has an overall objective of installing 3,000 MW of solar photovoltaic systems.

- **Executive Order S-14-08:** This order, issued by Governor Schwarzenegger, established accelerated RPS targets—specifically, 33 percent by 2020.

- **Executive Order S-21-09:** This order, also issued by Governor Schwarzenegger, requires the California Air Resources Board to adopt regulations, by July 31, 2010, increasing California's Renewables Portfolio Standard (RPS) to 33 percent by 2020.

5. PROPOSED PROJECT IMPROVEMENTS

The applicant proposes to develop 4,412 residences (382 single-family homes, and 4,030 multi-family units, including attached and detached condominiums, age qualified and apartment units),[18] 1.555 million square feet of commercial/mixed-uses, a 9.5-acre elementary school, fire station, public library, bus transfer station, parks, public and private recreational facilities, trails, and supporting roadway and infrastructure improvements. Please refer to **Section 1.0, Project Description**, of the Draft EIR for a complete description of the proposed project.

6. PROJECT IMPACTS

The analysis of potential impacts to electricity and natural gas resources associated with construction and operation of the proposed Mission Village project, including the significance threshold criteria applicable to assessing such impacts, is presented below.

a. Significance Threshold Criteria

(1) Electricity

Appendix G of the *State CEQA Guidelines* does not include thresholds for determining the significance of impacts related to electricity. For purposes of this analysis, impacts related to electricity are considered significant if the project would:

- Consume fuel or energy that could not be accommodated within the long-term electricity source and distribution planning of SCE;

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18 The 4,412 total residential dwelling units does not include the 73 second units that would be developed on the single family lots and authorized by the conditional use permit.

- Fail to comply with the energy building regulations adopted by the CEC (i.e., Title 24 of the California Code of Regulations); or
- Require utilities or services that are not available to serve the proposed project; or the service facility requires considerable extension to the project site; and/or there exists an inadequate service supply.

(2) Natural Gas

Appendix G of the *State CEQA Guidelines* does not include thresholds for determining the significance of impacts related to natural gas. For purposes of this analysis, impacts related to natural gas are considered significant if the project would:

- Consume fuel or energy that could not be accommodated within the long-term natural gas source and distribution planning of SCGC;
- Fail to comply with the energy building regulations adopted by the CEC (i.e., Title 24 of the California Code of Regulations); or
- Require utilities or services that are not available to serve the proposed project; or the service facility requires considerable extension to the project site; and/or there exists an inadequate service supply.

b. Methodology

(1) Estimation of Annual Electricity and Natural Gas Usage from Non-Residential Buildings

Non-residential buildings include all structures, except residences, that may exist in a development, such as government, municipal, commercial, retail, and office space. The overall electricity and natural gas use for the proposed project's non-residential buildings was calculated based upon data provided in the 2006 California Commercial End-Use Survey (CEUS), as developed by the CEC.

The project applicant has committed to (i) a 15 percent improvement over the 2008 Title 24 standards for all non-residential buildings, and (ii) the potential for a renewable electricity equivalent to one 2.0 kilowatt (kW) unit for every 1,600 square feet of roof space (approximately 8 percent of the rooftop building space).[19] While the 15 percent improvement over Title 24 was incorporated into the project demand calculations, the renewable energy commitment was not accounted for as it is uncertain if the renewable energy commitment made by the project applicant would come from the utility provider or from local distributed generation. If this renewable energy were to come from the utility provider, the transmission and distribution systems needed to deliver the electricity would be the same as if there were

[19] An industry source estimates that a 2 kW solar system would generate 3,356 kW per hour per year (kW-hr/year) in Santa Clarita. Therefore, the renewable electricity equivalent would generate 1.05 million kW-hr/year.

no renewable electricity. Therefore, in an effort to be conservative, electricity use was estimated assuming the renewable portion would come from the utility provider. To calculate overall electricity and natural gas usage, the building type-specific annual electricity and natural gas usage per square footage was multiplied by the total square footage for that building type.

There are some uncertainties associated with the methodology described above. Specifically, for new developments, the exact types of buildings are typically unknown. As such, not all building categories that may actually exist in Mission Village are represented in this analysis. However, all of the non-residential building area is accounted for and the best available assessment of the building type composition of Mission Village was used. Further, although it is unknown exactly how the buildings would be designed, each building would be Title 24 compliant. Therefore all design features of the building that make it less energy efficient would be offset by design features that make it more energy efficient.

(2) Estimation of Annual Electricity and Natural Gas Usage from Residential Buildings

Residential buildings include single-family homes, attached homes, apartments, and condominiums. The overall electricity and natural gas use for the proposed project's residential buildings was calculated based upon data provided in the Residential Appliance Saturation Study (RASS), as developed by the CEC.

The project applicant has committed to (i) a 15 percent improvement over 2008 Title 24 standards for all residential buildings and (ii) the potential for a renewable electricity equivalent to one 2.0 kW unit for each single-family detached home.[20] While the 15 percent improvement over Title 24 was incorporated into the project demand estimates, renewable energy was not accounted for because it is uncertain if the renewable energy commitment made by the project applicant would come from the utility provider or from local distributed generation. (See discussion of same above under non-residential buildings.)

There are some uncertainties associated with the methodology described above. First, the exact design of residential buildings that would be built at Mission Village is unknown. However, this uncertainty is expected to neither over- nor underestimate energy demand because each residential building will be Title 24 compliant. Title 24 grants enough flexibility that if a designer puts in more windows than is "allowed" under the prescriptive measures, the energy efficiency losses can be offset by improving the window quality, or installing a more efficient Heating, Ventilation, Air Conditioning (HVAC) system.

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20 An industry source estimates that a 2 kW solar system would generate 3,356 kW per hour per year (kW-hr/year) in Santa Clarita. Therefore, the renewable electricity equivalent would generate 1.05 million kW-hr/year.

Relatedly, energy use would vary considerably depending upon the design of the home, and the residential units to be built in Mission Village would vary considerably in size, layout, and overall design. The parameters used in this analysis are intended to represent the average home sizes in each category.

Finally, built environment and plug-in energy use would vary considerably depending upon the home owners' habits and the appliances, lights, and other plug-in electricity users installed by the homeowner. The project applicant would have little, if any, influence over these choices made by the homeowner. Current median behavior attributes are presented here. To the extent that individuals are becoming more energy conscious, and/or appliances become more energy efficient, this inventory tends to overestimate energy use in the future.

(3) Estimation of Annual Electricity and Natural Gas Usage from Municipal Sources

Municipal sources include public lighting and the supply, treatment, and distribution of water and wastewater. These sources use electricity, but do not use natural gas. Electricity usage for these sources was calculated based upon CEC data.

(4) Estimation of Annual Electricity and Natural Gas Usage from Recreational Centers (Pools)

The analysis assumes that outdoor competition-size swimming pools would be the main sources of energy use in Mission Village recreation centers. The project applicant has committed to using solar heating to heat the pools; therefore, the pools would not use natural gas for heating. Electricity, however, would be required to run the pool filter pumps.

c. Impact Analysis

(1) Construction-Related Impacts

During construction of Mission Village, energy would be required to serve construction trailers, power tools, tool sheds, work and storage areas, and other facilities associated with development activities. However, construction is not expected to consume significant amounts of electricity or significantly impact the distribution network because the construction activities are projected to occur over a nine-year development period, and would terminate upon completion of the buildout of Mission Village.

It also is expected that little natural gas would be consumed during project construction phases, with the possible exception of gas released during the installation and upgrade of natural gas facilities. The

amount consumed by such activities would be minimal and is not considered to significantly impact natural gas supplies or infrastructure.

In summary, energy demands associated with construction activities required to achieve buildout of the proposed project are expected to result in a less than significant impact to electricity and natural gas resources.

(2) Operational-Related Impacts

Table 4.17-1, Total Electricity Usage for Mission Village, below, presents the projected electricity demand of residential and non-residential buildings, municipal sources, and recreational centers (pools) at Mission Village. The projected energy demands address two scenarios (minimally Title 24 compliant and 15 percent more efficient than Title 24) in order to better express the benefits of the proposed project's energy efficient design features.

As demonstrated in **Table 4.17-1**, by designing Mission Village's proposed land uses to be at least 15 percent more energy efficient than required by state law, the proposed project's electricity demands would be noticeably lower than a minimally Title 24 compliant development. Therefore, the impact of the proposed project on electricity resources is considered less than significant, particularly as adequate resources exist for SCE and the SCGC to meet the projected demand.

Table 4.17-1
Total Electricity Usage for Mission Village

Source	Annual Electricity Usage			Improvement over Baseline
	Unit	Baseline	Mission Village	
Residential[1]	kWh/yr	18,400,291	17,643,509	4%
Non-Residential[1]		24,242,382	21,655,375	11%
Municipal[2]		6,133,350	6,133,350	0%
Recreational (Pools)[3]		1,095,147	1,095,147	0%
Total		**49,871,169**	**46,527,381**	**7%**

Notes:

[1] *Baseline annual electricity usage reflects the electricity usage from residential and non-residential buildings that are minimally compliant with the 2008 Title 24 standards. The calculation of Mission Village annual electricity usage incorporates the applicant's commitment to 15% better than 2008 Title 24 for residential and non-residential buildings.*

[2] *Baseline municipal electricity usage is equivalent to the Mission Village municipal electricity usage. Most of the municipal energy use is for water conveyance, and most of that will not be spent in the area; therefore, infrastructure for that need not necessarily be included.*

[3] *Recreational Center (Pools) electricity usage reflects the amount of electricity required to run the pool filter pumps. The Mission Village electricity usage is expected to be equivalent to the Baseline electricity usage.*

Abbreviations:
kWh – kilowatt-hour
yr - year
Source: ENVIRON, 2010.

Table 4.17-2, Total Natural Gas Usage for Mission Village, below, presents the projected natural gas demand of residential and non-residential buildings, and recreational centers (pools) at Mission Village. The projected energy demands address two scenarios (minimally Title 24 compliant and 15 percent more efficient than Title 24) in order to better express the benefits of the proposed project's energy efficient design features.

As demonstrated in **Table 4.17-2**, by designing Mission Village's land uses to be at least 15 percent more energy efficient than required by state law, the proposed project's natural gas demands would be noticeably lower than a minimally Title 24 compliant development. Therefore, the impact of the proposed project on natural gas resources is considered less than significant, particularly as adequate resources exist for SCGC to meet the projected demand.

Table 4.17-2
Total Natural Gas Usage for Mission Village

Source	Annual Natural Gas Usage			Improvement over Baseline
	Unit	Baseline	Mission Village	
Residential[1]	MMBTU/yr	178,395	156,055	13%
Non-Residential[1]		14,763	12,673	14%
Recreational (Pools)[2]		30,271	0	100%
Total		**223,429**	**168,728**	**24%**

Notes:

[1] *Baseline annual natural gas usage reflects the natural gas usage from residential and non-residential buildings that are minimally compliant with the 2008 Title 24 standards. The calculation of Mission Village annual natural gas usage incorporates the applicant's commitment to 15% better than 2008 Title 24 for residential and non-residential buildings.*

[2] *Baseline annual natural gas usage reflects the amount of natural gas required to heat Recreational Center pools using traditional heaters. The calculation of Mission Village annual natural gas usage incorporates the applicant's commitment to using solar heating rather than natural gas heating for all Recreational Center pools.*

Abbreviations:
MMBTU – Million British Thermal Units
yr – year
Source: ENVIRON, 2010.

(3) Infrastructure Extension

Electric Lines. Electrical utilities to serve the proposed project would be constructed in several phases. The first phase would extend the existing 16-kV power lines in Magic Mountain Parkway and Westridge Parkway approximately 2,200 feet west of The Old Road and 3,800 feet south of the Magic Mountain Parkway, respectively.

Depending on the timing of other development projects, SCE may require construction of a 16-kV substation to serve the Mission Village project. There are two alternative locations for the proposed

substation, both outside the boundaries of Mission Village. Alternative one would be located almost entirely within Newhall Ranch in the Potrero Valley portion of the approved Specific Plan, with a small portion of the grading encroaching into the Legacy Village project (VTTM 061996). Access to the site would be provided along the existing Newhall Ranch agriculture roads. Alternative two would be located partially within the Potrero Valley portion of the approved Specific Plan and partially within the Legacy Village (VTTM 061996) project site. Access to the site would also be provided along the existing Newhall Ranch agriculture roads.

In summary, electric service to the Mission Village site would be provided through approximately 20,850 feet of temporary utility poles/lines that cross Newhall Ranch and that would be converted to permanent facilities during the buildout of Newhall Ranch. The utility poles/lines would be located along or near existing agricultural roads in order to take advantage of the area's existing topography and to minimize impacts.

The Newhall Ranch Specific Plan concluded that an extension of electric service facilities to the project site was not considerable. As part of the Specific Plan, an on-site substation would be located adjacent to the existing transmission lines running parallel to the SR-126, in the Potrero Community, and would serve the Newhall Ranch Specific Plan site. The substation location was designed to be as close as possible to existing electrical transmission lines and the center of the Specific Plan site, so that no additional transmission lines would need to be erected between the existing lines and the substation. All utilities constructed for the proposed project would be consistent with SCE Rule 15, which states that the developer is responsible for trenching, backfilling, necessary conduits, and substructures for the installation of distribution lines as their contribution for extending service to a project site. In addition, SCE would review the Mission Village tract map to ensure access consistency with its standards. Therefore, the proposed project would not require considerable extension of service facilities to the project site, and impacts would be less than significant.

Natural Gas Lines. New natural gas distribution infrastructure would need to be extended onto the project site. Initially, an existing, 8-inch pipeline would be extended from Magic Mountain Parkway approximately 2,200 feet west of The Old Road. Additional pipelines would be extended from an existing, 4-inch line in Westridge Parkway approximately 3,800 feet south of Magic Mountain Parkway. Larger 8- and 6-inch medium pressure pipelines would be installed in Magic Mountain Parkway and Commerce Center Drive. These larger pipelines would extend approximately 18,300 feet to the project site. Within the project site, approximately 84,000 feet of 2-, 3-, and 4-inch medium pressure pipelines would be constructed in minor arterial roadways. In order to maintain gas distribution system integrity, the proposed pipelines would be tied in at Commerce Center Drive (at SR-126) and Magic Mountain Parkway (at Valencia Boulevard), which will be tied to Long Canyon Road north to SR-126.

Design and sizing of all natural gas infrastructure would support the Mission Village project and meet all relevant engineering requirements to the satisfaction of SCGC and Los Angeles County. Because serving new areas and upgrading the size of existing gas mains is routine for SCGC, and because SCGC's long-term infrastructure planning takes local and regional general plans into account so that new developments are planned for, extending natural gas infrastructure to the project site would not result in a significant impact.

7. MITIGATION MEASURES

Although the proposed Mission Village project may result in potential significant impacts to electricity and natural gas utilities absent mitigation, the County of Los Angeles already has imposed mitigation measures required to be implemented as part of the Newhall Ranch Specific Plan. These mitigation measures, as they relate to electricity and natural gas utilities, are found in the certified Newhall Ranch Specific Plan Program EIR and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). The project applicant has committed to implementing the applicable mitigation measures from the Newhall Ranch Specific Plan to ensure that future development of the project site would not result in impacts to electricity and natural gas utilities and not adversely affect adjacent properties.

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as they Relate to the Mission Village Project

The following mitigation measures were adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). The applicable mitigation measures would be implemented to mitigate the potentially significant electricity and natural gas utility impacts associated with the proposed Mission Village project. These measures are preceded by "SP," which stands for Specific Plan.

(1) Electricity

SP 4.14-1 All development within the Specific Plan area shall comply with the Energy Building Regulations adopted by the California Energy Commission (Title 24 of the *California Code of Regulations*).

SP 4.14-2 Southern California Edison or other energy provider is to be notified of the nature and extent of future development on the Specific Plan site prior to recordation of all future subdivisions.

SP 4.14-3 All future tract maps are to comply with Southern California Edison or other energy provider guidelines for grading, construction, and development within SCE easements.

SP 4.14-4 Electrical infrastructure removals and relocations are to be coordinated between the Specific Plan engineer and Southern California Edison or other energy provider as each tract is designed and constructed.

SP 4.14-5 All future tract maps are to be reviewed by Los Angeles County to ensure adequate accessibility to Edison or other energy provider facilities as a condition of their approvals.

SP 4.14-6 Upon transfer of the High Country Special Management Area to another entity for long-term maintenance, continued and adequate access to all Southern California Edison facilities in the High Country Special Management Area is to be ensured within the transfer agreement. (*This mitigation measure is not applicable to the Mission Village project because Mission Village is not located within the High Country SMA.*)

(2) Natural Gas

SP 4.13-1 All development within the Specific Plan area shall comply with the Energy Building Regulations adopted by the California Energy Commission (Title 24 of the *California Code of Regulations*).

SP 4.13-2 A letter from the Southern California Gas Company or other gas provider is to be obtained prior to recordation of all future subdivisions stating that service can be provided to the subdivision under construction.

SP 4.13-3 The Specific Plan is to meet the requirements of SCGC in terms of pipeline relocation, grading in the vicinity of gas mains, and development within Southern California Gas Company easements. These requirements would be explicitly defined by SCGC at the future tentative map stage.

SP 4.13-4 All potential buyers or tenants of property in the vicinity of Southern California Gas Company transmission lines are to be made aware of the line's presence in order to assure that no permanent construction or grading occurs over and within the vicinity of the high-pressure gas mains.

b. Project Design Features Incorporated as Mitigation Measures by This EIR

Project design features that are recommended for incorporation as mitigation measures in **Section 4.23, Global Climate Change**, of this Draft EIR also would reduce the proposed project's demand for electricity and natural gas. As these measures are recommended for adoption and incorporation into a mitigation monitoring and reporting program, these measures can be relied upon in this analysis as feasible measures designed to reduce the proposed project's demand for energy resources.

The mitigation measures recommended in **Section 4.23** are in addition to those adopted in the previously certified Newhall Ranch Specific Plan Program EIR. To indicate that the measures relate specifically to the Mission Village project, each measure is preceded by MV, which stands for Mission Village. Accordingly, the applicable mitigation measures are MV 4.23-1 through MV 4.23-7.

In addition to the mitigation measures set forth above, the project applicant also is pursuing implementation of two potentially feasible programs that may result in further energy demand

reductions. As discussed extensively in **Section 4.23**, the project applicant has committed to working with Los Angeles County, SCE, and SCGC, as applicable, to evaluate the feasibility of energy efficient municipal lighting and smart meter programs.

Please refer directly to **Section 4.23,** of this Draft EIR for additional information on the terms of the seven mitigation measures identified above and the two programs being evaluated for feasibility.

8. CUMULATIVE IMPACTS

Because the Mission Village project would implement a portion of the Newhall Ranch Specific Plan, this EIR tiers from the previously certified Newhall Ranch Specific Plan Program EIR in accordance with Public Resources Code section 21093(a) and *State CEQA Guidelines* section 15168(c). Public Resources Code section 21093 encourages a lead agency to "tier" from a previously certified program EIR, whenever feasible. In this way, this EIR can focus on site-specific issues, distinct to Mission Village, and allow the County, as the lead agency, to concentrate on issues ripe for decision while excluding from consideration issues already decided. (*State CEQA Guidelines* sections 15168(c) and 15385.)

In this case, cumulative impacts on energy supply and infrastructure associated with development of the entire Newhall Ranch Specific Plan were fully evaluated in Sections 4.13, Natural Gas, and 4.14, Electricity, of the Newhall Ranch Specific Plan Program EIR. Consequently, this EIR incorporates by reference the natural gas and electricity analysis and conclusions from that certified EIR. That analysis concluded that the cumulative development scenario (referred to as the "Santa Clarita Valley Cumulative Build-Out Scenario") would not have a significant impact on electricity or natural gas. Therefore, the Mission Village project, in conjunction with other related cumulative development in the Valley, would have less than significant impacts on electricity and natural gas resources.

Moreover, it is important to note that because of AB 32, California is evaluating how to reduce its reliance on traditional fossil-fuel based energy sources. For example, the state has set a goal to achieve a 33 percent renewable portfolios standard in order to reduce its dependence on fossil fuels. It also is expected that in order to reduce greenhouse gas emissions, as required by AB 32, the energy sector will be subject to new regulations designed to improve energy efficiency.[21] Cumulative development likely will be subject to new regulations designed to improve statewide energy efficiency, thereby ensuring that cumulative impacts to energy resources are a less than significant level.

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21 See http://www.arb.ca.gov/cc/ghgsectors/ghgsectors.htm, last visited on April 5, 2010.

9. CUMULATIVE MITIGATION MEASURES

Cumulative development would be subject to applicable Title 24 standards adopted by the CEC and other future regulations adopted pursuant to AB 32; and, therefore, no further mitigation is required.

10. SIGNIFICANT UNAVOIDABLE IMPACTS

a. Project-Specific Impacts

Provided that the mitigation measures adopted in connection with the Newhall Ranch Specific Plan Program EIR are implemented, and the project design features described above are incorporated and adopted as mitigation measures, no significant unavoidable impacts are expected to result from implementation of the proposed project.

b. Cumulative Impacts

Provided that the mitigation measures adopted in connection with the Newhall Ranch Specific Plan Program EIR are implemented, and the project design features described above are incorporated and adopted as mitigation measures, no significant unavoidable cumulative impacts are expected to result from implementation of the proposed project.

4.18 MINERAL RESOURCES

1. SUMMARY

Portions of the Mission Village project site located along the banks of the Santa Clara River, and the sites of the proposed utility corridor and water quality basin, are located within Mineral Resource Zone (MRZ) 2, which identifies the area as a location with significant mineral deposits present or a location with a high likelihood of the presence of mineral deposits. The majority of the remainder of the Mission Village site is located in MRZ-3, which indicates that mineral deposits are expected to occur in this area, but the significance of such deposits is unknown at the present time. The off-site site locations for water tanks are also located in MRZ-3. Two alternative sites are proposed for the electrical substation; each is located in MRZ-1, which is an area characterized as having no significant mineral deposits present or judged to have little likelihood for the presence of minerals. The extension of Magic Mountain Parkway to the project site would traverse both MRZ-2 and MRZ-3. However, the tract map site, utility corridor, water quality basin, water tank, electrical substation, and the extension of Magic Mountain Parkway sites are not located in active mineral extraction operation areas. Further, the tract map site and proposed sites for the utility corridor, water quality basin, water tank, electrical substation, and extension of Magic Mountain Parkway are not identified as a "locally-important mineral resource recovery site" or a "regionally significant construction aggregate resource area" by the County of Los Angeles General Plan, Santa Clarita Valley Area Plan, or Newhall Ranch Specific Plan. In addition, at the time the Newhall Ranch site was designated by the County of Los Angeles as "Specific Plan," which serves as the zoning designation for the property, there were no areas within Newhall Ranch used for mineral extraction. Under the Specific Plan designation, the area currently is zoned for development of various Specific Plan land uses and not long-term mineral extraction activities.

The Specific Plan zoning designation allows for the development of a mixed-use planned community, with sand and gravel extraction activities allowed during tract grading and construction phases on the sites to be developed. Additionally, extraction activities are permitted in the Visitor-Serving (VS) and Open Area (OA) zones under a conditional use permit, which is not proposed. Thus, the current zoning designation for the project site allows the area to be available for mineral extraction uses on a limited basis in areas that are already proposed for, and in association with, development (i.e., on tentative tract map sites). Furthermore, the majority of mineral resources of value are expected to be located in the River Corridor and not on the project site, and the continued availability of these resources would not be significantly affected by the proposed project. Therefore, project implementation will not result in a significant impact in relation to the loss of availability of a known mineral resource or a locally important mineral resource recovery site.

2. BACKGROUND

a. Relationship of Project to Newhall Ranch Specific Plan Program EIR

Sections 2.0 and 4.1 of the Newhall Ranch Specific Plan Program EIR identified the existing conditions and impacts associated with mineral resources for the entire Newhall Ranch Specific Plan. All subsequent project-specific development plans and tentative subdivision maps must be consistent with the Newhall Ranch Specific Plan, adopted May 2003, the County of Los Angeles General Plan, and the Santa Clarita Valley Area Plan.

This project-level EIR is tiering from the previously certified Newhall Ranch Specific Plan Program EIR. This section discusses the Mission Village project's existing conditions, potential environmental impacts, and mitigation measures, if any, recommended by this EIR for the Mission Village project relative to mineral resources.

b. References

This section was prepared based on a review of Mineral Land Classification Maps prepared by the California Department of Conservation, California Geological Survey, 1979.

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

The Specific Plan site is underlain by mineral and gravel deposits and contains three types of MRZs, as identified by the California Department of Conservation, Division of Mines and Geology. The predominant source of such deposits is found along the Santa Clara River, which is designated as MRZ-2. This zone indicates that information exists that identifies the area as a location with significant mineral deposits present, or a location with a high likelihood of the presence of mineral deposits. The vast majority of the Newhall Ranch site, primarily within the Santa Susana Mountains, is designated as MRZ-3. This zone indicates that mineral deposits are expected to occur in this area, but the extent of such deposits is unknown at the present time. The remainder of the Newhall Ranch site is classified as MRZ-1, which indicates that information exists to indicate no substantial deposits of mineral or gravel are found within the area.

On May 27, 2003, the Los Angeles County Board of Supervisors determined that the existing (and historical) land uses on the Newhall Ranch site, including oil and natural gas operations, agriculture, and cattle grazing would give way to a Specific Plan zoning designation to allow for development of a mixed-use planned community. As a result, the entire Newhall Ranch site is currently zoned for Specific Plan uses, as described in the adopted Newhall Ranch Specific Plan. The Specific Plan EIR did not identify significant impacts to mineral resources and, therefore, no mitigation measures specific to mineral resources were adopted.

4. EXISTING CONDITIONS

a. State Surface Mining and Reclamation Act

The State Surface Mining and Reclamation Act of 1975 (SMARA), as amended, mandated the initiation of mineral land classifications to help identify and protect mineral resources in areas within the state that are subject to urban expansion or other irreversible land uses that would preclude mineral extraction. After designation of mineral resource areas, SMARA provided for the classification of designated lands containing mineral deposits of regional or statewide significance. In addition, SMARA was designed to provide guidelines for the proper reclamation of mineral lands.

In compliance with SMARA, the State Division of Mines and Geology prepared Mineral Resource Zone maps that identify the following mineral resource zones:

MRZ-1 Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.

MRZ-2 Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.

MRZ-3 Areas containing mineral deposits the significance of which cannot be evaluated from available data.

MRZ-4 Areas where available information is inadequate for assignment to any other MRZ zone.

As shown in **Figure 4.18-1, Mineral Resources Zone**, the portion of the Mission Village project site located along the banks of the Santa Clara River, the proposed utility corridor, and the proposed water quality basin would be located within MRZ-2. The remainder of the Mission Village tract map site is located in MRZ-3. Off-site locations for the proposed water tanks are also located in MRZ-3. The alternate locations proposed for the electrical substation would be located partially in the Potrero Planning Area of the Newhall Ranch Specific Plan site and Legacy Village, and would be located in MRZ-1. The extension of Magic Mountain Parkway to the project site would traverse both MRZ-2 and MRZ-3.

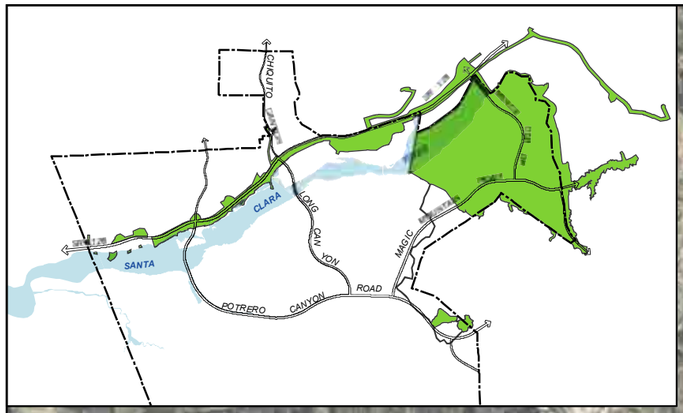
b. Local Land Use Plans

Two adopted land use plans govern unincorporated land development in the Santa Clarita Valley Planning Area. The plans are the County of Los Angeles General Plan and Santa Clarita Valley Area Plan. The General Plan serves as the overall policy document for the unincorporated portions of the County, including the Specific Plan site. The land use designations in the General Plan are broad in nature, as are the types of uses permitted within each designation. More detailed Area Plans have been prepared for

various planning areas throughout the County. These include the Santa Clarita Valley Area Plan, which provides detailed policy statements, land uses, and development standards for the Santa Clarita Valley. The Area Plan includes the unincorporated Newhall Ranch Specific Plan area. In addition to the County's General Plan and Area Plan, land development on the project site is governed by the Newhall Ranch Specific Plan, which serves as the zoning for the property. Neither the County of Los Angeles General Plan, Santa Clarita Valley Area Plan, nor the Newhall Ranch Specific Plan identifies the Mission Village project site as a "locally-important mineral resource recovery site," "regionally significant construction aggregate resource area," or an available site with known mineral resources of value to the area, region, or state.

5. PROPOSED PROJECT IMPROVEMENTS

The proposed project consists of the development of single- and multi-family residences (including condominiums, duplexes, and apartments), mixed-use residential/commercial development, commercial uses, an elementary school, library, parks, bus transfer station, open space, and recreational centers. Other land uses within the project site include a spineflower preserve in the northeastern portion of the site. Facilities and infrastructure proposed to support the project include roads (including the Commerce Center Drive Bridge), trails, drainage improvements, flood protection (including buried bank stabilization within and adjacent to the Santa Clara River), potable and reclaimed water systems (including water tanks), sanitary sewer system, and dry utility systems. Additionally, as part of the proposed project, the following off-site improvements (i.e., improvements outside the tract map boundary) are proposed: utility corridor, roadway extension (Magic Mountain Parkway), water quality basin, two water tanks (portions of which would be located on-site), Southern California Edison electrical substation, and grading associated with construction of the southerly extension of Westridge Parkway.



Val Verde
Newhall Ranch Specific Plan Boundary
Valencia Commerce Center Business Park
Water Tank Site
Chiquito Canyon Landfill
3
Castaic Creek
Utility Corridor
California Highway Patrol
126
5
Valencia Industrial Center
Utility Corridor
Valencia WRP
San Martinez Grande
2
Mission Village
3
Magic Mountain
River
Clara
Santa
Utility Corridor
Los Angeles County
Ventura County
4
126
Water Tank Site
Stevenson Ranch Phase V
Westridge
Substation Location

Legend:

- Mission Village Tract Map Boundary
- Project Boundary
- Specific Plan Boundary

Mineral Resource Zone (MRZ) Boundaries

- MRZ-2 — Areas where adequate information indicates significant mineral deposits present, or judged high liklehood exists for presence.
- MRZ-3 — Areas containing mineral deposits, the significance which can not be evaluated from available data.
- MRZ-4 — Areas for which available information is inadequate for assignment to any other MRZ Category.

- Plugged & Abandoned – Dry Hole
- Plugged & Abandoned – Oil
- Plugged & Abandoned – Oil – Converted to Water Flood
- Plugged & Abandoned – Water Flood
- Plugged & Abandoned – Gas

0.50 0.25 0 0.50

APPROXIMATE SCALE IN MILES

SOURCE: AirPhoto USA – 2006, State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources - January 2004, Impact Sciences, Inc. – April 2010

FIGURE **4.18-1**

Mineral Resources Zone

6. PROJECT IMPACTS

The analysis of potential impacts to mineral resources associated with construction and operation of the proposed project, including the significance criteria applicable to assessing such impacts, is presented below.

a. Significance Threshold Criteria

According to Appendix G of the *California Environmental Quality Guidelines*, a project would have a significant impact on mineral resources if it would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or,
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.[1]

This is the significance criteria to be applied to determine whether the proposed project would result in potentially significant impacts to mineral resources.

b. Impact Analysis

The portion of the Mission Village project site located along the banks of the Santa Clara River, proposed utility corridor, and proposed water quality basin would be located within MRZ-2, which identifies the area as a location with significant mineral deposits present, or a location with a high likelihood of the presence of mineral deposits. The majority of the remainder of the Mission Village site is located in MRZ-3, which indicates that mineral deposits are expected to occur in this area, but the extent of such deposits is unknown at the present time. Off-site locations for water tanks are also located in MRZ-3. The two alternate sites proposed for an electrical substation would be located in MRZ-1, which is characterized as having no significant mineral deposits present or little likelihood exists for the presence of minerals. The extension of Magic Mountain Parkway to the project site would traverse both MRZ-2 and MRZ-3. However, the tract map site, utility corridor, Magic Mountain Parkway extension, water tank sites, electrical substation site, and the water quality basin site would not be located in active mineral extraction operation areas. Further, the tract map site, utility corridor, Magic Mountain Parkway extension, water tank sites, electrical substation site, and water quality basin site are not identified as a

1 The Initial Study prepared for the Mission Village project identified "oil extraction activities in portions of the site" and that the "Project site has been previously used for oil extraction" as relevant to this impact category. However, presently, there are no active oil extraction operations on the Mission Village project site as the oil companies that previously conducted such operations have determined that oil extraction operations are no longer economically feasible at this location.

"locally-important mineral resource recovery site," "regionally significant construction aggregate resource area," or an available site with known mineral resources of value to the area, region, or state by the County of Los Angeles General Plan, Santa Clarita Valley Area Plan, or Newhall Ranch Specific Plan. In addition, at the time the Newhall Ranch site was designated by the County of Los Angeles as "Specific Plan," which serves as the zoning designation for the property, there were no areas within Newhall Ranch used for mineral extraction. Under the Specific Plan designation, the area currently is zoned for development of various Specific Plan land uses and not long-term mineral extraction activities.

The Specific Plan zoning designation allows for the development of a mixed-use planned community, with sand and gravel extraction activities allowed during tract grading and construction phases on the sites to be developed. Additionally, extraction activities are permitted in the VS and OA zones under a conditional use permit, which is not proposed. Thus, the current zoning designation for the project site allows the area to be available for mineral extraction uses on a limited basis in areas that are already proposed for, and in association with, development (i.e., on tentative tract map sites). Furthermore, the majority of mineral resources of value are expected to be located in the River Corridor and not on the project site and, therefore, the continued availability of these resources would not be significantly affected by the proposed project. Therefore, project implementation would not result in a significant impact in relation to the loss of availability of a known mineral resource or a locally important mineral resource recovery site.

7. PROJECT MITIGATION MEASURES

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as they Relate to the Mission Village Project

No mitigation measures relating to mineral resources were recommended or adopted for the Newhall Ranch Specific Plan.

b. Additional Mitigation Measures Proposed by this EIR

No mitigation measures are recommended by this EIR as no significant impacts have been identified.

8. CUMULATIVE IMPACTS

The California Geological Survey (CGS) monitors the consumption of aggregate resources in five separate Production-Consumption (PC) regions within Los Angeles County. In the most recently updated report, the CGS reported that demand for aggregates in the San Fernando Valley-Saugus-Newhall PC region was

approximately 457 million tons for a 50-year period[2] However, there are only 88 million tons of aggregate resources permitted for the PC region, which is 19 percent of the 50-year demand. The CGS estimates that the existing sand and gravel resources in Los Angeles County will be exhausted by the year 2016 unless new reserves are permitted. The County is responsible for the permitting of new or expanded mineral extraction operations (e.g., sand and gravel). Because the Newhall Ranch site, generally, and the Mission Village site, specifically, are zoned for designated Specific Plan land uses, the County has no plans to utilize the proposed project site for long-term mineral extraction. Therefore, the proposed project would not result in a long-term cumulatively considerable loss of mineral resources. Hence, no significant cumulative impact would occur due to development of the proposed project site.

9. CUMULATIVE MITIGATION MEASURES

No mitigation is required, because project implementation would not result in a cumulatively considerable loss of mineral resources.

10. SIGNIFICANT UNAVOIDABLE IMPACTS

a. Project Impacts

No significant unavoidable project impacts would occur with regard to mineral resources due to the proposed development of the Mission Village project site.

b. Cumulative Impacts

No significant unavoidable cumulative impacts would occur with regard to mineral resources due to the proposed development of the Mission Village project site.

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2 California Department of Conservation, California Geological Survey. 2006. Aggregate Availability in California.

4.19 ENVIRONMENTAL SAFETY

1. SUMMARY

The potential environmental safety impacts relative to development of the Mission Village project site include soil contamination attributable to past and present agricultural activities and on-site petroleum (i.e., oil) drilling and pipeline activities, and the disposal of on-site hazardous materials debris. Hazardous materials generally include petroleum products (including oil and gasoline), automotive fluids (antifreeze, hydraulic fluid), paint, cleaners (dry cleaning solvents, cleaning fluids), and pesticides from agricultural uses (at higher concentrations). Byproducts generated as a result of active

ties using hazardous materials (such as dry cleaning solvents, oil, and gasoline) are considered hazardous waste. Contamination usually takes the form of a hazardous materials or waste spill in soil. Such contamination can penetrate soils into the groundwater table, resulting in the pollution of a local water supply. Commercial uses, particularly those using underground storage tanks (UST), are most common in causing such contamination. Potential environmental safety impacts associated with the project site include observed stained soil (including possible petroleum hydrocarbon contamination) near abandoned oil wells and pipelines, aboveground storage tanks (AST), and equipment storage areas. Unless mitigated, these potentially contaminated soils could result in significant impacts, especially if construction utilizing these soils, or contamination within these soils, was permitted without proper monitoring and testing. When remediated to local, state and federal standards, including re-abandonment procedures for previously abandoned wells and pipelines, any potentially significant impacts relative to these conditions would be reduced to below a level of significance and, therefore, would not result in environmental safety hazards to Mission Village residents, employees and/or visitors.

Potential environmental safety impacts associated with the project site also include miscellaneous debris present on the project site that could contain previously unidentified hazardous materials. Mitigation is recommended requiring that unidentified structures or materials encountered during project construction be assessed and the appropriate action taken in accordance with applicable regulatory requirements. With mitigation, potential impacts relative to on-site debris would be reduced to a less than significant level.

Electrical transmission line poles and transformers on the project site may contain polychlorinated biphenyls (PCBs), which could constitute a potentially significant impact. With mitigation, impacts relative to PCBs would be reduced to a less than significant level.

The presence of pesticides in the soils from historic agricultural operations, and the continuing use of pesticides in connection with ongoing agricultural activities, constitutes a potential impact, although the impact does not rise to a significant level. Soil sampling has been conducted to determine on-site concentrations of pesticides. The results conclude no concentration of hazardous pesticides exceeding the residential or industrial use Preliminary

Remediation Goals. Additionally, no Proposition 65 pesticides have been used on the Mission Village project site. With respect to the future use of pesticides, due to the regulation of those pesticides used by agricultural activities occurring on Newhall Ranch, including the chemical and physical properties of those pesticides used, the requirement to use the pesticides in accordance with manufacturer specifications, and the mode of application of the pesticides, it is not expected that humans would be subject to either acute overexposure or chronic exposure to any of the pesticides used. Therefore, the on-site use of pesticides would not create a potential public health hazard, and would create no significant impact to the development property or its residents.

Other potential impacts, such as those associated with the presence of on-site ponds used for the disposal of hazardous wastes and water wells, would be reduced to a level that is less than significant with mitigation. No potentially significant impacts were identified with regard to on-site high-pressure gas lines, electrical transmission lines, transport of hazardous materials on State Route (SR) 126, the Chiquita Canyon Landfill, and the Castaic Lake Dam inundation area. Therefore, no mitigation is required or recommended for these potential environmental safety impacts.

2. INTRODUCTION

a. Relationship of Project to Newhall Ranch Program EIR

Section 4.19 of the Newhall Ranch Specific Plan Final Program EIR examined the environmental safety issues relative to the Newhall Ranch Specific Plan, described the Specific Plan's potential environmental impacts, and proposed mitigation measures specific to the identified impacts. The Newhall Ranch Specific Plan EIR mitigation program was adopted by Los Angeles County (County) in findings and in the revised Mitigation Monitoring Plan for the Specific Plan. The Final Program EIR concluded that any potentially significant impacts relative to environmental safety that would result from development of the Specific Plan would be reduced to below a level of significance with implementation of the recommended mitigation measures.

This project-level EIR is tiering from the previously certified Newhall Ranch Specific Plan Program EIR. Section 4.19 discusses, at a project-specific level, the extent of potentially hazardous conditions that exist on the Mission Village project site, and the potential environmental impacts associated with those conditions. This section also identifies mitigation measures proposed to reduce the identified potentially significant impacts to below a level of significance. The mitigation measures include those measures from the Newhall Ranch Specific Plan Program EIR applicable to the Mission Village project, in addition to project-specific mitigation measures recommended by this EIR.

b. References for this EIR Section

This section is based on information contained in the following documents, which are included in its entirety as **Appendix 4.19** of this Draft EIR.

1. *Phase I Environmental Site Assessment of Proposed The Mesas East, Valencia, California* (ESA), prepared for the Mission Village project by BA Environmental, dated February 2005.

2. *Phase I Environmental Site Assessment of River Village Tentative Tract Map No. 53108, Highway 126, Newhall Ranch, California*, BA Environmental, September 27, 2004.

3. *Phase I Environmental Site Assessment Addendum Letter of Proposed Water Tank Locations and Utility Corridor Easements Associated with the proposed River Village Development, Tentative Tract Map No. 53108, Highway 126, Newhall Ranch, California*, BA Environmental, September 28, 2004.

4. *Phase I Environmental Site Assessment of Parcel Map No. 060678*, prepared by BA Environmental, September 2005.

5. *Phase II ESA for the Water Quality Basin on the Entrada property*, prepared by BA Environmental, September 2006.

6. *Phase I Environmental Site Assessment of Legacy Village Development*, prepared by BA Environmental, March 30, 2007.

7. *Phase I Environmental Site Assessment of the Entrada Development*, prepared by BA Environmental, March 2007.

8. *Phase I Environmental Site Assessment of Proposed SCE Substation Site and Soil Disposal Site,* prepared by BA Environmental, May 2010.

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

The Newhall Ranch Specific Plan Final Program EIR identified certain potentially significant hazardous materials impacts that would result with implementation of the Specific Plan. Specifically, the Final Program EIR determined that potentially significant on-site impacts would occur with respect to past and present oil and natural gas production operations, existing Southern California Edison (SCE) electrical transmission lines, existing high-pressure natural gas lines, the future transport of hazardous waste along SR-126, and the project's proximity to the Chiquita Canyon Landfill.

In response to the identified potentially significant impacts, the Newhall Ranch Specific Plan Program EIR identified nine feasible mitigation measures.[1] The Board of Supervisors found that adoption of the

[1] See Mitigation Measures 4.19-1 through 4.19-9 in both the certified Final Program EIR (March 9, 1999) and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

recommended mitigation measures would reduce the identified potentially significant effects to less than significant levels.

4. EXISTING CONDITIONS

a. Historic Uses, Current Uses and Current Physical Conditions

Portions of the Mission Village tentative tract map site presently are used for agricultural purposes. Of the 1,261.8 acres of land comprising the Mission Village tract map site, 52.9 acres are leased out and used for irrigated crops, such as vegetables, and 7.1 are dry farmed.[2] (More information regarding agricultural uses on the project site can be found in **Section 4.16**, **Agricultural Resources**.). This EIR section includes an analysis of the environmental safety impacts of both the project site and off-site impacts. A complete discussion regarding off-site improvements associated with the project can be found in **Section 1.0, Project Description.**

A narrow strip of the project site along the eastern property boundary is leased by Magic Mountain. Magic Mountain utilizes this strip of land for storage. Items stored here include several 55-gallon drums and several 5-gallon buckets, contents unknown; a cargo container with vents in the top, possibly used for paint storage; an AST of double-walled construction containing gasoline; a cargo container with a protective berm on the east side, holding aerial fireworks for Magic Mountain's aerial fireworks display; a storage area for old architectural features and parts of old amusement park rides; an area utilized by Magic Mountain as part of their nursery, predominantly for storage of old equipment, compost piles and trash storage; and two ASTs in concrete secondary containment likely containing a fertilizer, pesticide or herbicide.

The remaining areas of the project site are vacant. Remnants of abandoned oil and gas operations are dispersed throughout the project site. Numerous dirt roads and partially paved roads traverse the project site. More information regarding existing site conditions is provided in **Section 2.0**, **Environmental and Regulatory Setting**.

The Phase I Environmental Site Assessments (ESAs) for the Mission Village project site, as well as the Phase I ESAs for off-site locations, were completed in accordance with the American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (Designation E 1527-00). The objective of the applicable Phase I ESAs were to evaluate whether current or previous land uses or practices at or adjacent to the Mission Village project site involving the use, storage, and/or disposal of hazardous substances or petroleum hydrocarbons may have

2 Newhall Land and Farming, February 2010.

resulted in the presence of a Recognized Environmental Condition (REC) within the project site. As defined in ASTM Designation E 1527-00, RECs include:

> *the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate government agencies. Conditions determined to be de minimis are not recognized environmental conditions.*

Hazardous materials generally include petroleum products (including oil and gasoline), automotive fluids (antifreeze, hydraulic fluid), paint, cleaners (dry cleaning solvents, cleaning fluids), and pesticides from agricultural uses (at higher concentrations). Byproducts generated as a result of activities using hazardous materials (such as dry cleaning solvents, oil, and gasoline) are considered hazardous waste. Contamination of groundwater resources may occur when hazardous materials or waste are discharged onto the soil. Such contamination can penetrate soils into the groundwater table, resulting in the pollution of a local water supply. Commercial uses, particularly those using UST, are commonly the source of such contamination.

For the ESA prepared for the project site, special focus was given to the potential impacts relating to soil contamination attributable to past and present agricultural activities and past on-site petroleum (i.e., oil drilling) activities. The ESA was prepared based on information obtained from the following sources:

A reconnaissance of the site and its vicinity including historical research that includes a review of historical aerial photographs relating to the project area; interviews with current owners and occupants of the project site, and personnel at local government agencies; a compilation of the property history, including the review of previous environmental reports regarding the project site (if available); a review of readily available geologic and hydrogeologic literature; an agency list search of facilities with recorded environmental issues located within the radii required by ASTM; a visual survey of asbestos-containing materials (ACMs); a visual survey and review of a map of designated wetlands; a review of a survey and map of radon zones; and a collection of soil samples for pesticide and herbicide screening was conducted.

Historical aerial photographs of the site were reviewed for the years available between 1928 (earliest photograph available) and 2002, and California Topographic Quadrangle maps of the site were reviewed for the years available between 1903 and 1995. Portions of the project site have been vacant undeveloped land, or used as agricultural land or cattle ranching from prior to 1903 until present. Structures have existed in the northeast portion of the project site since prior to 1903. Associated with these structures

were corrals. This area was likely part of the cattle ranching operations conducted in this area from prior to 1903 until sometime around the 1960s. By 2002, all of the structures in the northeastern portion of the property had been removed. As early as 1968, portions of the project site have been used for agricultural cropland; however, it was not until after the mid 1990s that significant agricultural production was conducted in the northeastern portion of the project site. Since 2002, there have been no significant changes in the project site's appearance or usage.

The project site is located within the Castaic Junction oil field, and, between 1952 and 1995 most of the project site was used for some type of oil exploration or production. Details of those historic uses are presented in the following sections.

Historical aerial photographs and historical topographic maps are provided in Appendix A and Appendix B, respectively, of the Phase I ESA provided in **Appendix 4.19** of this Draft EIR.

Additionally, the proposed project includes the following off-site improvements:

(1) **Utility Corridor:** The off-site Utility Corridor will include utility infrastructure to serve the Mission Village project and, ultimately, future Newhall Ranch development. The corridor will include both new utility facilities, as well as relocated existing facilities. The corridor utilities would include a gravity sewer and pressure sewer force main, and pipelines for potable water, recycled water, agricultural water, electrical power, telephone, cable television, and natural gas. It is located west of the project site, generally runs east/west along SR-126 to the I-5, where the alignment turns to the south. (See **Figure 1.0-3, Project Boundary/Environmental Setting**). The corridor starts at the future water reclamation plant (WRP) that was analyzed as part of the Landmark Village project, and runs east to The Old Road, including the existing Round Mountain potable water tank and existing utilities located near the post office in Franklin Parkway.

    The utility corridor begins at the future WRP (approximately 0.8 mile west of San Martinez Grande Canyon Road), moving east towards the future Potrero Road (approximately 50 feet west of San Martinez Grande Canyon Road). It then proceeds further east to the future Landmark Village Development (approximately 1.0 miles northeast of the intersection of Highway 126 and San Martinez Grande Canyon Road), and then to Commerce Center Drive. East of Commerce Center Drive, the utility corridor runs beneath Henry Mayo Road. At the intersection of Henry Mayo Road and The Old Road, the utility corridor moves southeast running beneath The Old Road and continuing south to WRP #32. Additionally, a utility easement begins at Henry Mayo Road approximately 800 feet west of the intersection of The Old Road and Henry Mayo Road, and runs parallel and south of The Old Road, intersecting The Old Road approximately 3,000 feet southwest of the intersection of The Old Road and Henry Mayo Road. The utility corridor is a narrow easement, and is not likely to be impacted by adjacent or surrounding properties.

    Historically, the portion of the utility corridor running from future water reclamation plant to Commerce Center Drive was occupied by the Southern Pacific Railroad track easement until sometime prior to 1991, when the tracks were removed and it was used as an access road. Several water lines and former oil pipelines were observed on or parallel to the subject site, and a Shell Oil pipeline was observed to run parallel along the northern side of this portion of the utility corridor,

which was exposed in some places, but no staining was observed on the surface near the exposed areas. Finally, an 8-inch Texaco oil pipeline and two 6-inch abandoned Mobil Oil pipelines were noted to run down the center of Highway 126, just north of the subject site.

The portions of the utility corridor that will run beneath Henry Mayo Road and The Old Road have been occupied by those roads from prior to 1952 to present. Several underground pipelines run under or parallel to The Old Road, including a 6-inch Mobil Oil pipeline approximately 3 feet south of The Old Road, a 12-inch high pressure gas pipeline and a 10-inch Flexismer pipeline approximately 28.5 feet south of The Old Road, a 6-inch Mobil Oil pipeline approximately 42 feet south of The Old Road, an 8-inch Epsilon Oil pipeline approximately 137 feet south of The Old Road, and a 10-inch Mobil Oil pipeline approximately 153 south of The Old Road. Additionally, there is an 8-inch Shell Oil pipeline that is located south of The Old Road.

No staining or distressed vegetation was observed along the proposed utility corridor. Additionally, no hazardous substances, or evidence of USTs, ASTs, or wastewater clarifiers were observed. Some non-hazardous debris was scattered between the Landmark Village Development and Commerce Center Drive, as well as along Henry Mayo Road and The Old Road.

(2) **SCE Substation:** The power lines that connect the SCE Substation run from the southwestern portion of the project site, through Lion Canyon, and proceeds through the Mesas West, Long Canyon North, and Long Canyon South portions of the Homestead Village project. The Homestead property is occupied by agricultural fields, oil fields and undeveloped land. There are two alternative locations for the proposed 16 kV substation, both outside the boundaries of Mission Village. The SCE Substation alternative disposal site are south of the proposed project site in Potrero Valley. Alternative one would be located almost entirely within Newhall Ranch in the Potrero Valley portion of the approved Specific Plan, with a small portion of the grading encroaching into the Legacy Village project (VTTM 061996). The second alternative would be located partially within the Legacy Village (VTTM 061996) and partially within Newhall Ranch in the Potrero Valley portion of the approved Specific Plan project sites. The Legacy Village project site is predominantly occupied by undeveloped land with some history of cattle grazing in the area, and oil production related to the Castaic Junction and Newhall-Potrero Oil Fields. The SCE Substation alternative located on the Legacy Village site would be on or near: (1) a flattened pad/former sump location; (2) two previously abandoned oil wells (Oryx Energy Corp. Newhall Corp. Wolfson 5-5 and Oryx Energy Corp. Newhall Corp. Wolfson 4-5); (3) a possible tank location; and (4) an approximate 3,000-gallon water tank.

(3) **Magic Mountain Parkway Extension and Commerce Center Grading:** As part of the project, Magic Mountain Parkway would be extended to provide regional access to and from the project site to SR-126 and I-5, respectively. Magic Mountain Parkway will be extended in a west to southwesterly direction through the southern parcel of the Entrada property and into the Mission Village project site. Commerce Center grading consists of additional grading land along the eastern boundary north of the Magic Mountain Parkway extension to the southern boundary of the Magic Mountain Parkway, within the southern parcel of the Entrada development. The southern parcel of the Entrada property is predominantly occupied by undeveloped land, formerly occupied by oil field production. Several tank batteries, abandoned oil wells, ASTs, and areas of debris are located on this portion of Entrada. The area located on the southwestern portion of the Magic Mountain theme park is used as part of their nursery. This area is used predominantly for storage of old equipment, compost piles, and trash storage. Two ASTs in concrete secondary containment were observed. No areas of stained soil, or significantly stained asphalt or concrete, or distressed or discolored vegetation were observed

on-site during the site reconnaissance, other than those described above. See, *Phase I Environmental Site Assessment of the Entrada Development*, prepared by BA Environmental, March 2007.

(4) **Water Quality Basin:** As part of the proposed project, an off-site water quality basin would be constructed within the boundaries of VTTM 53295 (Entrada). The water quality detention basin is an impoundment where storm water temporarily is detained, allowing sediment, and particulates to settle out. The Water Quality Basin will be located on two parcels (a 5-acre parcel and a 6.5-acre parcel) adjacent to the northern corner of the Mission Village project site, north of the Magic Mountain amusement park and west of Commerce Center Drive. This property has been used historically as a feed lot for cattle and for agricultural land, but is currently fallow.

(5) **Water Tanks:** Two water tanks will be partially constructed in the central-southern portion of the Mission Village site, and partially located on the northern portion of VTTM No. 61996 (the Legacy Village project site). The Legacy Village project site is predominantly occupied by undeveloped land with some history of cattle grazing in the area, and oil production related to the Castaic Junction and Newhall-Potrero Oil Fields. The water tank will be located near an oil well (Exxon Newhall Corp #1) which was abandoned in October 1995.

(6) **Grading for Westridge Parkway Expansion:** The grading associated with the southerly expansion of Westridge Parkway will affect the southeastern boundary of the project site, and will also proceed west into the southern portion of VTTM 53295 (Entrada project site) and south into the northern portion of VTTM 61996 (the Legacy Village project site). The Legacy Village project site is predominantly occupied by undeveloped land with some history of cattle grazing in the area, and oil production related to the Castaic Junction and Newhall-Potrero Oil Fields. The southern parcel of the Entrada property is predominantly occupied by undeveloped land, formerly occupied by oil field production. Several tank batteries, abandoned oil wells, ASTs, and areas of debris are located on this portion of Entrada. See, *Phase I Environmental Site Assessment of Legacy Village Development*, prepared by BA Environmental, dated March 30, 2007, and *Phase I Environmental Site Assessment of the Entrada Development*, prepared by BA Environmental, March 2007.

The locations of these off-site improvements are shown in **Figure 1.0-25a**.

A description of specific activities and conditions present on the project site relative to the assessment of potential environmental safety impacts follows below.

(1) Oil Wells, Oil Sumps and Associated Structures

The project site is located within the Castaic Junction oil field and, prior to 1952 and until approximately 1995, Exxon Company U.S.A. or its subsidiaries (Exxon) leased most of the project site for oil exploration or production activities. Approximately 55 oil wells were formerly located on the project site and 8 are located nearby, but off site, along with associated buildings, tanks, and sumps. **Figure 4.19-1, Plugged and Abandoned Oil Wells**, shows the locations of the plugged and abandoned oil wells on the project site and within 500 feet of the project site. (The locations of the former oil wells are also provided in **Appendix 4.19**, Table 4, and shown in appendix Figures 4 and 5). Eight abandoned oil wells were located on or near the locations of the project's off-site improvements. Two of these oil wells were located near

the SCE Substation alternative. See **Appendix 4.19**, Phase I Environmental Site Assessment of Legacy Village Development, prepared by BA Environmental, dated March 30, 2007, Figures 3 and 4 for more information. Four abandoned oil wells were located on the adjacent Entrada development property on or near the Magic Mountain Parkway extension, Commerce Center Drive and Westridge Parkway grading areas and water quality basin. See **Appendix 4.19**, *Phase I Environmental Site Assessment of the Entrada Development*, prepared by BA Environmental, March 2007, Figure 6 for more information. Two abandoned oil wells were located on the future Landmark Village development property on or near the utility corridor. See **Appendix 4.19**, *Phase I Environmental Site Assessment of River Village Tentative Tract Map No. 53108, Highway 126, Newhall Ranch, California*, BA Environmental, September 27, 2004, and *Phase I Environmental Site Assessment Addendum Letter of Proposed Water Tank Locations and Utility Corridor Easements Associated with the proposed River Village Development, Tentative Tract Map No. 53108, Highway 126, Newhall Ranch, California*, BA Environmental, September 28, 2004, for more information.

By 1988, decommissioning of the oil production operations began, and by 2002 all oil production had ceased in this area and the structures, tanks, and wells were removed, with the exception of two tanks currently used for irrigation water storage. Areas that were occupied by structures and oil wells are currently vacant pads. The locations of the former oil wells are currently marked by a yellow painted steel pipe driven into the ground. The well number is welded into the side of the pipe. Some level of visual evidence of past oil wells in the form of concrete, wood, and metal debris is present at most of the former well locations. A large number of pads, which were likely pads for exploratory wells, are present throughout the project site. At several locations of former oil wells or oil storage tanks, tar or stained soil with a petroleum hydrocarbon-like odor was observed. The tar-like substance was typically hard and limited to the surface. The stained soil tended to be more wide spread across a larger area and in most cases extended 6 inches or greater beneath the ground surface.

The decommissioning included significant remediation and site restoration activities, which, according to Exxon, were conducted in order to restore the project site per the lease agreement. According to Exxon, all oil wells, surface facilities, and pipelines were either removed or abandoned. Exxon stated that they had made extensive efforts to identify and remediate any areas impacted by their operations. The Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) supervises the drilling, maintenance and abandonment of oil, gas, and geothermal wells in California. According to the DOGGR, the Castaic Junction field was abandoned by Exxon according to current standards.[3]

There are unused petroleum pipelines that may exist beneath the SCE Substation and Soil Disposal Site.

A review of historical aerial photographs and topographic maps revealed several old oil sumps related to past oil production on the project site. According to the DOGGR, Exxon conducted an extensive

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3 Steven A. Fields, Operations Engineer, State of California, Department of Conservation, Division of Oil, Gas, and Geothermal Resources. Personal communication to Impact Sciences, Inc., February 9, 2005.

investigation of the project site to identify all of the former oil sumps located on the project site, and then subsequently remediated them. In 1996, Exxon removed and remediated eight tank batteries along with several associated sumps as part of their decommissioning of the Castaic Junction oil field. It is likely that most of the sumps have been removed, as none were observed on the day of the site reconnaissance; however, it cannot be confirmed that all of the past sumps have been removed, since BA Environmental has not seen any confirmatory documentation. The locations of the former sumps are shown in **Figure 4.19-1**.

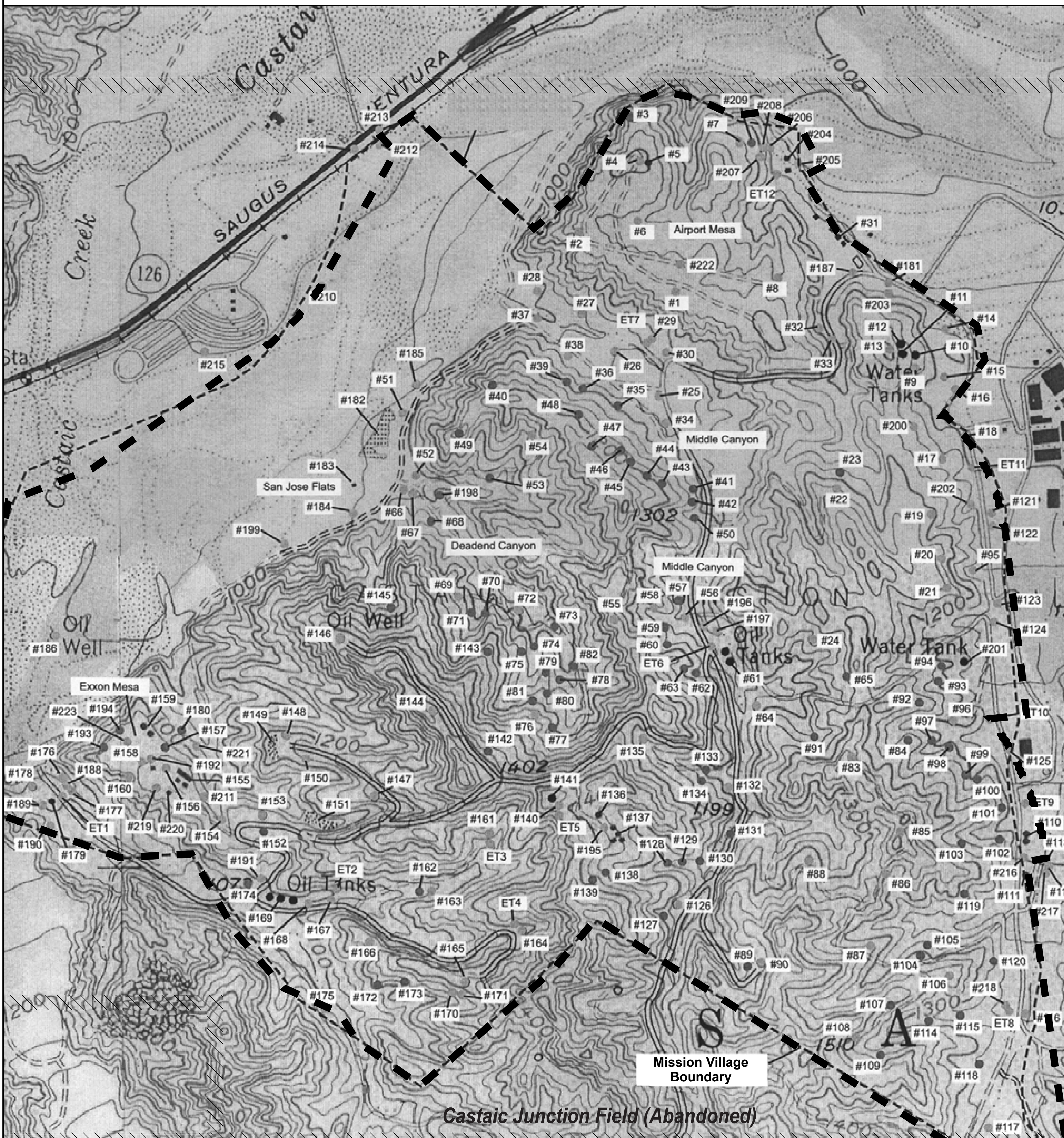
Three potential oil sumps were identified on or near the locations of the project's off-site improvements. Two possible former sump locations were located on the Legacy Village site, near the SCE Substation alternative and the grading associated with the southerly expansion of Westridge Parkway. Additionally, a former sump location was identified on the Entrada property within the area that will be graded related to the expansion of Westridge Parkway. These potential sumps would be subject to mitigation, as discussed in detail below. See **Appendix 4.19**, Phase I Environmental Site Assessment of Legacy Village Development, prepared by BA Environmental, dated March 30, 2007, and *Phase I Environmental Site Assessment of Proposed SCE Substation Site and Soil Disposal Site*, prepared by BA Environmental, May 2010 for more information.

(2) Storage Tanks

(a) Above-Ground Storage Tanks

The locations of former and existing ASTs on the Mission Village project site are depicted on **Figure 4.19-2, Above-Ground Storage Tanks (ASTs)**, and are further described below.

One 1,000-gallon steel AST, one 15-gallon day tank, and one 30-gallon day tank are located next to a diesel powered water pump in an agricultural area in the northeastern portion of the project site. The AST and the day tanks were observed to contain diesel fuel. The AST is of single-walled construction and is located within a steel secondary containment. The two-day tanks are also of single-walled steel construction, but are not located within secondary containment. No significant staining was observed on the surfaces beneath the AST or the day tanks.



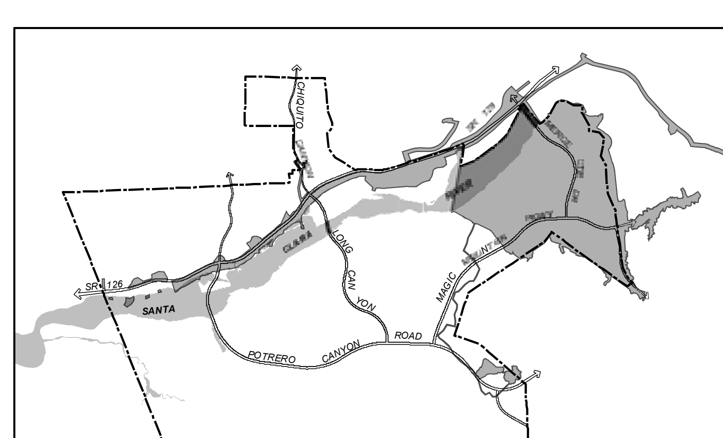
Matchline - Newhall-Potrero Field

Legend:

- Location of Identified Former Oil Well or Suspect Oil Well
- Exploratory Pads or Unidentified Cleared Areas
- Other Points of Interest
- #1 POI Designation
- Mission Village Boundary
- Above-Ground Storage Tanks (ASTs)
- Field Boundary

1000 500 0 1000

APPROXIMATE SCALE IN FEET

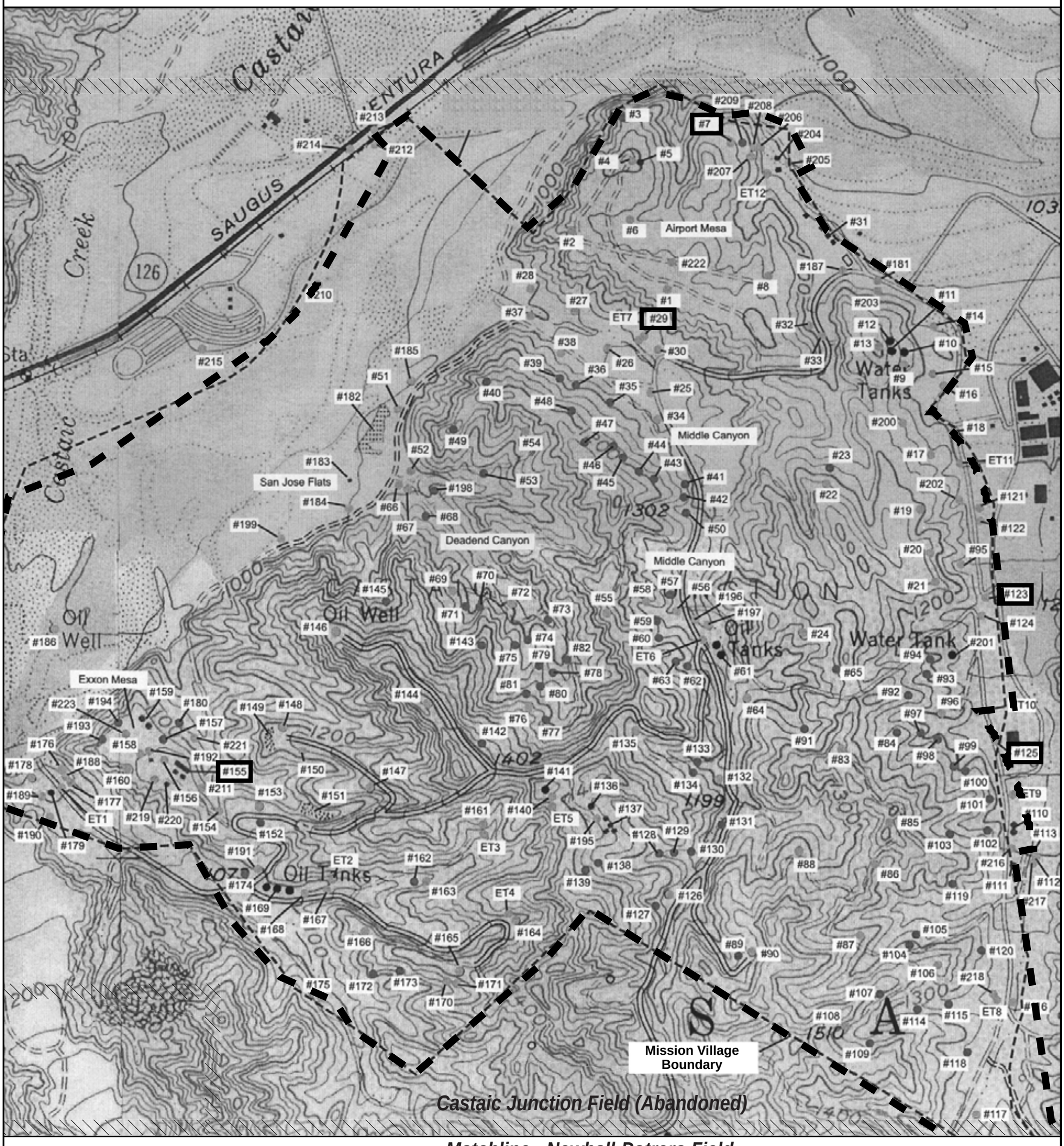


SOURCE: BA Environmental - 2006, Impact Sciences, Inc. – Februray 2010

FIGURE **4.19-1**

Plugged and Abandoned Oil Wells

032-99•02/10



SOURCE: BA Environmental - 2006, Impact Sciences, Inc. – February 2010

FIGURE **4.19-2**

Above-Ground Storage Tanks (ASTs)

Several large ASTs associated with past oil production have existed previously on the project site. Most of these ASTs were located within dirt bermed areas intended to contain any large releases of oil from the ASTs. Most of the ASTs related to the past oil production activities have been removed. In some of the areas formerly occupied by these ASTs, residual contamination in the form of tar or oil stained soil was observed. Two of the former oil ASTs were converted for water storage use. These ASTs appeared to currently be in use for this purpose.

Three ASTs are present in the northeast portion of the project site. A concrete pad for a fourth AST is also present. According to historical topographic maps, these ASTs were used for water storage, likely for past cattle ranching operations in this area. These ASTs are no longer in use.

A review of historical documents revealed what appears to have been a cattle ranch and two oil field production offices. ASTs for the purpose of refueling vehicles may have been located in these three areas. These ASTs were likely removed when the structures in these areas were demolished. No evidence of the presence of ASTs was observed in these three areas on the day of the site reconnaissance.

Two potential ASTs identified as on or near the locations of the project's off-site improvements were near the SCE Substation alternative located on the Legacy Village site. These included (1) a possible tank location; and (2) an approximate 3,000-gallon water tank. See **Appendix 4.19**, Phase I Environmental Site Assessment of Legacy Village Development, prepared by BA Environmental, dated March 30, 2007, for more information. Three AST or former AST sites identified as on or near the locations of the project's off-site improvements were near the Magic Mountain Parkway extension, the Commerce Center grading area, and the Westridge grading area, located on the Entrada site. These included: (1) a former tank battery #5; (2) a former AST associated with tank battery #5; (3) former Exxon/Mobil Tank Battery #8 Water Disposal and Water Disposal System; (4) an approximate 4,000-gallon polyethylene AST; (5) former Exxon/Mobil Tank Battery #8 Water Disposal and Water Disposal System; and (6) an approximate 1,000 gallon propane tank. Some soil staining was observed on the surfaces near these AST or the day tank. See, *Phase I Environmental Site Assessment of the Entrada Development*, prepared by BA Environmental, March 2007 and *Phase I Environmental Site Assessment of Proposed The Mesas East, Valencia, California* (ESA), prepared for the Mission Village project by BA Environmental, dated February 2005, for more information. Additionally, crude oil may have been used to coat an on-site roadway on the SCE Substation and Soil Disposal Site. See *Phase I Environmental Site Assessment of Proposed SCE Substation Site and Soil Disposal Site,* prepared by BA Environmental, May 2010, for further information.

(b) Under-Ground Storage Tanks

According to the State of California Water Resources Control Board (SCWRCB) and the Los Angeles County Department of Public Works, Environmental Programs (LACDPW), there is no record of any USTs or the issuance of UST permits for hazardous materials storage and/or use on the project site.

A review of historical documents revealed what appears to have been a cattle ranch and two oil field production offices on the project site. USTs for the purpose of refueling vehicles may have been located in these three areas. If so, these USTs were likely removed when the structures in these areas were demolished. No evidence of the presence of USTs was observed in these three areas on the day of the ESA site reconnaissance. The locations of the cattle ranch and two oil field production offices are provided in **Appendix 4.19**, Table 1, and shown in appendix Figures 4 and 5.

No USTs were identified on or near the locations of the project's off-site improvements.

(3) Debris

During the site reconnaissance, an area in the southwest portion of the project site was observed to have what initially appeared to be an exploratory pad in the bottom of a small canyon (Point of Interest [POI] #170). Closer inspection of this pad revealed a significant quantity of various concrete, wood and metal debris, broken tools and equipment, broken dishes, broken bottles, old plastic bottles, old metal cans, and other miscellaneous trash and debris. In addition, an old, badly deteriorated, empty 55-gallon drum (POI #171) and a 5-gallon bucket containing a small quantity of what appeared to be tar were also observed partially buried in this area. Based on visual observations, this area may have been formerly used as a landfill. The locations of the exploratory pad and empty 55-gallon drum are provided in **Appendix 4.19**, Table 1, and shown in appendix Figures 4 and 5.

An area in the northeast portion of the project site was observed to have old building debris. Some of the debris observed appeared to have been from structures, which occupied this area from the early 1900s until the late 1990s, when they were demolished. These buildings were associated with the former ranching operations. Please see **Section 4.20, Cultural/Paleontological Resources**, for further discussion of these former structures and their remnants.

Finally, some non-hazardous debris was scattered on or near the locations of the project's off-site utility corridor improvement and the Magic Mountain Parkway extension. No non-hazardous debris was identified on other off-site improvements.

(4) Asbestos Visual Survey

A visual survey of suspect friable and non-friable ACMs was conducted. Friable materials are materials that can be crumbled, pulverized, or reduced to powder by hand pressure when dry. Non-friable materials are materials in which the fibers have been locked in by a bonding agent, coating, or binder, and may not release fibers during normal use and handling. Improper handling, such as grinding or sanding of non-friable ACMs, will render these materials friable.

On the day of the site reconnaissance, no buildings or structures were observed on any of the project or off-site improvement areas. In several areas of the project site debris was observed. Some of this scattered debris may contain asbestos. If asbestos-containing debris does exist, the amount would be small and would pose no significant threat to human health.

(5) Pipelines

The only pipelines on the Mission Village site are those pipelines associated with the former oil production activities, including several pipelines near the proposed off-site utility corridor. As previously noted, the decommissioning of the oil activities included significant remediation and site restoration activities. According to Exxon, all oil wells, surface facilities, and pipelines were either removed or abandoned. As noted above, according to the DOGGR, the Castaic Junction oil field was abandoned by Exxon according to current standards.

(6) Soil Sampling for Pesticides and Herbicides

Limited soil sampling was conducted on November 16, 2004, (BA Environmental, 2005) to assess whether past use of pesticides or herbicides have impacted the soils beneath the previously cultivated areas on the project site. Soil samples were collected at a depth of approximately 1 to 2 feet below ground surface (bgs). The locations were based upon the designated use (agricultural production, grazing, etc.) of the project site. Field observations of the samples collected from the borings revealed no unusual odors or staining. A total of 77 soil samples were collected. Of these samples, 76 were composited in the laboratory into 19 composite samples. Thus, a total of 20 samples were analyzed in the laboratory.

The soil samples were analyzed for Organochlorine Pesticides (OCP), Organophosphorous Pesticides (OPP) and Chlorinated Herbicides (CH), using Environmental Protection Agency (EPA) Method Nos. 8081, 8141, and 8151, respectively. All samples were reported not to contain detectable concentrations of OCPs or CH.

> *Ten composited samples were reported to contain Fensulfothion, an OPP, in concentrations ranging from 0.039 milligrams per kilogram (mg/kg) to 0.049 mg/kg. These trace concentrations*

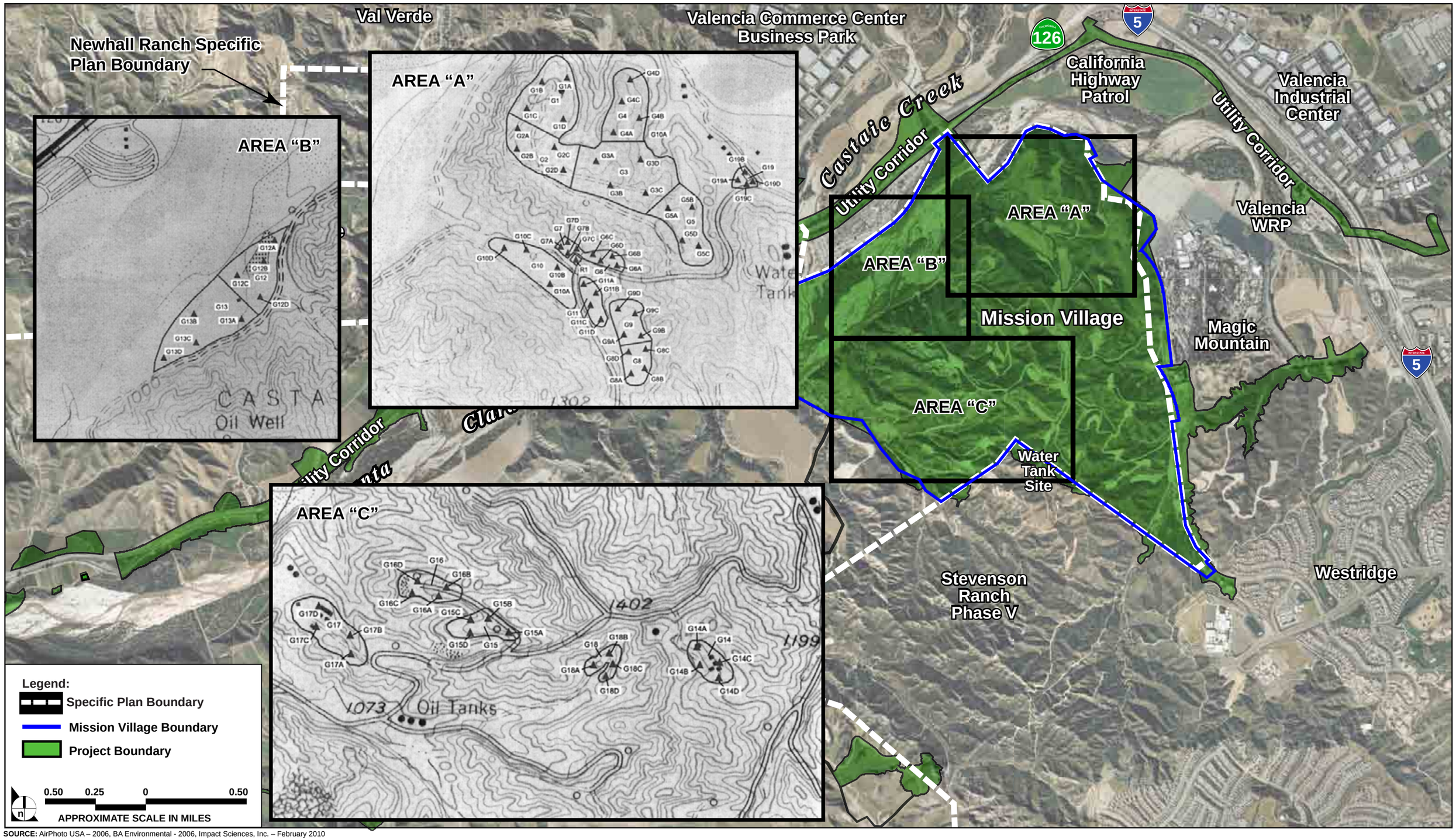
are below the laboratory's quantitative detection limit of 0.05 mg/kg for Fensulfothion. In addition to the laboratory analysis, the Preliminary Remediation Goals (PRGs) set up by the United States Environmental Protection Agency (EPA) for various compounds and metals were consulted regarding cleanup levels for Fensulfothion. No PRGs are listed for Fensulfothion. Therefore, based on the trace concentration levels, in combination with the fact that no PRGs are listed for Fensulfothion, there is a low potential for threat to human health and the environment, and it is highly unlikely that the trace concentrations would trigger a regulatory response. No other OPPs were reported in the samples. In summary, the results showed no concentration of hazardous pesticides exceeding the residential use PRGs.

The locations of the soil sampling are provided in **Figure 4.19-3, Soil Sample Locations**. The soil sampling results are provided in **Appendix 4.19**, Table 2.

Additionally, soil sampling was conducted on the two parcels that constitute the proposed water quality basin off-site improvement area. On the 5-acre parcel, 20 hand auger borings were advanced to a depth of 2 feet below ground surface (bgs). These 20 borings were allocated into 5 composite samples for testing purposes. On the 6.5-acre parcel, 24 hand auger borings were advanced to a depth of 2 feet bgs. These 24 borings were allocated into 6 composite samples for testing purposes. The locations of these borings are shown on Figure 2, attached to **Appendix 4.19**, Phase II ESA for the Water Quality Basin on the Entrada property, prepared by BA Environmental, dated September 2006. These samples were composited and analyzed for OCPs, OPPs, CHs, Paraquat, ammonia, nitrate, nitrite, arsenic and CAM-17 metals in accordance with EPA requirements. All of these composites were tested and found to contain no detectable concentrations of OCPs, OPPs, CHs, Paraquat, or arsenic. Additionally, analyses of the composites revealed no metals, including CAM-17 metals, that exceeded the applicable Total Threshold Limit Concentrations (TTLCs) and/or the applicable Soluble Threshold Limit Concentrations (STLCs).

The composited samples were also tested for ammonia, nitrate, and nitrite. Concentrations of ammonia were detected in one of the composite samples from the 5-acre parcel, at a concentration of 8.08 milligrams per kilogram (mg/kg), and three composite samples from the 6.5-acre parcel, with concentrations between 0.858 mg/kg to 3.78 mg/kg. Nitrate concentrations were detected in three of the composite samples collected from the 5-acre parcel, ranging in concentrations from 0.612 mg/kg to 2.79 mg/kg. All of the 6 composite samples and one of the discrete 2-foot-deep samples collected from the 6.5 acre site were reported to contain detectable concentrations of nitrate at concentrations ranging from 1.45 mg/kg to 7.05 mg/kg. Nitrite concentrations were detected in one composite sample from the 5-acre parcel at a concentration of 0.187 mg/kg, and no samples from the 6-acre site contained detectable concentrations of nitrite.

See **Appendix 4.19**, Phase II ESA for the Water Quality Basin on the Entrada property, prepared by BA Environmental, dated September 2006, for more information about the soil sampling for the water quality basin site.



SOURCE: AirPhoto USA – 2006, BA Environmental - 2006, Impact Sciences, Inc. – February 2010

FIGURE **4.19-3**

Soil Sample Locations

(7) Water Wells

Six small-diameter groundwater monitoring wells (2 inches) were observed on the project site. According to Newhall Land & Farming personnel, these wells are utilized by Allan E. Seward Engineering Geology, Inc., for groundwater elevation data used for engineering purposes. (Please see **Section 4.1**, **Geotechnical and Soil Resources**, for more information regarding groundwater.) The locations of the groundwater monitoring wells are provided in **Appendix 4.19**, Table 1, and shown in appendix Figures 4 and 5. No groundwater monitoring wells were observed on or near the off-site improvement areas.

Three irrigation water wells were observed to the south of the Santa Clara River, in the northern portion of the Mission Village project site. One was observed in a small valley occupied by previously cultivated fields in the northeastern portion of the project site, one near a cultivated strip of land south of the Santa Clara River in the central portion of the project site and the third in a small valley in the northwestern portion of the project site. These three wells are used to supply irrigation water to the agricultural crops on the project site and an adjacent property to the west. The locations of the irrigation water wells are provided in **Appendix 4.19**, Table 1, and shown in appendix Figures 4 and 5. Two Valencia Water Company water wells exist along the easterly boundary of the project site.[4]

(8) Polychlorinated Biphenyls (PCBs)

Federal regulations implementing the Toxic Substance Control Act (TSCA) require that electrical transformers be labeled to identify their PCB content. The manufacture and distribution of PCBs was banned in 1979. A total of 30 pole-mounted electrical transformers were observed in 12 locations on site. Of the transformers, 22 appeared to be of relatively recent manufacture. The remaining 8 appeared to be of an older design. No staining was observed on the exterior or on the ground surface beneath the newer transformers. Some staining was noted on the exterior of some of the older transformers; however, no visible staining was noted on the ground surface beneath them. In addition, one pole-mounted electrical transformer was observed near the off-site Magic Mountain Parkway extension, located on the Entrada development site. The transformers are likely owned and operated by SCE. SCE would be responsible for all maintenance and environmental conditions regarding the on-site transformers. PCB-containing transformers have not been manufactured since 1977. Based on visual observations, it is possible that the older looking transformers may contain PCB insulating oil. The locations of the on-site electrical transformers are provided in **Appendix 4.19**, Table 3 and shown in appendix Figures 4 and 5.

No PCB containing materials were found on or near the off-site improvement areas.

4 Newhall Land and Farming, April 2010.

(9) Pits, Ponds and Lagoons,

Pits, ponds, and lagoons are often associated with the disposal of solid and liquid wastes, which may include hazardous materials. There are no pits, ponds, or lagoons currently existing on the development site. Based on a review of historical records, it is unlikely that these features existed on the site in the past.

What appears to be a pond or large oil sump was observed in historical aerial photographs and historical topographic maps in an agricultural field adjacent to the south of the Santa Clara River. On the day of the site visit, this pond or sump was not present. According to Newhall Land & Farming personnel, this was a pond that was later washed out in a flood. To the best of their knowledge, this pond was never used as an oil sump. The location of the historical pond or large oil sump is provided in **Appendix 4.19**, Table 1, and shown in appendix Figure 5.

As discussed above, three potential oil sumps were identified on or near the locations of the project's off-site improvements. Two possible former sump locations were located on the Legacy Village site, near the SCE Substation alternative and the grading associated with the southerly expansion of Westridge Parkway. Additionally, a former sump location was identified on the Entrada property within the area that will be graded related to the expansion of Westridge Parkway. These potential sumps would be subject to mitigation, as discussed in detail below. See **Appendix 4.19**, *Phase I Environmental Site Assessment of Legacy Village Development,* prepared by BA Environmental, dated March 30, 2007, and *Phase I Environmental Site Assessment of the Entrada Development*, prepared by BA Environmental, March 2007, for more information.

(10) Septic Tanks and Cesspools

Septic tanks and cesspools are often associated with the disposal of wastewater from structures that are not served by public sewer systems. Septic tanks and cesspools may be associated with hazardous materials, if such materials have been inappropriately disposed of in the past via household or industrial sinks. Information obtained from the site assessment indicated that there are no septic tanks or cesspools currently located on the project site. Historical aerial photographs indicated that structures existed in several areas of the project site. These structures included what appeared to be residences and buildings related to past cattle ranching operations, and field offices related to the past oil production operations. It is likely that either septic tanks or cesspools were related to some of these structures. All of these structures have since been demolished, and the associated septic tanks or cesspools likely demolished with them. The location of these historical structures are provided in **Appendix 4.19**, Table 1, and shown in appendix Figure 5.

No septic tanks or cesspools were identified on or near the off-site improvement areas.

(11) Radon Gas Survey

Radon is a radioactive gas that occurs naturally in the environment, and cannot be seen, smelled, or tasted. The human health effect associated with exposure to elevated levels of radon is an increased risk of developing lung cancer. The EPA and the U.S. Center for Disease Control are concerned about the increased risk of lung cancer developing in individuals exposed to above average levels of radon in their homes or offices. In order to address these concerns, the EPA conducted a radon survey and presented the results for various counties in the EPA Map of Radon Zones, 1993.

The EPA's Map of Radon Zones assigns each of the 3,141 counties in the United States to one of three zones. The zone designations were determined by assessing five factors that are known to be important indicators of radon potential: indoor radon measurements, geology, aerial radioactivity surveys, soil parameters and foundation types. Los Angeles County, the location of the project site, lies within Zone 2, which indicates a predicted average indoor radon screening level of greater than or equal to 2.0 picocuries per liter (pCi/l) and less than or equal to 4.0 pCi/l. Based on the results of the survey, the project site is located within an area with a radon screening level at or below the recommended EPA Action Level of 4.0 pCi/l.

(12) Surrounding Uses

The following is a brief description of the existing uses surrounding the Mission Village project site.

During the reconnaissance of the surrounding area, BA Environmental observed that the project site is located in an area of undeveloped land and agricultural land, with oil fields and former oil fields to the northeast, northwest and south.

Land uses adjacent to the project site include undeveloped land and a former portion of an oil field to the south, and SR-126 and the Travel Village trailer park to the north. Magic Mountain theme park and undeveloped land (formerly a portion of an oil field) are to the east, and agricultural and undeveloped land are located adjacent to the west. Adjacent land within a 0.25-mile radius is undeveloped land and agricultural land, with oil fields and former oil fields to the northeast, northwest and south.

(13) Sites Included In Government Records Review

Regulatory compliance with Government Code Section 65962.5 requires a review of state and federal government databases for the presence of hazardous wastes or hazardous materials, on site or at neighboring sites, which may present certain liabilities. In connection with preparation of the ESA, a review of applicable government databases was conducted by Environmental Data Resources, Inc. (EDR). The review, which searches the databases for properties located within a certain radii of the target

property, provides the most recent information regarding hazardous materials sites within the vicinity of a proposed project. A copy of the EDR government records report is provided in Appendix G of the Phase I ESA provided in **Appendix 4.19** of this Draft EIR.

A description of the sites of potential environmental concern located within the proximity of the project area, including the project site, is presented below. A list of the sites of environmental concern identified in the government-listed databases reviewed as part of the Phase I ESA is provided in Table 5 of the Phase I ESA provided in **Appendix 4.19** of this Draft EIR.

Additionally, potential sites surrounding the off-site utility corridor were identified in the Phase I ESA provided in **Appendix 4.19** of this Draft EIR (*Phase I Environmental Site Assessment Addendum Letter of Proposed Water Tank Locations and Utility Corridor Easements Associated with the proposed River Village Development, Tentative Tract Map No. 53108, Highway 126, Newhall Ranch, California*, BA Environmental, September 28, 2004).

(a) Sites Within Mission Village Project Site

The Mission Village project site is listed on the Emergency Response Notification System (ERNS) database. The ERNS is a national database used to collect information on reported releases of oil and hazardous substances. The database contains information from spill reports made to federal authorities, including the EPA, the US Coast Guard, the National Response Center, and the Department of Transportation.

The project site is listed on the ERNS database as a result of a reported release of hazardous substances at the project site. According to December 2003 version of the database, equipment failure resulted in the release of approximately 44 gallons of crude oil and 132 gallons of production water. The release occurred at Tank Battery #5. Exxon, the responsible party, is reported to have cleaned up the spill. Based on the fact that the release was cleaned up promptly, there is a low potential that this release significantly impacted the project site.

The database search also revealed that the Mission Village site is neither located within a 0.5-mile radius of a federal Superfund property nor is it located within a 0.5-mile radius of a hazardous waste treatment, storage and disposal facility.

(b) Sites in the Project Site Vicinity

The off-site facility identified on the environmental database list that is closest to the Mission Village project site is the Travel Village/Fiesta Resorts/Valencia Travel Village, located at 27946 Henry Mayo Drive, approximately 200 feet north of the Mission Village project site. The environmental concerns

associated with this property are related to one 500-gallon gasoline UST, which has been removed. This facility was not on a Leaking Underground Storage Tank List, and the facility has no reported violations. The potential for the Travel Village facility to have resulted in impacts to groundwater quality beneath the Mission Village project site is low because the Travel Village site is in an assumed cross-gradient location, relative to the regional groundwater flow direction. Thus, the predominant groundwater flow follows topography in a north-northwest direction away from the Mission Village project site.

A total of 17 other sites in the project vicinity were identified as sites of environmental concern. All of these sites are located north-northeast of the project site, and the nearest facility is located 0.25 mile from the project site. Impacts to groundwater quality beneath the Mission Village project site resulting from the identified off-site location is unlikely because all of the sites are in an assumed cross-gradient location, relative to the regional groundwater flow direction. Based on the status and distances of these facilities, there is a low potential for significant groundwater quality impacts at the Mission Village project site due to off-site sources.

b. Existing Southern California Edison Transmission Lines

The Mission Village project site is traversed by Southern California Edison easements. Because high voltage electrical transmission lines create electromagnetic fields (EMFs) and because of ongoing debate over the potential health effects of EMFs, they are discussed in this section.[5]

(1) EMF Levels

Electromagnetic fields are created as electrical charges (current) pass through conductors and are formed in association with alternating current (AC) electrical power, which serves most of our electrical needs. AC electrical power does not flow steadily in one direction, but alternates back and forth 60 times each second; therefore, it is referred to as 60-hertz (Hz) electrical power. Two kinds of fields associated with 60 Hz power are electrical fields that result from the strength of the charge, and magnetic fields that result from the motion of the charge. Taken together, these are referred to as electromagnetic fields. The strength of an electromagnetic field is affected by the distance from the source, the voltage of the object creating it, and the electrical/physical environment in which the conductor is placed.

In analyzing the impacts of EMFs, it is useful to look at the various EMF levels associated with typical household appliances as a benchmark example. The most common unit of measurement of the strength of magnetic fields is the gauss (G). Since the gauss is a large unit of measurement, the milligauss (mG), or 1/1,000 of a gauss, is used to report the strength of magnetic fields associated with most objects. For

5 United States Environmental Protection Agency, Office of Radiation and Indoor Air, *EMF in Your Environment, Magnetic Field Measurements of Everyday Electrical Devices*, December 1992.

comparison purposes, the typical American home has a background magnetic field level (away from any appliances) ranging from 0.5 mG to 4 mG. **Table 4.19-1**, **Magnetic Field Levels for Common Household Appliances,** contains a listing of the magnetic field levels associated with various household appliances at varying distances.

Table 4.19-1
Magnetic Field Levels for Common Household Appliances

Appliance	Distance From Source			
	6 inches	1 foot	2 feet	4 feet
Blender				
Lowest 30 mG[1]	5 mG	-	-	-
Median 70 mG	10 mG	2 mG	-	-
Highest	100 mG	20 mG	3 mG	-
Can Opener				
Lowest 500 mG	40 mG	3 mG	-	-
Median 600 mG	150 mG	20 mG	2 mG	-
Highest	1,500 mG	300 mG	30 mG	4 mG
Refrigerators				
Lowest	-	-	-	-
Median 2 mG	2 mG	1 mG	-	-
Highest	40 mG	20 mG	10 mG	10 mG
Color TV				
Lowest	-	-	-	-
Median	7 mG	2 mG	-	-
Highest		20 mG	8 mG	4 mG
Vacuum Cleaners				
Lowest 100 mG	20 mG	4 mG	-	-
Median 300 mG	60 mG	10 mG	1 mG	-
Highest	700 mG	200 mG	50 mG	10 mG

1 mG = milligauss
Note: The dash (-) indicates that the magnetic field measurement at this distance from the operating appliance could not be distinguished from background measurements taken before the appliance had been turned on.
Source: United States Environmental Protection Agency, Office of Radiation and Indoor Air, EMF in Your Environment, Magnetic Field Measurements of Everyday Electrical Devices, December 1992.

The magnetic fields associated with the large power lines are also a function of the height and distance of the transmission line from the receptor as well as the power loads, expressed as amperage or amps, on those lines and the amount of time that electricity is actually being transmitted over those lines. Typical magnetic field levels for electrical power lines are shown in **Table 4.19-2,** Typical Magnetic Field Levels for Electrical Power Lines. According to the EPA, the magnetic field of a typical 230 kilo Volt (kV) transmission line would probably be less than 120 mG at a distance of 20 feet, 15 mG at a distance of 100 feet, and less than 2 mG at a distance of 300 feet. From these examples, it is clear that, as the distance from the source of the magnetic or electric field increases, the level of exposure is reduced substantially.

Table 4.19-2
Typical Magnetic Field Levels for Electrical Power Lines

Types of Transmission Lines	Maximum Right-of-Way	Distance from Transmission Lines			
		50 feet	100 feet	200 feet	300 feet
115 Kilovolts (kV)					
Average Usage	30	7 mG	2 mG	0.4 mG	0.2 mG
Peak Usage	63	14 mG	4 mG	1.8 mG	0.8 mG
230 Kilovolts (kV)					
Average Usage	58	20 mG	7 mG	1.8 mG	0.8 mG
Peak Usage	118	40 mG	15 mG	3.6 mG	1.6 mG
500 Kilovolts (kV)					
Average Usage	87	29 mG	13 mG	3.2 mG	1.4 mG
Peak Usage	183	62 mG	27 mG	6.7 mG	3.0 mG

Source: United States Environmental Protection Agency, Office of Radiation and Indoor Air, EMF in Your Environment, Magnetic Field Measurements of Everyday Electrical Devices, December 1992.

Exposure to 60 Hz EMFs produces weak electrical currents inside the body by a process called induction. According to a Library of Congress Congressional Research Service Issue Brief, "a growing amount of research indicates that these currents may alter the binding of molecules to receptors on the surface of the cell membrane [which] may disrupt membrane signaling events, and trigger abnormal biochemical reaction." Just what this finding means in terms of the effects of EMFs on our overall health has been the focus of a number of research efforts. Although many studies have been done on this topic to date, their findings are inconclusive. For example, the *Journal of the American Medical Association* states:

> *Some, but not all, epidemiological studies of health among populations exposed to ambient low-power frequency EMF show associations between exposure to EMF and health effects. However, because of the poor and inconsistent exposure assessment in these studies, the absence of an appropriate dose-response relationship, and absence of supporting laboratory evidence, any conclusion of human health risks at this time is premature.*

In addition, the British National Radiological Protection Board concludes:

> *The epidemiological findings that have been reviewed provide no firm evidence of the existence of a carcinogenic hazard from exposure of paternal gonads, the fetus, children, or adults to the extremely low frequency electromagnetic fields that might be associated with residence near major sources of electricity supply, the use of electrical appliances, or work in the electrical, electronic, and telecommunications industry.*

Because it is not possible to establish a clear relationship between EMF exposure and human health effects, there are no generally accepted criteria for determining acceptable or hazardous levels of electromagnetic fields.

The California Public Utilities Commission (CPUC), in its ongoing investigations of EMFs, has also noted that recent studies have failed to establish that an EMF health hazard actually exists, or that there is a clear cause-and-effect relationship between utility property or operations and public health or that some degree of exposure limitation, such as the 2 mG level considered by the CPUC at one time, is appropriate to protect public health. Thus, rather than establish new regulations, such as setbacks or exposure levels based on specific EMF levels, the CPUC has elected to continue research efforts regarding potential health hazards and examine ways to minimize EMF exposures along existing or future transmission line rights-of-way.

(2) Regulatory Controls

There are no federal regulations for restricting human exposure to power-line EMFs; however, seven states have established limits on electric field strengths at the edge of power-line rights-of-way, and two have established limits on magnetic field strength. In addition, some state utility commissions have issued their own EMF guidelines. There are no similar requirements in California; however, the California State Board of Education, in consultation with the State Department of Health Services (DHS) and electric power companies, has established the following limits for locating any part of a new school site property line near the edge of easements for high-voltage power transmission lines: 100 feet from the edge of an easement for a 50–133 (kilovolts) kV line; 150 feet from the edge of an easement for a 220–230 kV line; and 350 feet from the edge of an easement for a 500–550 kV line. These figures represent kV strengths of transmission lines used by utility companies in January 1993. Utility companies report that strengths for distribution lines are below 50 kV.[6] The County of Los Angeles neither has standards for EMF exposure nor guidelines for new development in proximity to sources of EMFs.

c. Existing Southern California Gas Company High-Pressure Lines

There is one Southern California Gas Company (SCGC) high-pressure gas main on the site. This 34-inch main is located within a 25- to 30-foot-wide easement which traverses the southeastern portion of the site.[7]

CPUC General Order 112E, which is based upon the Federal Department of Transportation Guidelines contained in Part 192 of the Federal Code of Regulations, specifies a variety of design, construction, inspection and notification requirements relating to gas lines. The CPUC conducts annual audits of pipeline operations to ensure compliance with these safety standards. In addition, the SCGC has a safety

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6 California Department of Education, School Facilities Planning Division, *School Site Section and Approval Guide*. Available at http://www.cde.ca.gov/ls/fa/sf/schoolsiteguide.asp. Website accessed April 2010.

7 According to Cornell R. Agee, Technical Supervisor, Technical Services, Southern California Gas Company (26 January 1996); Newhall Ranch Specific Plan Draft EIR, Section 4.13 Natural Gas, July 1996, 4.13-2.

program that has reduced the risk of gas distribution fires by improving welds on the larger diameter (24- to 30-inch) pipelines and by replacing old distribution pipes with flexible plastic pipes. According to SCGC staff, high-pressure gas mains are common in developed areas throughout the country, and SCGC lines are inspected regularly and must comply with CPUC mandated safety requirements. However, as is the case anywhere, in the event that a gas main is ruptured, explosion and fire could result.

Because nearly 60 percent of the incidents on utility distribution pipelines are due to excavation damage, the SCGC's safety program includes the operation of a call-before-you-dig or a utility-locator service for excavators. In 1998, with the support and encouragement of the natural gas industry, Congress enacted a law establishing a national "call before you dig" safety program, known as One-Call. The One-Call Program is aimed at developing a variety of best practice procedures to prevent excavation damage to underground facilities. In 2005, the Federal Communications Commission designated "811" as a nationwide three-digit phone number for contractors and others to call before conducting excavation activities.

In addition, SCGC installs above-ground markers to indicate the location of buried gas lines. At a minimum, line markers are placed at each crossing of a public road, except in very urban areas where utility-locator services are available.

d. Transport of Hazardous Materials Along SR-126

The transport of hazardous materials throughout the State of California is regulated by the California Highway Patrol (CHP). The Hazardous Materials Section of the CHP, located in Sacramento, licenses companies that haul hazardous materials. Three categories of hazardous materials are regulated by the CHP in that their transport is limited to designated routes and stopping places. These categories include explosives, inhalation hazard materials (i.e., materials that are poisonous if inhaled), and radioactive materials. Title 13, California Code of Regulations, Division 2, Chapter 6, Articles 1, 2.5 and 2.7 identify SR-126 as a designated route for the transport of explosive and inhalation materials, but not for radioactive materials. Therefore, it is very likely that explosives and inhalation hazard materials are transported on SR-126 and that, although unlikely, there is a potential for accidental explosions or releases of hazardous gases to occur.

In the event of a spill, or release of hazardous gases, the Los Angeles County Environmental Health Division and/or the Los Angeles County Fire Department Hazardous Material Unit (located at Fire Station 76, 27223 Henry Mayo Drive in Valencia, which is the closest fire station to the Mission Village site that has a Hazardous Material Unit), would provide response coordination, spill identification, and cleanup supervision. Local law enforcement and fire authorities would provide traffic control and spill

containment. County response personnel would be coordinated with appropriate state and, if necessary, federal response agencies.

e. Chiquita Canyon Landfill

Chiquita Canyon Landfill, a Class III (non-hazardous) landfill, is approximately 2.5 miles west and north of the Mission Village site. This landfill is permitted to accept 30,000 tons (42,860 cubic yards) per week.[8] In 2008, the landfill accepted an average daily waste disposal of 4,822 tons (6,490 cubic yards).[9] The Conditional Use Permit for operation of the landfill expires in November 2019.[10] Please refer to **Section 4.10, Solid Waste Services**, for more information regarding Chiquita Canyon Landfill operations and solid waste disposal services.

The landfill is listed on several government databases relating to hazardous wastes and materials, although the listings include no reports of violations of applicable hazardous waste laws. The environmental concerns associated with this property, including odors, leachate, methane gas migration, water quality, dust generation, windblown refuse, vectors, birds, and truck traffic are mitigated through landfill design, construction and maintenance in accordance with federal, state, and local regulations. Specific design features include surface water controls, groundwater protection barriers, and landfill gas collection systems.[11]

The site is owned and operated by Republic Services of California I, LLC (Republic Services). Since the facility was acquired by Republic Services in 1999, it has been upgraded with (1) a new landfill gas management system; (2) an upgraded leachate management system; (3) improved internal roadways; and (4) new operating procedures. Additionally, Republic Services has improved the efficiency of the operation by purchasing two trailer tippers to speed the unloading of waste material at the active portion of the landfill.

New or expanded landfills must be lined with a composite liner (clay and plastic membrane) or other approved liner, in accordance with California Code of Regulations, title 27, to prevent water from entering the refuse area of the landfill, and to prevent water and other materials from entering ground or surface waters. In addition, all landfills must have collection systems, monitoring wells, and other surveillance programs established to ensure the environmental safety of the facility both during its operation and upon its closure. The network of environmental protection systems at the Chiquita Canyon

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8 Los Angeles County Department of Public Works, Los Angeles County Integrated Waste Management Plan, 2008 Annual Report on the Countywide Summary Plan and Countywide Siting Element, October 2009.

9 Ibid.

10 Ibid.

11 California Public Resources Code, Sections 43020, 43021, and 43103.

Landfill includes a composite liner that exceeds federal requirements. The liner is made of clay and synthetic material. To increase the impermeability of the liner, 2 feet of clay is compacted. A geo-synthetic liner and a 40-mil high-density plastic membrane are placed over the clay. A drainage layer is installed over the liner. The liner system meets all state and federal regulations.

The environmental protection system also includes a leachate collection system, in which perforated pipe is placed atop the liner to allow for proper drainage/collection of rainwater and other liquids in the landfill. Once collected, the liquid is shipped off site for treatment.

Rainfall that is diverted away from the landfill must also be managed. At the Chiquita Canyon Landfill, stormwater runoff is collected and contained in sedimentation basins. These ponds allow soil particles to settle out of the water before it is discharged to a nearby waterway.

Groundwater is one of the most important concerns at a landfill and requires special monitoring. Groundwater monitoring wells have been installed throughout the site to ensure that landfill operations are not impacting groundwater. Each of the wells is sampled on a monthly basis, with the results sent to the California Department of Environmental Protection and the State Water Resources Control Board.

A gas management system was installed at the landfill in the early 1990s and is used to control methane gas, which is naturally produced during waste decomposition. The gas is collected and safely burned at a single, enclosed flare stack located on the site. This system has greatly reduced odors and prevented gas migration.

Access to the site is limited to one entrance and one exit. The facility records and tracks all shipments to the landfill with scales and gate receipts. Each load of incoming waste is visually inspected to check that only permitted materials are accepted for disposal. Once unloaded, the waste is compacted to conserve airspace. At the end of each working day, daily cover is placed over the compacted waste to minimize odors.

Steps also are taken to control dust and litter at the landfill. Periodic watering of access roads prevents dust from rising when trucks travel in and out of the landfill. Litter is minimized by limiting the size of the active disposal area, applying daily cover, and using fencing on windy days to catch lightweight materials. Laborers collect any litter that blows away from the landfill.

The facility is fully permitted by the Regional Water Quality Control Board, the Los Angeles County Department of Health Services, and the South Coast Air Quality Management District (SCAQMD). State and local inspectors regularly inspect the site.

f. Dam Inundation Area

The Castaic and Forebay Reservoirs, which are located approximately 5.5 miles from the project site, are contained by earthen dams that were constructed on Castaic Creek in 1974. Based on the California Department of Water Resources Dam Inundation Map for Castaic Lake Dam, the northerly portion of the Mission Village project site is located within the dam inundation area. It is difficult if not impossible to estimate the actual risk of dam failure, which is dependent upon a number of factors, such as the structural integrity of the dam, the probability that the reservoir would be filled to peak capacity, the likelihood of catastrophic earthquake, and many other unknown variables, such as the long-term threat of underlying geologic hazards.[12] The dam inundation area was delineated in 1975 in compliance with Section 8589.5 of the California Government Code. It is based on an assumed catastrophic failure of the dam during peak storage capacity and encompasses all probable routes that a flood might follow after exiting the dam or canyon opening. Division 3 of the California Water Code places the responsibility for dam safety under the jurisdiction of the California Department of Water Resources Division of Safety of Dams. This agency is responsible for regular inspection and maintenance of dams under state jurisdiction. According to the chief of this division, development is permitted within a dam inundation area.[13]

Most failures of earthen dams are caused by foundation failures, inadequate spillways, and poor construction and site selection; less than 1 percent of the 308 recorded worldwide dam failures between 1766 and 1944 are attributable to earthquakes.[14] The embankments of the Castaic Lake Dam, which are the components of a dam most likely to fail during an earthquake, are composed of strong and densely compacted materials. According to the Los Angeles County General Plan Safety Element, "most engineered, mechanically compacted dam embankments or fills of earth or rock materials have performed well under seismic shaking."[15] The dams held up well during the Northridge Earthquake (magnitude 6.8 on the Richter scale) with no signs of damage reported, and are likely to hold up well during other earthquakes of similar, if not greater magnitude.[16] According to the California Department of Water Resources, the Castaic Dam is designed to resist both the maximum credible earthquake and the probable maximum precipitation flood. The dam's spillway has several times the capacity of creeks flow of record, and the dam's freeboard can easily handle any potential landslide, which might occur into the

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12 County of Los Angeles Department of Regional Planning, Safety Element in the County of Los Angeles General Plan (Los Angeles, California: December 1990), p. 3.85.

13 Interview with Vernon Persson, Chief of the Division of Safety of Dams, Department of Water Resources, Sacramento, California, 8 March 1995.

14 County of Los Angeles Department of Regional Planning, Safety Element in the County of Los Angeles General Plan (Los Angeles, California: December 1990), p. 3.85.

15 Ibid.

16 Interview with Vernon Persson, Chief of the Division of Safety of Dams, Department of Water Resources, Sacramento, California, 14 April 1995.

lake. Additionally, the dam provides incidental control benefits downstream such as, controlling flooding and debris control.[17]

5. PROJECT IMPACTS

a. Significance Threshold Criteria

Generally, a proposed project would result in significant environmental safety impacts if it would result in the exposure of people to risks beyond acceptable levels. According to Appendix G of the *California Environmental Quality Act* (*CEQA) Guidelines*, Section VIII, Hazards and Hazardous materials, a project would have a significant effect on the environment relative to hazards and hazardous materials if the project would:

(a) create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;

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

(c) emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school;

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

(e) result in a safety hazard for people residing or working in the project area due to the project's location within an airport land use plan or within 2 miles of a public airport or public use airport;

(f) result in a safety hazard for people residing or working in the project area due to the project's location within the vicinity of a private airstrip;

(g) impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or

(h) expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

In addition to the *State CEQA Guidelines* criterion set forth above, the proposed project would have a significant impact relative to environmental safety if the project would expose people to existing sources of potential health hazards (e.g., electrical transmission lines, gas lines, oil pipelines).

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17 Federal Emergency Management Agency, "Benefits of Dams," http://www.fema.gov/hazard/damfailure /benefits.shtm. Accessed in April 2010. 2009.

In this case, the proposed project entails the construction of a residential development with supporting school, park and commercial uses. The proposed project does not include the routine transport, use or disposal of hazardous materials. Based on the proposed use, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. Therefore, *State CEQA Guidelines* Criterion (a) and (c) are not applicable to the project and will not be analyzed further.

The proposed project is not located within 2 miles of a public airport or public use airport, nor is it located within the vicinity of a private airstrip. Therefore, the proposed project would not result in a safety hazard for people residing or working in the project area due to proximity to aviation uses. Therefore, Criterion (e) and (f) are not applicable to the project and will not be analyzed further.

As to whether the proposed project would impair implementation of or physically interfere with an adopted emergency response plan, Criterion (g), please see **Section 4.11, Sheriff Services.** As to whether the proposed project would expose people or structures to a significant risk involving wildland fires Criterion (h), please see **Section 4.12, Fire Protection Services.**

Based on the *State CEQA Guidelines*, the only significant impact criteria potentially applicable to the proposed project are Criterion (b), significant hazard through reasonably foreseeable accident conditions, (d), location on a site included on a list of hazardous materials, and/or (i), exposure of people to existing sources of potential health hazards.

Accordingly, the following analysis of project impacts addresses those potential impacts relative to Criteria (b), (d), and (i).

b. Site-Specific Project Impacts

An analysis of each of the sources of potential health hazards presently existing on the Mission Village project site is presented below.

(1) Oil Wells, Oil Sumps and Associated Structures

As discussed above, approximately 55 on-site oil wells and eight off-site oil wells and associated buildings, tanks and sumps were formerly located on the project site. Eight abandoned oil wells were located on or near the locations of the project's off-site improvements on the adjacent Legacy Village, SCE Substation Site nad Soil Disposal Site, Potrero Valley and Landmark of the Newhall Ranch Specific Plan and Entrada properties. All on-site wells, wells located on or near off-site improvement areas, and oil wells drilled at various locations within 500 feet of the project site, have been plugged and abandoned. The decommissioning, which addressed the related buildings, tanks and sumps, as well as the actual well

sites, included significant remediation and site restoration activities. According to the DOGGR, the Castaic Junction oil field, which includes the Mission Village project site, was abandoned by Exxon according to current standards.[18] Nonetheless, if the sites of former oil wells are to be disturbed or are located in an area of development, mitigation is recommended requiring such former oil wells be re-abandoned according to DOGGR requirements. Additionally, if any sumps or other contaminated features are discovered during project construction, mitigation would require that the contamination shall be remediated or removed from the project site in compliance with applicable requirements. With mitigation, any potentially significant impacts relative to oil wells, oil sumps and associated structures would be reduced to a less than significant level.

(2) Above-Ground Storage Tanks

As discussed above, a number of ASTs are currently on site and on or near off-site improvement areas, and several existed previously on site. No significant staining was observed on the ground surface beneath the existing ASTs or the day tanks. In some of the areas formerly occupied by ASTs, residual contamination in the form of tar or oil stained soil was observed. A paved or oil coated road was observed to transverse the southern portion of the proposed SCE Substation site and along the northeastern and northwestern boundaries of the Soil Disposal Site. Mitigation is recommended requiring that areas of visible stains be assessed and, if necessary, appropriate remediation activities conducted in accordance with applicable federal, local, and state regulations. With mitigation, any potentially significant impacts relative to ASTs would be reduced to a less than significant level. As to USTs, there is no evidence of the historic presence of USTs on the project site.

(3) Debris and Asbestos

As discussed above, an area in the southwest portion of the project site contains miscellaneous trash and debris, including an old, badly deteriorated, empty 55-gallon drum and a 5-gallon bucket containing a small quantity of what appeared to be tar. Based on visual observations, this area may have been formerly used as an unauthorized landfill. Additionally, various non-hazardous debris was scattered on or around the off-site utility corridor area. With respect to the presence of asbestos, as discussed above, no buildings or structures that may contain asbestos were observed on the project site or near the utility corridor. An area in the northeast portion of the project site was observed to have old building debris, which may contain asbestos, though the amount would be small and would pose no significant threat to human health. Mitigation is recommended requiring that any debris encountered during grading operations shall be assessed upon discovery and remediated or removed from the project site consistent with

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18 Steven A. Fields, Operations Engineer, State of California, Department of Conservation, Division of Oil, Gas, and Geothermal Resources. Personal communication to Impact Sciences, Inc., February 9, 2005.

applicable law. With mitigation, any potentially significant impacts relative to debris would be reduced to a less than significant level.

(4) Pipelines

With the exception of the existing gas main, the only pipelines on the Mission Village site were those associated with former oil production activities. Several pipelines were identified near the proposed off-site utility corridor. The decommissioning of the oil activities included significant remediation and site restoration activities. According to Exxon, all oil wells, surface facilities and pipelines had either been removed or abandoned. As discussed above, according to the DOGGR, the Castaic Junction oilfield was abandoned by Exxon according to current standards. Potential unused petroleum pipelines may exist under the SCE Substation Site and Soil Disposal Site. Mitigation is recommended requiring that all on-site pipelines be re-abandoned and the soil beneath these pipelines be assessed for petroleum hydrocarbons and remediated, if necessary. With mitigation, any potentially significant impacts relative to the oil pipelines would be reduced to a less than significant level.

(5) Pesticides

As discussed above, in order to assess the potential impacts associated with the past use of pesticides on the proposed project site, soil sampling was conducted based upon the designated use of the project site. None of the samples were reported to contain detectable concentrations of OCP, OPP, or CH. In addition to the laboratory analysis, EPA Preliminary Remediation Goals (PRGs) were consulted. Based on the results of the analysis, it was determined that there is a low potential for threat to human health and the environment, and it is highly unlikely that the trace concentrations detected would trigger a regulatory response. Therefore, based on the results of the soil sampling analysis, there is a low potential for threat to human health or the environment due to the past use of pesticides on the proposed project site.

Additionally, soil sampling was conducted on the two parcels that constitute the proposed water quality basin off-site improvement area. These samples were composited and analyzed for OCPs, OPPs, CHs, Paraquat, ammonia, nitrate, nitrite, arsenic and CAM-17 metals in accordance with EPA requirements. All of these composites were tested and found to contain no detectable concentrations of OCPs, OPPs, CHs, Paraquat, or arsenic. Additionally, analyses of the composites revealed no metals, including CAM-17 metals, that exceeded the applicable Total Threshold Limit Concentrations (TTLCs) and/or the applicable Soluble Threshold Limit Concentrations (STLCs). Some ammonia, nitrate, and nitrite were detected in the sampling. (See **Appendix 4.19**, Phase II ESA for the Water Quality Basin on the Entrada property, prepared by BA Environmental, dated September 2006, for more information about the soil sampling for the water quality basin site.) As one of these two parcels is planned for the construction of an unlined Water Quality Control Basin, it is recommended that the soils excavated for the basin not be used for the

construction of the basin. Further, if discolored soil is encountered, it too should be excavated and not used in construction of the basin. As these soils do not pose a direct significant threat to human health, the soil excavated during construction of the Water Quality Control Basin may be used for grading material elsewhere, as long as it is not mixed with soils from agricultural areas.

As to the potential impacts associated with the future use of pesticides, agricultural cultivation is likely to continue on the tract map site as the proposed uses are developed, although urban land uses eventually will replace completely the agricultural uses on site. However, pesticide use on other lands may subject residents to minimal and incidental exposure. Due to the regulation of pesticides used in connection with ongoing agricultural activities, including the chemical and physical properties of the pesticides, use according to manufacturer specifications and their mode of application, it is not expected that humans would be subject to either acute overexposure or chronic exposure to any of the pesticides used. Therefore, the use of pesticides would not create a potential public health hazard and would not result in a significant impact to the property or future residents.

(6) Water Wells

As discussed above, six small-diameter groundwater monitoring wells (2 inches) were observed on the project site. Four irrigation water wells also were observed to the south of the Santa Clara River, in the northern portion of the Mission Village project site. The locations of the irrigation water wells are provided in **Appendix 4.19**, Table 1, and shown in appendix Figures 4 and 5. Although not a recognized environmental condition requiring mitigation, mitigation is recommended requiring that, prior to the commencement of grading activities, all groundwater monitoring wells or water production wells not to be used for water supply or monitoring purposes in support of the proposed project be abandoned according to applicable local and state regulations. With mitigation, any potentially significant impacts relative to water wells would be reduced to a less than significant level.

(7) Polychlorinated Biphenyls (PCBs)

As discussed above, a total of 30 pole-mounted electrical transformers were observed in 12 locations on site. Twenty-two of the transformers appeared to be of relatively recent manufacture. The remaining eight appeared to be of an older design and, based on visual observations, may contain PCB insulating oil. Mitigation is recommended requiring testing for PCBs and remediation of PCB-containing materials and soils, as necessary. With mitigation, any potentially significant impacts relative to PCBs would be reduced to a less than significant level.

(8) Pits, Ponds and Lagoons

There are no pits, ponds or lagoons currently existing on the proposed project site that have been used for the treatment or disposal of hazardous wastes. Furthermore, based on a review of historical records, it is unlikely that these features existed on the site in the past. What appears to be a pond or large oil sump was observed in historical aerial photographs and historical topographic maps in an agricultural field adjacent to the south of the Santa Clara River. According to Newhall Land & Farming personnel, this was a pond which was later washed out in a flood. To the best of their knowledge, the pond was never used as an oil sump. Potential former oil sumps were also identified on or near the locations of the project's off-site improvements on the Legacy Village and Entrada properties. Mitigation is recommended, however, requiring testing for environmental hazards and remediation, if necessary. With mitigation, any potentially significant impacts relative to former hazardous waste treatment ponds would be reduced to a less than significant level.

(9) Septic Tanks and Cesspools

There are no known septic tanks or cesspools presently located on the project site. However, based on a review of historical records and the former presence of habitable structures on the site, it is likely that septic tanks and/or cesspools formerly were present. These facilities may have been removed when the associated structures were demolished; however, it is possible that improperly abandoned septic tank and/or cesspools remain on the project site. If these facilities were used for the improper disposal of hazardous wastes, the presence of such facilities would have the potential to result in significant water quality and safety impacts. Mitigation is recommended, therefore, requiring that if any septic tanks or cesspools are discovered during construction activities, the facilities shall be remediated or removed from the project site in accordance with applicable regulations. With mitigation, any potentially significant impacts resulting from the presence of previously undetected septic systems and/or cesspools would be reduced to a level below significant.

(10) Southern California Edison Transmission Lines

As discussed above, SCE has existing distribution facilities within the proposed project site.

As indicated previously, the California State Board of Education requires that no schools be sited 100 feet from the edge of the right-of-way of 100–110 kV lines; 150 feet from 220–230 kV lines; and 250 feet from 345 kV lines. There are no 100–110 kV, 220–230 kV or 345 kV lines within the boundary of the project site and none are proposed. All new Edison facilities within the project will be located underground. No schools are proposed within the 500 feet restricted range of SCE transmission lines within the Mission

Village project site. Therefore, the proposed project would be consistent with the transmission setback standards adopted by the State Board of Education.

As discussed above, because it is not possible to establish a clear relationship between EMF exposure and human health effects, there are no generally accepted criteria for determining acceptable or hazardous levels of electromagnetic fields. Consequently, there is no known EMF exposure threshold level for biological effects, and the County of Los Angeles has no threshold of significance for EMFs. However, in light of public debate over EMFs and inconclusive findings of the research that has been conducted on this issue, as well as easement restrictions, no development is proposed to occur within the SCE transmission line easements under the proposed project. Because the Mission Village project would not expose people to known health hazards resulting from the presence of SCE transmission lines located on the project site, the proposed project would not result in potentially significant impacts relative to EMFs. Therefore, no mitigation is required or recommended.

(11) Southern California Gas Company High-Pressure Line

As noted above, there is one SCGC high-pressure gas main on the Mission Village project site, located within a 25–30-foot-wide easement, traversing the southeast portion of the project site. Uses adjacent to the easement are the extensions of the Westridge Parkway. The closest residential use is approximately 1,000 feet from the high pressure line. According to SCGC staff, the high-pressure gas line on the Mission Village site would not pose a significant environmental safety impact to future residents of the site. Similar high-pressure gas lines located close to development commonly occur throughout California and the Santa Clarita Valley. SCGC lines are inspected regularly and must comply with CPUC-mandated safety requirements. Such safety precautions are also taken on the high-pressure gas lines within the site and no significant impacts associated with placing development in close proximity to these lines would occur. The Mission Village project would not expose people, animal, or plant life populations to potential health hazards from SCGC high-pressure gas lines. Based upon this information, potential impacts relative to the high-pressure gas line would be less than significant. No mitigation is required or recommended.

(12) Transport of Hazardous Materials along SR-126

Because hazardous materials can be transported on SR-126, increased traffic on this highway could increase the potential for an accident involving the transportation of these substances. However, buildout of the Specific Plan would include the widening of portions of SR-126, which would provide additional roadway capacity and thereby reduce the potential for accidents resulting from roadway congestion. Additionally, because SR-126 is located more than 2,000 feet north of the proposed residential and commercial uses that would be developed on the project site, the distance between the highway and

proposed development would reduce the potential for significant exposure-related impacts should an accidental discharge of hazardous materials occur on SR-126. Furthermore, the haulers of hazardous materials and wastes must be trained and licensed, and the transportation of these materials is highly regulated and monitored. For these reasons, the potential for an accident involving a significant release of hazardous materials or wastes is very low. Therefore, the Mission Village project would not create a significant hazard to the public or environment as a result of the accidental release of hazardous materials or wastes along SR-126. Based upon this information, potential impacts relative to the transport of hazardous materials on SR-126 would be less than significant, and no mitigation is required or recommended.

(13) Chiquita Canyon Landfill

As discussed above, the environmental concerns associated with the landfill, including odors, leachate, methane gas migration, water quality, dust generation, windblown refuse, vectors, birds, and truck traffic are mitigated through landfill design, construction, and maintenance in accordance with federal, state, and local regulations. Specific design features include surface water controls, groundwater protection barriers, and gas collection systems.

As previously discussed, while the Chiquita Canyon Landfill is listed on several government databases, the listings include no reports of violations of applicable hazardous waste laws.[19] With respect to groundwater impacts, the potential for the landfill to impact the groundwater beneath the Mission Village site is unlikely for at least two reasons. First, the landfill has been required to implement design, operation and monitoring facets that substantially reduce the potential for significant impacts to groundwater. These features include a composite landfill liner made of clay and synthetic materials to prevent seepage from entering ground or surface waters, leachate and stormwater collection systems, and groundwater monitoring wells.[20] Second, the facility is located in an assumed cross-gradient location relative to the regional groundwater flow direction and the location of the Mission Village project site, such that the predominant groundwater flow follows topography in a north-northwest direction away from the Mission Village project site. As to other potential landfill-related impacts, due to the distance between the landfill and the Mission Village project site (approximately 2.5 miles), impacts such as methane gas emissions, landfill odors, or vectors would not result in potential impacts relating to environmental safety. Therefore, potential impacts relative to the Chiquita Canyon Landfill would be less than significant, and no mitigation is required or recommended.

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19 California Department of Resources Recycling and Recovery, Solid Waste Information System, *Chiquita Canyon Sanitary Landfill*, http://www.calrecycle.ca.gov/SWFacilities/Directory/19-AA-0052/Inspection/. January 2010.

20 Ibid.

(14) Dam Inundation Area

Dams are regularly inspected and maintained by the California Water Resources Division of Safety of Dams. Since 1928, there have only been two major failures and one near dam failure within the County. Nonetheless, dam failure is remotely possible and, under a worst-case scenario, the northerly portion of the Mission Village site and the development areas proposed within it could be inundated should the Castaic and Forebay Reservoir dams fail. Given the continuous efforts of the Division of Safety of Dams of the Department of Water Resources to inspect and maintain the structural integrity of the state's dams, the Mission Village project would not expose people, animal, or plant life populations to potential health hazards associated with dam failure. Based upon this information, potential impacts relative to dam inundation would be less than significant and no mitigation is required or recommended.

(15) Radon

As previously noted, the EPA's Map of Radon Zones indicates that all of Los Angeles County has been designated as lying within Zone 2, which indicates a predicted average indoor radon screening level of greater than or equal to 2.0 picocuries per liter (pCi/l) and less than or equal to 4.0 pCi/l. Therefore, based on this information, the Mission Village project site is located within an area with a predicted average indoor radon screening level that is at or below the recommended EPA Action Level of 4.0 pCi/l.

As of August 2009, the California DHS has conducted a total of 232 radon detection tests in homes located in the surrounding communities of Santa Clarita, Valencia, Newhall, Stevenson Ranch, Castaic, and Canyon Country. None of the tests conducted by DHS detected radon concentrations in excess of the 4.0pCi/l standard.[21] Therefore, based on the results of the DHS tests, and the determination by the US EPA that the project site lies within an area with a predicted indoor screening level either below or at the minimum recommended EPA Action Level, the potential for radon to adversely affect the residents of the proposed project is not considered to be significant. Therefore, no mitigation measures are required.

(16) Utility Corridor

The off-site Utility Corridor will include utility infrastructure to serve the Mission Village project and, ultimately, future Newhall Ranch development. The corridor will include both new utility facilities, as well as relocated existing facilities. The corridor utilities would include a gravity sewer and pressure sewer force main, and pipelines for potable water, recycled water, agricultural water, electrical power, telephone, cable television, and natural gas. Construction of the off-site Utility Corridor would implement mitigation identified below to reduce potential safety hazard impacts. Operation of the utility

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21 California Department of Public Health, *California Indoor Radon Levels Sorted by Zip Code*, August 31, 2009, http://www.cdph.ca.gov/HealthInfo/environhealth/Pages/Radon.aspx. Accessed April 2010.

corridor would contain non-habitable structures and would be required to conform to existing state and local regulations in regards to operation of these facilities. Consequently, the exposure of people to existing potential health hazards would be reduced to a less than significant level.

(17) Water Tanks Location

The off-site water tanks location would involve grading and construction of the site. The off-site location could have the potential for unknown health hazards (i.e., unknown oil wells) that would be uncovered during the grading and construction of the site. Implementation of the mitigation measures identified below would reduce safety impacts to construction workers to levels less than significant. Operation of the water tanks would not include health safety impacts as it is a non-habitable structure and would not expose people to existing sources of potential health hazards. Consequently, health safety impacts associated with the water tanks location would be reduced to a less than significant level.

(18) Southern California Edison Substation and Soil Disposal Site

Construction of the Southern California Edison Substation would involve grading of the chosen site and installation of the substation and associated utility poles/lines. There are two alternative locations for the proposed substation, both outside the boundaries of Mission Village. Mitigation measures for the project site would be applicable during the construction of the substation. Therefore, construction impacts related to potential health hazards would be less than significant.

Electric service to Mission Village would be provided through 20,850 feet of temporary utility poles/lines that cross Newhall Ranch and that would be converted to permanent facilities during the buildout of Newhall Ranch. Implementation of the adopted Specific Plan mitigation measures and the proposed project specific mitigation measures would reduce potential significant impacts related to potential health hazards to less than significant.

(19) Water Quality Basin

As part of the proposed project, an off-site water quality basin would be constructed within the boundaries of VTTM 53295 (Entrada). The water quality detention basin is an impoundment where storm water temporarily is detained, allowing sediment, and particulates to settle out. Use of grading and construction equipment and work crews would occur during the construction of the water quality basin. Implementation of mitigation measures below would reduce unknown health safety hazards to work crews to less than significant. Operation of the water quality basin would not expose people to existing sources of health hazards as it is designed to improve water quality and reduce surface water flows.

Therefore, any potentially significant impacts relative to health hazards would be reduced to a less than significant impact.

(20) Magic Mountain Parkway Extension and Commerce Center Grading

As part of the project, Magic Mountain Parkway would be extended to provide regional access to and from the project site to SR-126 and I-5, respectively. The Magic Mountain Parkway extension would require the construction of off-site roadway improvements, and would proceed westerly from its existing terminus at The Old Road for a distance of approximately 5,000 feet before intersecting with the project site. Commerce Center grading consists of additional grading land along the eastern boundary north of the Magic Mountain Parkway extension to the southern boundary of the Magic Mountain Parkway, within the southern parcel of the Entrada development. The Magic Mountain Parkway would be a paved roadway which would not expose people to existing sources of potential health hazards or result in a significant hazard through reasonably foreseeable accidents. With implementation of mitigation below, the grading related to the Commerce Center would not expose people to existing sources of potential health hazards or result in a significant hazard through reasonably foreseeable accidents. Therefore, potential impacts would be reduced to a less than significant level.

(21) Grading for Westridge Parkway Expansion

The grading associated with the southerly expansion of Westridge Parkway will affect the southeastern boundary of the project site, and will also proceed west into the southern portion of VTTM 53295 (Entrada project site) and south into the northern portion of VTTM 61996 (the Legacy Village project site). With implementation of mitigation below, the grading related to the Westridge Parkway Expansion would not expose people to existing sources of potential health hazards or result in a significant hazard through reasonably foreseeable accidents. Therefore, potential impacts would be reduced to a less than significant level.

6. MITIGATION MEASURES

The County previously adopted mitigation measures relative to potential environmental safety impacts that are required to be implemented as part of the Newhall Ranch Specific Plan. These mitigation measures are found in the previously certified Newhall Ranch Specific Plan Program EIR and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). In addition, this EIR identifies recommended mitigation measures specific to the Mission Village project site. The project applicant has committed to implementing the applicable mitigation measures from the Newhall Ranch Specific Plan and will implement the mitigation measures recommended for the proposed Mission Village project to ensure that future development of the project site and related off-site grading activities would be safe

from an environmental safety standpoint, and that such development would not adversely affect adjacent properties.

a. Mitigation Measures Required of the Newhall Ranch Specific Plan and Relevant to the Mission Village Project

The following mitigation measures (**Mitigation Measures SP 4.5-1** through **SP 4.5-9**) were adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003) and relate to environmental safety impacts. The mitigation measures applicable to the proposed Mission Village project will be implemented to mitigate the potentially significant environmental safety impacts associated with the proposed project. The "SP" designation preceding the mitigation measure number refers to the Specific Plan.

SP 4.5-1 All final school locations are to comply with the California State Board of Education requirement that no schools be sited within 100 feet from the edge of the right-of-way of 100-110 kV lines; 150 feet from the 220–230 kV lines; and 250 feet from the 345 kV lines. *(The school proposed as part of the Mission Village project will not be sited within an electric transmission line restricted zone.)*

SP 4.5-2 Only non-habitable structures shall be located within SCE easements. *(The Mission Village tract map does not locate any habitable structures within a Southern California Edison [SCE] easement.)*

SP 4.5-3 Prior to issuance of grading permits, all abandoned oil and natural gas-related sites must be remediated to the satisfaction of the California Department of Oil and Gas, the Los Angeles County Hazardous Materials Control Program, the South Coast Air Quality Management District, and/or the Regional Water Quality Control Board (Los Angeles region). *(All abandoned oil and natural gas-related sites on the Mission Village project site have been abandoned and remediated, as necessary, according to California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) standards. Furthermore, pursuant to project-specific mitigation measure **MV 4.19-10**, all former oil wells to be disturbed or located in an area of development on the Mission Village site shall be reabandoned according to DOGGR standards prior to the issuance of grading permits.)*

SP 4.5-4 All ongoing oil and natural gas operational sites adjacent to or in close proximity to residential, mixed-use, commercial, business park, schools and local and Community Parks shall be secured by fencing and emergency access to these locations shall be provided. *(This mitigation measure does not apply to Mission Village, as no ongoing oil/natural gas operational sites are present within the Mission Village project site.)*

SP 4.5-5 The Specific Plan is to meet the requirements of SCGC in terms of pipeline relocation, grading in the vicinity of gas mains, and development within SCGC easements. These requirements would be explicitly defined at the future tentative map stage. *(The Mission Village tentative tract map incorporates all applicable requirements of the Southern California Gas Company [SCGC] with respect to pipeline relocation, grading in the vicinity of gas mains, and development within SCGC easements.)*

SP 4.5-6 All potential buyers or tenants of property in the vicinity of SCGC transmission lines are to be made aware of the line's presence in order to assure that no permanent construction or grading occurs over and within the vicinity of the high-pressure gas mains. *(This mitigation measure will be implemented concurrent with project development.)*

SP 4.5-7 In accordance with the provisions of the Los Angeles County Building Code, Section 308(d), all buildings and enclosed structures that would be constructed within the Specific Plan located within 25 feet of oil or gas wells shall be provided with methane gas protection systems. Buildings located within 25 feet and 200 feet of oil or gas wells shall, prior to the issuance of building permits by the County of Los Angeles, be evaluated in accordance with the current rules and regulations of the State of California Division of Oil and Gas. *(This mitigation measure does not apply to Mission Village because there are no active wells within the project site.)*

SP 4.5-8 In accordance with the provisions of the Los Angeles County Building Code, Section 308(c), all buildings and structures located within 1,000 feet of a landfill containing decomposable material (in this case, Chiquita Canyon Landfill) shall be provided with a landfill gas migration protection and/or control system. *(This mitigation measure does not apply to Mission Village because Mission Village is located more than 1,000 feet from Chiquita Canyon*.)

SP 4.5-9 In accordance with the provisions of the Los Angeles County Code, Title 11, Division 4, Underground Storage of Hazardous Materials regulations, the County of Los Angeles Department of Public Works shall review, prior to the issuance of building permits by the County of Los Angeles, any plans for underground hazardous materials storage facilities (e.g., gasoline) that may be constructed or installed within the Specific Plan. *(This mitigation measure will be implemented prior to the issuance of building permits.)*

b. Additional Mitigation Measures Proposed By This EIR

The following project-specific mitigation measures are proposed to mitigate the potentially significant environmental safety impacts that may occur with implementation of the Mission Village project. These

mitigation measures are in addition to those adopted in the previously certified Newhall Ranch Specific Plan Program EIR. To indicate that the measures relate specifically to the Mission Village project, each measure is preceded by "MV," which stands for Mission Village.

(1) Oil Wells

MV 4.19-1 During grading operations, all former oil wells located on the Mission Village development property shall be reabandoned and the sites remediated, if necessary, according to the requirements of the California Department of Conservation, Division of Oil, Gas and Geothermal Resources, if such sites are to be disturbed or are located in an area of development.

(2) Above-Ground Storage Tanks, Agricultural Storage Areas, and Soil Staining

MV 4.19-2 During grading operations, those areas of the Mission Village development property identified as formerly containing above-ground storage tanks, current agricultural storage areas and current soil staining by the *Phase I Environmental Site Assessment of Proposed The Mesas East, Valencia, California* (BA Environmental, February 2005), shall be investigated for the presence of petroleum hydrocarbons and hazardous materials and/or wastes, and, where necessary, shall be remediated in conformance with applicable federal, state and local laws, to the satisfaction of the California Department of Conservation, Division of Oil, Gas and Geothermal Resources, the Los Angeles County Hazardous Materials Control Program, the South Coast Air Quality Management District, and/or the Regional Water Quality Control Board (Los Angeles region).

(3) Pipelines

MV 4.19-3 During grading operations, all pipelines located on the Mission Village development property that will no longer be used to transport oil products shall be reabandoned according to the requirements of the California Department of Conservation, Division of Oil, Gas and Geothermal Resources. The soil beneath these pipelines shall be assessed for petroleum hydrocarbons. Any identified contaminated soil shall be remediated in conformance with applicable federal, state and local laws, to the satisfaction of the California Department of Conservation, Division of Oil, Gas and Geothermal Resources, the Los Angeles County Hazardous Materials Control Program, the South Coast Air Quality Management District, and/or the Regional Water Quality Control Board (Los Angeles region).

(4) Water Wells

MV 4.19-4 During grading operations, all groundwater monitoring wells and production water wells not intended for future use shall be abandoned according to applicable federal, state and local regulations.

(5) Polychlorinated Biphenyls (PCBs)

MV 4.19-5 Prior to demolition or rehabilitation, all electrical poles and facilities to be demolished or rehabilitated shall be surveyed to determine if they contain PCBs. If PCBs are present, they shall be removed and disposed of by a licensed and certified PCB removal contractor, in accordance with all federal, state, and local regulations.

(6) Ponds

MV 4.19-6 Prior to the issuance of grading permits, all ponds located on the project site that may have been used for the treatment or disposal of hazardous wastes shall be tested for environmental hazards and remediated, if necessary, in accordance with all federal, state, and local regulations.

(7) Soil Staining

MV 4.19-7 Areas of visible soil staining not planned for excavation, or located in an area planned to be raised in grade, shall be assessed for environmental hazards and treated, as necessary, in accordance with all federal, state, and local regulations. Areas of visible soil staining that are scheduled to be excavated shall have any visibly impacted soil disposed of in accordance with all federal, state, and local regulations.

(8) Previously Unidentified Hazards

MV 4.19-8 In the event that previously unidentified, obvious, or suspected hazardous materials, contamination, underground storage tanks, sumps, debris, asbestos, septic tanks, cesspools or other features or materials that could present a threat to human health or the environment are discovered during construction, construction activities in the vicinity of the find shall cease immediately until the project site is evaluated by a qualified professional. Work shall not resume until appropriate actions recommended by the professional have been implemented and it has been demonstrated that the identified contaminants have been remediated or removed from the project site in accordance with applicable law.

(9) Water Quality Control Basin

MV 4.19-9 Soils excavated for construction of the unlined water quality control basin will not be used for construction of the basin. If discolored soil is encountered, it will be excavated and will not be used in construction of the basin.

7. CUMULATIVE IMPACTS

As man-made hazards typically are site-specific issues, the proposed project would not result in cumulatively considerable impacts relative to environmental safety and no impacts would occur with respect to cumulative impacts.

8. CUMULATIVE MITIGATION MEASURES

There would be no cumulative impacts with regard to man-made hazards, consequently, no cumulative mitigation measures are required.

9. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Mission Village Project Site

With implementation of the mitigation measures listed above and compliance with federal, state and local regulations, any potentially significant project-related impact associated with environmental safety would be reduced to below a level of significance.

b. Surrounding Property

No potentially significant impacts were identified with respect to the property surrounding the Mission Village site. Therefore, there are no significant unavoidable impacts.

4.20 CULTURAL/PALEONTOLOGICAL RESOURCES

1. SUMMARY

Phase I and II archaeological resource surveys within the Newhall Ranch Specific Plan area, including the Mission Village project area, were undertaken during preparation of the Newhall Ranch Specific Plan Program EIR. This information was reviewed at project-specific level for the Mission Village project to determine if there were archaeological or paleontological effects relative to Mission Village not examined or identified in the Newhall Ranch Specific Plan Program EIR.

The Phase I survey resulted in the discovery and recording of one prehistoric archaeological site, CA-LAN-2236, within the boundaries of the proposed Mission Village project. The Phase I survey also identified two historical sites within the vicinity of the Mission Village project - the site of the original Newhall Ranch headquarters (CA-LAN-961H) and the site of the Asistencia de San Francisco Xavier (CA-LAN-962H).[1] *The site of the Newhall Ranch headquarters falls outside of the Mission Village development area and, therefore, would not be significantly impacted by the project. As to the Asistencia site, no development is proposed for the area, and the site will be dedicated to the Archaeological Conservancy. As such, implementation of the Mission Village project would not result in significant impacts to the Asistencia site.*

With respect to the prehistoric archaeological site, a Phase II archaeological study was conducted and CA-LAN-2236 was found to consist of a small, very low-density surface lithic scatter, measuring 300 square meters in size and consisting of six waste flakes found on the ground surface. No temporally diagnostic artifacts or chronometrically datable materials were found on this site, which appears to have served as a non-specialized stone chipping station, probably created in concert with some other economic activity, such as plant gathering or hunting. Phase II fieldwork at this site resulted in the collection of all extant archaeological artifacts from this locale. This has served to completely and adequately mitigate any significant impacts that might occur due to development at this site.

As to paleontological resources, a Phase I paleontological report also was prepared to determine the likelihood of encountering paleontological resources on the proposed Mission Village site. This report focused on a literature and records search, as well as an extensive field survey of the area proposed for development. Development of Mission Village would occur in geologic formations with high and moderate potential for the discovery of fossil remains and,

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1 The proposed Mission Village project site is approximately 1,854.1 acres in size, including off-site project-related improvements (i.e., utility corridor, Magic Mountain Parkway roadway extension, water quality basin, three water tanks (portions of 2 would be located on-site), Southern California Edison electrical substation, conversion of an existing water tank to recycled water tank and grading associated with construction of the southerly extension of Westridge Parkway). The existing water tank area was not addressed in the Phase I and Phase II Archaeological Reports for the Newhall Ranch Specific Plan. However, the area around the existing water tank has been disturbed and is not in a natural state, thereby drastically reducing the possibility that new cultural or archaeological sites could be disturbed.

therefore, grading activities associated with development of the proposed Mission Village project could result in significant impacts to the region's paleontological resources absent mitigation. Mitigation previously adopted by the County, in combination with additional proposed mitigation, would reduce any potentially significant impacts to paleontological resources to a level below significant.

2. INTRODUCTION

a. Relationship of Project to Newhall Ranch Program EIR

Section 4.3 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with cultural and paleontological resources for the entire Newhall Ranch Specific Plan. The Newhall Ranch mitigation program was adopted by Los Angeles County (County) in findings and in the revised Mitigation Monitoring Plan for the Specific Plan. The Newhall Ranch Specific Plan Program EIR concluded that Specific Plan implementation would result in significant impacts to archaeological and paleontological resources, but that the identified mitigation measures would reduce the impacts to below levels of significance. All subsequent project-specific development plans and tentative subdivision maps must be consistent with the Newhall Ranch Specific Plan, County of Los Angeles General Plan, and Santa Clarita Valley Area Plan.

This project-level EIR is tiering from the previously certified Newhall Ranch Program EIR. **Section 4.20** discusses the project's existing conditions, impacts on cultural and paleontological resources, applicable mitigation measures from the Newhall Ranch Program EIR, as well as any additional mitigation measures recommended by this EIR for the Mission Village project.

3. SUMMARY OF THE NEWHALL RANCH PROGRAM EIR FINDINGS

a. Archaeological Resources

The Newhall Ranch Specific Plan study area was found to have a very low density of archaeological remains, with site locations closely conforming to the expectations derived from the archival records search. With only two exceptions, the identified sites are concentrated along the Santa Clara River.

(1) Phase I Testing

(a) Prehistoric Archaeological Sites

A total of eight prehistoric archaeological sites and one isolated artifact were identified during the intensive Phase I survey. Six sites were found along or near the Santa Clara River, and are referred to as

CA-LAN-2133, -2241, -2235, -2234, -2233, and -2242. The other two prehistoric archaeological sites are CA-LAN-2236 and -2240.

(b) Historical Archaeological Sites

During the Phase I survey, one historical site was found on the Newhall Ranch Specific Plan site and another was found immediately off site. Both are concentrated in the northeastern end of the property. This area includes the on-site Asistencia de San Francisco Xavier (CA-LAN-962H), and the off-site original Newhall Ranch headquarters (CA-LAN-961H); the built structures on these sites were removed from this locale several years ago. The two sites are not listed in the National Register for Historic Places or California Register of Historic Resources; however, because the Rancho San Francisco is listed as a California Historical Landmark, the Asistencia is also technically listed as such.[2]

(2) Phase II Testing

Sites CA-LAN-2133 and -2235 were found to contain subsurface archaeological deposits and intact prehistoric artifacts that can contribute to the scientific reconstruction of prehistoric lifeways in the Santa Clara River Valley. Development at these locales has the potential to result in significant impacts to cultural resources. CA-LAN-2233 was found to contain two components: a northern component containing a subsurface archaeological deposit and intact artifacts; and a southern component consisting solely of a surface scatter of stone artifacts. The northern component of CA-LAN-2233 contains scientific information that may contribute to the reconstruction of local prehistory; development of this northern area, therefore, has the potential to result in significant impacts to cultural resources.

Although there is no longer an intact archaeological deposit at CA-LAN-2241, a burial of unknown origin is still present in a disturbed context within the site area. Development of this area, therefore, has the potential to result in significant impacts to archaeological remains, whether ultimately historical or prehistoric in age.

The Phase II testing determined that CA-LAN-2234 did not represent an extant archaeological site. Phase II fieldwork at CA-LAN-2236 resulted in the collection of all extant archaeological remains at that site. CA-LAN-2240 does not represent an extant cultural resource. There are no longer any extant archaeological remains at CA-LAN-2242. The final cultural resource located in the vicinity of Potrero and Chiquito Canyons was an isolated artifact that was salvaged during the Phase I survey.

The area containing the two historical sites (CA-LAN-961H and -962H) falls outside of the development area and would not be significantly impacted by the Newhall Ranch Specific Plan; therefore, these two

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2 Interview with Joe Simon, W&S Consultants, Simi Valley, California, February 21, 1996.

sites were excluded from Phase II fieldwork. Implementation of the Specific Plan would have no impacts on dedication of the Asistencia, and would not affect the schedule of its dedication to the Archaeological Conservancy, which would take place upon approval of the Specific Plan and related approvals, resolution of any litigation and parcelization of the Asistencia site.

b. Paleontological

The Pico Formation and Saugus Formation within the development area of the Newhall Ranch Specific Plan have a high potential to yield paleontological resources because there is potential for the exposure of significant fossils in areas of these geologic units that are proposed for grading. Where Quaternary terrace deposits and Quaternary older alluvium exist in the development area, there is a moderate potential for yielding paleontological resources because there is potential for the exposure of significant fossils in areas of these geologic units. Therefore, the Specific Plan's grading activities could have significant impacts on the site's paleontological resources. The Board of Supervisors found that adoption of the recommended mitigation measures would reduce the identified potentially significant effects to less than significant levels.[3]

4. EXISTING CONDITIONS

Phase I and II archaeological studies of the entire Newhall Ranch Specific Plan site (including the future extension of Magic Mountain Parkway) were conducted in 1994 by W&S Consultants. A supplemental archaeological investigation was conducted in December 1995 for the proposed extension of Valencia Boulevard. RMW Paleo completed a paleontological study for the entire Newhall Ranch Specific Plan site in October 1994. Each analysis is summarized in this section, and is presented in the Newhall Ranch Program EIR (see Draft EIR, Appendix 4.3).

The information presented in the Newhall Ranch Specific Plan Program EIR, Section 4.3, Cultural/Paleontological Resources, assessed the existing setting of the entire Newhall Ranch Specific Plan, including the Mission Village project site, from an archaeological and paleontological standpoint. Section 4.3 also provided detailed background information and findings regarding the archaeological and paleontological analysis conducted on the entire Specific Plan site.

This information and the technical studies from the prior Newhall Ranch Specific Plan Program EIR (see Draft EIR, Appendix 4.3) were assessed at project-level for the Mission Village project to determine if

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3 See Mitigation Measures 4.3-1 through 4.3-4 in both the certified Newhall Ranch Specific Plan Program EIR (March 9, 1999) and adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). In addition, please refer to the Additional CEQA Findings and Statement of Overriding Considerations, dated May 2003, at pages 62–63, for revised Mitigation Measure 4.3-4. All of these mitigation measures are reiterated in the mitigation measures portion of this EIR.

there were archaeological or paleontological effects that were not examined in the Program EIR. It was determined that all significant archaeological and paleontological effects were identified, adequately addressed, and mitigated or avoided at the program level of review in the Newhall Ranch Specific Plan Program EIR and related environmental findings. Therefore, at the project level, this EIR will incorporate by reference the existing conditions analysis and background information relating to archaeological and paleontological resources from the previously certified Newhall Ranch Specific Plan Program EIR (Section 4.3).

5. PROPOSED PROJECT IMPROVEMENTS

The project proposes to develop a total of 4,412 residential dwelling units consisting of 382 single-family homes, and 4,030 multi-family units, including attached and detached condominiums, age qualified, and apartment units, with a total residential population of 10,802.[4] The project would also include 1.555 million square feet of commercial/mixed-uses, a 9.5-acre elementary school, fire station, public library, bus transfer station, parks, public and private recreational facilities, trails, and road improvements.

Project site grading would require the removal and re-compaction of approximately 29.5 million cubic yards of existing material in a balanced cut and fill operation plus up to 375,000 cubic yards for the electrical substation. Project grading would be consistent with, and would implement, the Specific Plan's approved Conceptual Grading Plan (Specific Plan Exhibit 2.7-1), and the applicable Specific Plan Design Guidelines (Specific Plan Chapter 4, Section 4.8) for grading and hillside management.

6. PROJECT IMPACTS

The analysis of potential impacts to cultural and paleontological resources associated with construction and operation of the proposed Mission Village project, including the significance criteria applicable to assessing such impacts, is presented on the following pages.

a. Significance Threshold Criteria

State CEQA Guidelines, Appendix G, identifies certain criteria for determining whether a project's impacts on cultural resources are significant, including, as applicable here, whether the project would

- cause a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5;

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4 Based upon County of Los Angeles estimates of 3.17 persons per single-family household and 2.38 persons per multi-family houeshold.

- cause a substantial adverse change in the significance of an archaeological resource pursuant to *CEQA Guidelines* Section 15064.5;
- directly or indirectly destroy or impact a unique paleontological resource or site or unique geologic feature; or
- disturb any human remains, including those interred outside of formal cemeteries.

The referenced *State CEQA Guidelines* Section 15064.5 defines the term "historical resources" and provides that "a project with an effect that may cause a substantial adverse change in the significance of an historical resources is a project that may have a significant effect on the environment." (*State CEQA Guidelines*, Section 15064.5(a)-(b).) A "substantial adverse change in the significance of an historical resource" is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired." (*State CEQA Guidelines,* Section 15064.5(b)(1)).

With respect to archaeological resources and/or sites, *State CEQA Guidelines* Section 15064.5 provides in relevant part:

> (1) *When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subsection (a)*
>
> (3) *If an archaeological site does not meet the criteria defined in subsection (a), but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of Section 21083.2*
>
> (4) *If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment*

Public Resources Code section 21083.2 defines a "unique archaeological resource" as follows:

> (g) *As used in this section 'unique archaeological resource' means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:*
>
> *(1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.*
>
> *(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.*
>
> *(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.*

Section 21083.2(h) defines a "non-unique archeological resource" as follows:

> (h) *As used in this section, 'non-unique archeological resource' means an archeological artifact, object, or site, which does not meet the criteria in subdivision (g). A non-unique archeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects.*

b. Impact Analysis

(1) Prehistoric Archaeological Site

Of the nine known archaeological resource sites, as defined by *State CEQA Guidelines* Section 15064.5 and Public Resources Code Section 21083.2, that are located on the Newhall Ranch property, only CA-LAN-2236 is located within the boundaries of the Mission Village project site. CA-LAN-2236 was found to consist of a small, very low-density surface lithic scatter, measuring 300 square meters in size and consisting of six waste flakes found on the ground surface. No temporally diagnostic artifacts or chronometrically datable materials were found on this site. The site appears to have served as a non-specialized stone chipping station, probably created in concert with some other economic activity, such as plant gathering or hunting. Phase II fieldwork at this site resulted in the collection of all extant archaeological artifacts from this locale. This has served to completely and adequately mitigate any significant impacts to this site that might occur due to development.

(2) Historical Archaeological Site

During the Phase I survey, one historical resource site, as defined by *State CEQA Guidelines* Section 15064.5, the Asistencia de San Francisco Xavier (CA-LAN-962H), was found on the Mission Village site. The original Newhall Ranch headquarters (CA-LAN-961H), the built structures of which were removed a number of years ago, was found immediately off site. Neither of the two sites is listed in the National Register for Historic Places or the California Register of Historic Resources; however, because the Rancho San Francisco, which includes the Asistencia within its scope, is listed as a California Historical Landmark, the Asistencia is also technically listed as such.[5]

No development is proposed for the area where the Asistencia de San Francisco (CA-LAN-962H) is located. Upon recordation of the Mission Village tract map, the property containing the Asistencia would be dedicated to The Archaeological Conservancy, based in Albuquerque, New Mexico. The site of the former Newhall Ranch Headquarters (CA-LAN-961H) is located outside of the Mission Village development area and, therefore, the significance of the site and its immediate surroundings would not be materially impaired by the project. Therefore, the proposed project would not result in significant impacts to these historical cultural resources.

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5 Interview with Joe Simon, W&S Consultants, Simi Valley, California, 21 February 1996.

(3) Paleontological Resources

Development can have both adverse and beneficial impacts on paleontological resources. Adverse impacts include the destruction of paleontological resources because of the increase in activity in the area and may be either direct or indirect. Direct adverse impacts may occur from brushing, grading, trenching, and other earthmoving activities. Indirect adverse impacts may result from increased accessibility to the site, resulting in unauthorized fossil collecting by amateur collectors, especially in open space areas. Development can have beneficial impacts on the region's paleontological resources if proper measures are implemented during development. Beneficial impacts result when a paleontologist is permitted to monitor the site and to salvage exposed fossils of possible scientific significance.

A way of determining potentially significant environmental impacts to paleontological resources is to estimate the likelihood that fossils will be discovered during excavations into a given rock unit based on the past discovery of fossils from that rock unit. Paleontological potential does not measure the significance of individual fossils present within the study area, because it is impossible to accurately predict what types of fossils will be discovered.

A five-tiered classification system of sensitivity for paleontological resources (shown in **Table 4.20-1**, **Paleontologic Sensitivity Classification**) has been developed to evaluate the paleontological potential of rock units within the Mission Village area.[6] Each sensitivity rating reflects the potential for the discovery of fossil resources during site development.

6 The data used to define these paleontologic potentials came from a review of pertinent paleontological information and literature both within the study site and the surrounding areas, discussion with professional paleontologists, and the consultant's (RMW) field experience in southern California.

Table 4.20-1
Paleontologic Sensitivity Classification

Potential	Description
NO	This rating applies to igneous rocks whose molten origins preclude fossil remains being preserved.
LOW	Rocks that are too young geologically to contain significant fossils, are altered, or have a poor record of fossil recovery.
MODERATE	Units that fall within this rating contain sedimentary rocks with histories of producing only limited numbers of fossils at many locations.
HIGH	Units that have well-established histories of containing significant fossils and/or fossils located on the study site.
INDETERMINATE	This classification applies to rock units where there is little or no history of fossil discoveries because of a lack of systematic exploration of rock exposures.

Source: RMW (1994).

The Mission Village study area is underlain by one bedrock formation—Saugus Formation—and three surficial deposits—Quaternary Terrace, Quaternary Alluvium, and Quaternary Slopewash. Based on the results of RMW's field survey, screen washing efforts, literature review, and records search, these geologic formations are rated from high to low paleontological potential, or indeterminate. The potential for fossil production of the individual formations in the study area is discussed below and summarized in **Table 4.20-2**, **Paleontologic Potential by Geologic Formation**. Potential impacts on paleontological resources are directly related to the potential for the discovery of fossils in a rock formation and the amount of grading that would occur in that rock formation.

Table 4.20-2
Paleontologic Potential by Geologic Formation

Geologic Formation	Paleontological Potential[1]	Impact Potential
Saugus	High	High
Quaternary Terrace	Moderate	Moderate
Quaternary Alluvium	Moderate	Moderate
Quaternary Slopewash	Low	Low

Source: RMW (1994).
[1] *See **Table 4.20-1** For Definitions.*

The bedrock underlying the site consists of Plio-Pleistocene, non-marine sedimentary rock of the Saugus Formation. This formation includes light gray to yellowish-gray sandstone, pebbly sandstone, and pebble to cobble conglomerate, light yellowish brown to brown sandy siltstone, siltstone, mudstone, and rare moderate-brown claystone. Siltstone, claystone, and mudstone units of the Saugus Formation are potentially expansive.

Deposits of relatively flat-lying older alluvium, which are significantly higher than the active stream channel areas, are designated as terrace deposits. At least two fill-terrace levels are present on the project site. The dominant upper terrace forms large mesas on the northwestern portion of the site (Exxon Mesa) and northeastern portion of the site (Airport Mesa), which are roughly 180 to 200 feet above the adjacent drainages. A second lower terrace level is present on the margins of Lion Canyon and locally in the larger canyons to the east across the site. The lower terrace surface is largely eroded but appears to commonly extend at least 20 to 40 feet above the adjacent drainages. Small relic Qt deposit remnants were also encountered on portions of the upper slopes on the south side of Middle Canyon. The lower terrace deposits typically consist of pebbly sandstone, pebble to cobble conglomerate, and silty sandstone, which range up to an observed thickness of 23 feet.

The larger canyon areas and Santa Clara River flood plain are underlain by alluvium. Older, incised alluvium is commonly present on the margins of the canyons. These deposits typically consist of sands and gravel with cobbles, boulders, and local silty intervals.

Slopewash, designated as Qsw in the Geologic Maps included in **Appendix 4.1**, is a non-bedded, heterogeneous accumulation of soil and weathered bedrock deposited by gravity on slopes. Swales and side-canyons adjacent to the larger canyon drainages commonly contain accumulations of slopewash. The thickest accumulations occur at the toe of slopes and where broad swales join main drainage areas. The maximum thickness of slopewash colluvium encountered in the exploratory excavations conducted as part of the geological investigation is about 15 feet.

In conclusion, the Saugus Formation within the development area of the Mission Village project has a high potential for yielding paleontological resources, and a substantial portion of the proposed development would be located in areas underlain by this formation. Where Quaternary Terrace and Quaternary Alluvium exists in the project area, there is a moderate potential for yielding paleontological resources. Therefore, the Mission Village-related grading activities could have significant impacts on paleontological resources, absent mitigation.

(4) Human Remains

The Phase I and II archaeological studies conducted for the Newhall Ranch Specific Plan site identified one location within the Specific Plan potentially containing human remains, CA-LAN-2241. The site is not located within the Mission Village project site and, therefore, construction and development of the proposed project would not affect the remains. Moreover, mitigation adopted by the County in connection with its approval of the Specific Plan, and mitigation recommended in this section specific to the Mission Village project, requires that in the event previously undetected artifacts are found during construction activities, an archaeologist (or paleontologist as applicable) shall be notified to evaluate the resource and take appropriate measures. Additionally, Newhall has entered into an agreement with the Fernandeno Tataviam Band of Mission Indians whereby Newhall will retain the band for monitoring activities associated with grading and development of the Newhall Ranch project. (See **Appendix 4.20.**) Therefore, any potentially significant impacts relating to the disturbance of human remains resulting from the project would be reduced to levels below significant.

7. PROJECT MITIGATION MEASURES

As discussed above, the County previously imposed mitigation measures required to be implemented as part of the Newhall Ranch Specific Plan that would reduce potential significant cultural and paleontological impacts at the program level to below a level of significance. These mitigation measures, as they relate to cultural and paleontological resources, are found in the certified Newhall Ranch Specific Plan Program EIR and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). The mitigation measures are also reiterated below.

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as they Relate to the Mission Village Project

The following mitigation measures were adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). Some of the mitigation measures are applicable to the Mission Village project due to its geographic location. The applicable mitigation measures will be implemented in conjunction with the proposed project to mitigate the potentially significant impacts associated with the proposed project. These measures are preceded by "SP," which stands for Specific Plan.

SP 4.3-1 Any adverse impacts to California-LAN-2133, -2235, and the northern portion of -2233 are to be mitigated by avoidance and preservation. Should preservation of these sites be infeasible, a Phase III data recovery (salvage excavation) operation is to be completed on the sites so affected, with archaeological monitoring of grading to occur during subsequent soils removals on the site. This will serve to collect and preserve the scientific information contained therein, thereby mitigating all significant impacts to the affected cultural resource. (***Mitigation Measure SP 4.3-1*** *is not applicable to the Mission Village*

project because California-LAN-2133, -2235 and the northern portion of -2233 are not within the boundaries of the Mission Village project site; therefore, no significant impacts will occur to these three archaeological sites with implementation of the Mission Village project.)

SP 4.3-2 Any significant effects to California-LAN-2241 are to be mitigated through site avoidance and preservation. Should this prove infeasible, an effort is to be made to relocate, analyze, and re-inter the disturbed burial at some more appropriate and environmentally secure locale within the region. (***Mitigation Measure SP 4.3-2*** *is not applicable to the Mission Village project because California-LAN-2241 is not within the boundaries of the Mission Village project site; therefore, no significant impacts will occur to this archaeological site with implementation of the Mission Village project.)*

SP 4.3-3 In the unlikely event that additional artifacts are found during grading within the development area or future roadway extensions, an archaeologist will be notified to stabilize, recover and evaluate such finds.

SP 4.3-4 As part of an inspection-testing program, a Los Angeles County Natural History Museum-approved inspector is to be on site to salvage scientifically significant fossil remains. The duration of these inspections depends on the potential for the discovery of fossils, the rate of excavation, and the abundance of fossils. Geological formations (like the Saugus Formation) with a high potential will initially require full time monitoring during grading activities. Geologic formations (like the Quaternary terrace deposits) with a moderate potential will initially require half-time monitoring. If fossil production is lower than expected, the duration of monitoring efforts should be reduced. Because of known presence of microvertebrates in the Saugus Formation, samples of at least 2,000 pounds of rock shall be taken from likely horizons, including localities 13, 13A, 14, and 23. These samples can be stockpiled to allow processing later to avoid delays in grading activities. The frequency of these samples will be determined based on field conditions. Should the excavations yield significant paleontological resources, excavation is to be stopped or redirected until the extent of the find is established and the resources are salvaged. Because of the long duration of the Specific Plan, a reassessment of the paleontological potential of each rock unit will be used to develop mitigation plans for subsequent subdivisions. The report shall include an itemized inventory of the fossils, pertinent geologic and stratigraphic data, field notes of the collectors and include recommendations for future monitoring efforts in those rock units. Prior to grading, an agreement shall be reached with a suitable public, non-profit scientific repository, such as the Los Angeles County Museum of Natural History or similar institution, regarding acceptance of fossil collections.

b. Additional Mitigation Measures Proposed by this EIR

At the project-specific level, the following mitigation measures are recommended to further mitigate potentially significant cultural/paleontological impacts that may occur with implementation of the proposed Mission Village project. This mitigation is in addition to that adopted in the certified Newhall Ranch Specific Plan Program EIR. To reflect that the mitigation relates specifically to the Mission Village project, the "MV" designation precedes the measures below.

MV 4.20-1 Although no other significant cultural resources were observed or recorded, all grading activities and surface modifications must be confined to only those areas of absolute necessity to reduce any form of impact on unrecorded (buried) cultural resources that may exist within the confines of the project area. In the event that previously undetected archaeological, paleontological, and/or historical resources are found during construction, activity in the immediate area of the find shall stop and a qualified archaeologist or paleontologist, as applicable, shall be contacted to evaluate the resource(s). If the find is determined to be a historical or unique archaeological resource, as defined by CEQA, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation shall be provided. Construction work may continue on other parts of the construction site while historical/archaeological mitigation takes place, pursuant to *State CEQA Guidelines* Section 15064.5(f) and Public Resources Code Section 21083.2(i).

MV 4.20-2 Following recordation of the applicable unit of the Mission Village tract map, the Asistencia de San Francisco (CA-LAN-962H) site shall be dedicated to The Archaeological Conservancy.

8. CUMULATIVE IMPACTS

Impacts upon cultural and paleontological resources tend to be site-specific and are assessed on a site-by-site basis. As discussed above, the Mission Village study area contains cultural resources. Where these resources exist, implementation of the proposed project would represent an incremental adverse cumulative impact to cultural resources. However, provided that proper mitigation is implemented by the proposed project, the impacts of the Mission Village project would be fully mitigated and would not be cumulatively considerable or substantially contribute to significant cumulative impacts. In fact, if mitigation is properly carried out, a positive impact on cumulative cultural resource information would occur; that is, mitigation measures would result in the acquisition of additional scientific information about the prehistory of the region, thereby serving to clarify reconstruction of prehistoric lifeways, while the artifacts obtained from the sites during mitigation procedures would be preserved for future analysis, study and viewing.

9. CUMULATIVE MITIGATION MEASURES

Other than complying with the same mitigation that is required of the proposed project, no further mitigation is recommended or required because the project does not contribute to any cumulatively considerable cultural or paleontological impacts.

10. UNAVOIDABLE SIGNIFICANT IMPACTS

a. Project-Specific Impacts

Provided that proposed mitigation measures are properly implemented, no significant unavoidable impacts are expected to result from implementation of the proposed project.

b. Cumulative Impacts

Provided that mitigation measures are properly implemented, no significant unavoidable cumulative impacts are expected to result from implementation of the proposed project.

4.21 FLOODPLAIN MODIFICATIONS

1. SUMMARY

Implementation of the Mission Village project, including the installation of proposed infrastructure, urban development and modifications to the Santa Clara River and on-site tributaries, would not result in significant impacts to existing hydrologic conditions. Project-related effects to the Santa Clara River regarding water flow, velocity, water surface elevation and scour would be minimal and localized. Erosion-related impacts to the River and on-site tributaries would have the potential to be significant but would be reduced to a less than significant level with the implementation of previously adopted and proposed mitigation measures.

Impacts to riparian resources resulting from changes to existing hydrologic conditions would also be minimal and localized, and would not result in significant impacts. Implementation of the Mission Village project would not result in a substantial reduction in sediment supplies that are transported to the Santa Clara River and would not result in a significant impact to Ventura County beaches.

2. BACKGROUND

a. Relationship of Project to Newhall Ranch Specific Plan Program EIR

Section 4.2 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with the hydrology of the Santa Clara River for the entire Newhall Ranch Specific Plan. Subsequently, more detailed review of Specific Plan impacts on the hydrology and hydraulics of the Santa Clara River was conducted in Section 2.3, Floodplain Modifications, of the Revised Additional Analysis (May 2003). The Revised Additional Analysis concluded that Specific Plan implementation would not significantly alter river hydrology or the mosaic of habitats because the effects associated with the proposed floodplain modifications would be infrequent and not substantially alter flows, water velocities, and water depths and that, under the Specific Plan, the river would retain sufficient width to allow natural fluvial processes to continue. All subsequent project-specific development plans and tentative subdivision maps must be consistent with the Newhall Ranch Specific Plan and the County of Los Angeles General Plan and Santa Clarita Valley Area Plan.

The Board of Supervisors' previously adopted Significant Ecological Area (SEA) Conditional Use Permit (CUP) No. 94-087-(5) authorized, among other things (1) boundary adjustments to the existing SEA 23, consistent with General Plan policies requiring protection of natural resources within SEAs; and (2) Specific Plan development within SEA boundaries including bridge crossings (i.e., Long Canyon Road Bridge, Commerce Center Drive Bridge and the Potrero Road Bridge), trails, bank stabilization, and other

improvements. The approved SEA boundary adjustments and development were found to be consistent with the natural resources within SEAs. Given that the adopted SEA CUP No. 94-087-(5) adjusted the River Corridor Special Management Area (SMA)/SEA 23 boundaries, this section analyzes Mission Village impacts on sensitive biological resources in and adjacent to the previously approved and revised River Corridor SMA/SEA 23 boundary.

This project-level EIR is tiering from the previously certified Newhall Ranch Additional Analysis. **Section 4.21, Floodplain Modifications**, assesses the Mission Village project's existing conditions, the project's potential environmental impacts, and the applicable mitigation measures from the Newhall Ranch Specific Plan Program EIR and Additional Analysis, as well as any mitigation measures recommended by this EIR for the Mission Village project. This section provides an overview of the existing geomorphic conditions and riparian resources within the Mission Village project area. The section also evaluates the hydraulic impacts on sensitive aquatic/riparian resources in the Santa Clara River and tributaries due to implementation of the project. For purposes of this analysis, geomorphic processes include sediment production, transport, and storage through the stream corridor. River geomorphology[1] includes the changes (natural or otherwise) to the landscape and within the floodplain that can cause a variety of adverse or beneficial outcomes.

As mentioned above, the Mission Village project is subject to the mitigation measures contained in the Resource Management Plan (RMP) of the Specific Plan, the Newhall Ranch Specific Plan Program EIR (March 1999) and the Revised Additional Analysis (May 2003). These mitigation measures were approved by the Board of Supervisors in May 2003, in association with the Newhall Ranch Specific Plan and Water Reclamation Plant (WRP) project approvals. These measures are found in the adopted Mitigation Monitoring Plans for both the Specific Plan and WRP and the approved RMP (see, Specific Plan (May 27, 2003), Section 2.6). Each is briefly discussed below.

b. References

The analysis presented in this section is based on numerous source documents, including the *Flood Technical Report for Mission Village, February 2007*, prepared by Pacific Advanced Civil Engineering, Inc. (PACE); *Assessment of Potential Impacts Resulting from Cumulative Hydromodification Effects, Selected Reaches of the Santa Clara River, Los Angeles County, California* (October 2005), prepared by Balance Hydrologics; Phase 1 Fluvial Study (2006a) and Phase 2 Fluvial Study (2008), prepared by PACE; *Newhall Ranch Tributary Channel Design Guidelines* (November 2008), prepared by Philip Williams and Associates (PWA);

[1] Geomorphology is the study of landforms, including their origin and evolution, and the processes that shape them. Fluvial geomorphology is the study of landform evolution related to river systems, which are influenced by factors such as river flows, sediment load and particle size, erosion, geology, and valley shape and slope.

and *Newhall Ranch Specific Plan Sub-Regional Stormwater Mitigation Plan (SWMP)*, (April 2008), prepared by Geosyntec Consultants, Inc. (Geosyntec). A copy of the February 2007 PACE report is included in EIR **Appendix 4.21**. The Balance Hydrologics report is provided in EIR **Appendix 4.2**, and the PACE fluvial studies and the PWA report are included in EIR **Appendix 4.21**. A copy of the Geosyntec report is also included in **Appendix 4.21**.

(1) Specific Plan Resource Management Plan

The Specific Plan RMP contains numerous mitigation measures designed to offset the loss of habitat due to implementation of the Specific Plan (see Specific Plan RMP, Section 2.6, pp. 2-85–2-135). For example, the RMP contains a mitigation and habitat management program for the: (1) River Corridor SMA/SEA 23 (Section 2.6, pp. 2-92–2-107); (2) High Country SMA/SEA 20 (Section 2.6, pp. 2-108–2-116); and (3) Open Area (Section 2.6, pp. 2-117–2-118). The RMP permits the use of mitigation banking within the Specific Plan area (Section 2.6, p. 2-119). It also establishes a San Fernando Valley spineflower special study mitigation overlay and preserve program (Section 2.6, pp. 2-120–2-123), an oak resources replacement program (Section 2.6, pp. 2-124–2-126), a wildfire fuel modification plan (Section 2.6, pp. 2-127–2-130), and the hillside preservation and grading plan (Section 2.6, pp. 2-134–2-135).

Further, the RMP requires that a conservation easement be established over the River Corridor SMA/SEA 23 after development of areas adjoining the river are complete, and includes the eventual removal of cattle grazing. The RMP requires that a plan be prepared by the applicant and approved by Los Angeles County (County) for the permanent ownership and management of the adopted River Corridor SMA/SEA 23 as a "significant ecological area."

The RMP further requires that a conservation agreement be established over the High Country SMA/SEA 20 and that a detailed program be developed for its long-term management and ownership. All of the existing High Country SMA/SEA 20 will be retained in a natural state. Vegetative cover within the adopted High Country SMA/SEA 20 will be enhanced by the eventual removal of cattle grazing, with the exception of grazing for management purposes, as provided in the Newhall Ranch RMP. The High Country SMA/SEA 20 is identified as a primary location for oak resource planting to mitigate impacts that will occur within the development areas of the Specific Plan.

A critical component of the Open Area system to be established by the RMP is the connection between the High Country SMA/SEA 20 and the River Corridor SMA/SEA 23 along Salt Creek. As a condition of approval, the County has required the applicant to dedicate to the public in fee and/or by conservation easement the approximately 1,517 acres of land encompassing the Salt Creek watershed in Ventura County, adjacent to the Newhall Ranch Specific Plan. This additional land dedication will be managed in

conjunction with the High Country SMA/SEA 20. The Salt Creek Corridor will provide continuity between the habitats and the wildlife populations within the Newhall Ranch Specific Plan area, and form a permanent regional linkage between the Santa Clara River and the Santa Susana Mountains. Salt Creek is the most appropriate location for such a wildlife corridor connection because (1) it provides a direct link between the two major open areas; (2) it would create less disturbance than any of the other potential connections; (3) it is bound through most of its length by open area on the north side and, therefore, will not be surrounded by development in the future; (4) it includes both upland and riparian vegetation through most of the corridor; and (5) it is topographically isolated from development areas on Newhall Ranch. All of these characteristics are unique in that no other wildlife corridor would encompass all of these factors.

(2) Newhall Ranch Specific Plan Program EIR Mitigation Measures

The Newhall Ranch Specific Plan Program EIR incorporates mitigation from the RMP and requires additional mitigation to address sensitive plant communities (e.g., riparian habitat) and other resources under the jurisdiction of the Army Corps of Engineers (USACE or Corps) and California Department of Fish and Game (CDFG). The Newhall Ranch Specific Plan Program EIR also includes mitigation measures for flood, and erosion and debris impacts [2]

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

The Newhall Ranch Revised Additional Analysis (Section 2.3) determined that the Specific Plan would modify the floodplain by placing soil cement along selected portions of the river, developing the floodplain areas behind the soil cement, and installing three bridges across the river. However, it was further determined that the proposed improvements in the Specific Plan would maintain the key hydraulic characteristics that largely determine the overall mosaic of habitats in the river.

The prior analysis found that during more infrequent floods (20-year, 50-year, and 100-year events), flows would spread out to the buried bank stabilization but not further. This condition would limit the area of the floodplain during these infrequent flood events, causing inundation over a smaller area because the bank protection would prevent flooding of formerly adjacent floodplain areas. However, the reduction in floodplain area caused by bank protection was found not to create a significant increase in overall velocities or water depth, because the volume of flow carried in these shallow, slow-moving areas along

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[2] For a complete description of all of the adopted biota-related mitigation measures, please refer to the Revised Mitigation Monitoring Plan for the Specific Plan, Mitigation Measures 4.6-1 through 4.6-80. For a complete description of the adopted flood-, erosion- and debris-related mitigation measures, please refer to the Revised Mitigation Monitoring Plan for the Specific Plan, Mitigation Measures SP-4.2-1 through 4.2-7.

the margins of the river is small. Moreover, variations were determined to be localized and limited in scope, especially when viewed in the entirety of the river corridor within the Specific Plan site and downstream. Therefore, the prior analysis found that the overall mosaic of habitats in the river would be maintained because the key hydraulic characteristics would not be significantly different under the Specific Plan. Based on these results, the Board of Supervisors found that the proposed bridges and bank protection associated with the Specific Plan would not cause significant changes to key hydraulic characteristics, and therefore, would not alter the amount and pattern of aquatic, wetland and riparian habitats in the river at the Specific Plan site and downstream in Ventura County.

4. INTRODUCTION

a. Study Scope and Methods

As illustrated in **Figure 4.21-1, Study Area Locations,** the study area includes the river corridor near the junction of Henry Mayo Drive and The Old Road and extends downstream approximately 4 miles into Ventura County. The scope of the assessment is focused on the potential effects of the project on hydrologic changes and related effects on riparian habitat.

The floodway engineering analysis used to prepare this section of the EIR was provided by PACE. Information from PACE is presented in its report entitled, *Flood Technical Report for Mission Village*, *February 2007* (**Appendix 4.21**).

(1) Review of Existing Project Reports and Documentation

PACE characterized the hydrology and hydraulics of the river in a technical report (**Appendix 4.21**). As explained in that report, hydraulic calculations and sediment transport potential assessments within the Santa Clara River were prepared using USACE Hydraulic Engineering Center River Analysis System (HEC-RAS) and HEC-GEO-RAS (Global Positioning System [GPS] enabled HEC-RAS software) programs. These programs were used to determine floodplain limits, flow velocities and by extension scour/deposition potential for a range of flow frequencies within the river (2-year through 100-year flows). Existing Santa Clara River discharge rates for the 2-year, 5-year, 10-year, 20-year, 50-year, and 100-year return periods were obtained from an USACE study entitled, *Santa Clara River Adopted Discharge Frequency Values*[3]. Santa Clara River flows in the proposed conditions were derived from the PACE *Flood Technical Report for Mission Village* (**Appendix 4.21**).

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3 USACE, the Ventura County Flood Control Department and the Los Angeles County Department of Public Works, May 3, 1994

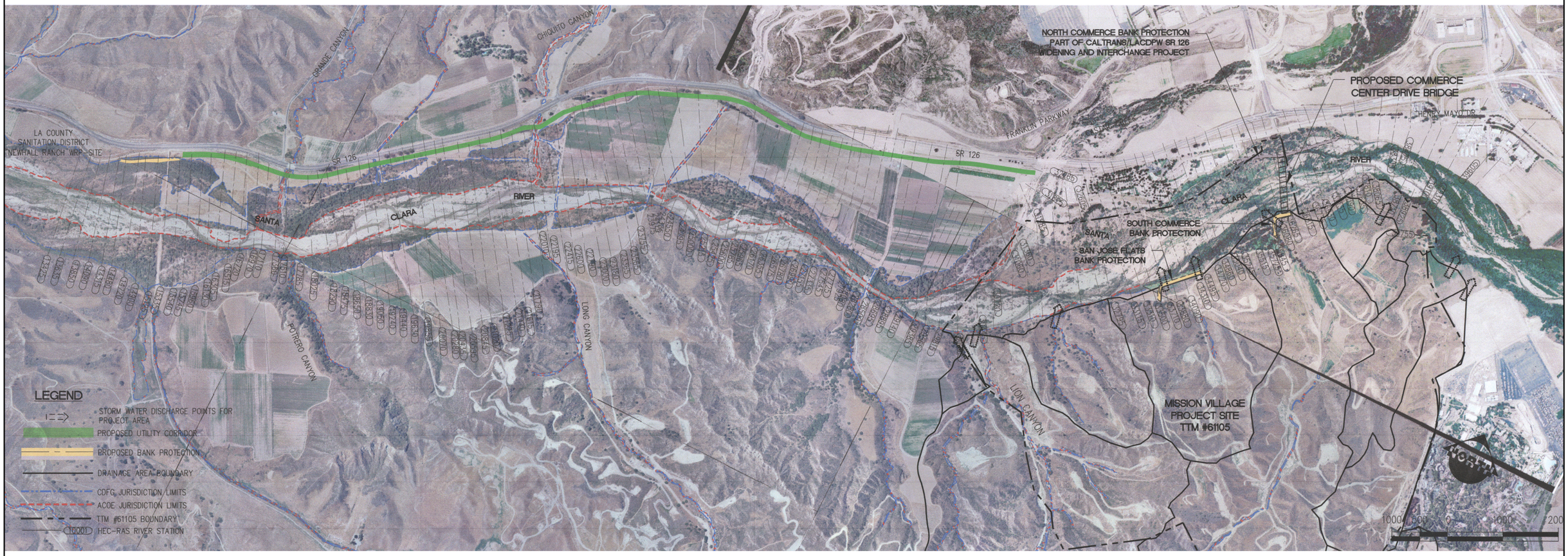
The modeling conducted for the river analysis was created by modifying existing cross-section geometrics of the river to simulate the hydraulic effects of the proposed project's use of soil cement (i.e., bank stabilization) for erosion protection, including the Commerce Center Drive Bridge abutments and piers. This encroachment was conservatively approximated with levees in the hydraulic model (model levees set at equivalent elevation on slope of channel invert). The modeling of the proposed Commerce Center Drive Bridge span, soil cement, pier spacing, and abutment locations are substantially consistent with the Newhall Ranch Revised Additional Analysis, Volume VIII (May 2003). For modeling and impact analysis considerations, these conservative bridge configurations would have the greatest impact on river hydraulics.

In addition to review and incorporation of the information from the PACE report, the following additional technical reports, and supporting documentation were reviewed in the preparation of this section.

In a report entitled, "Assessment of Potential Impacts Resulting from Cumulative Hydromodification Effects, Selected Reaches of the Santa Clara River, Los Angeles County, California" (October 2005), Balance Hydrologics used an empirical approach to assess the effects of urbanization on channel morphology associated with implementation of the Newhall Ranch Specific Plan, combined with other existing and future development in the upper watershed of the Santa Clara River as described in the adopted Los Angeles County General Plan (Balance Hydrologics, 2005). This report is found in **Appendix 4.2**.

PACE prepared a detailed fluvial analysis of the effects of the proposed Specific Plan development on the Santa Clara River for the Los Angeles County Department of Public Works (LACDPW), and LACDPW has approved the results of the PACE fluvial studies. One of the objectives of the fluvial analysis was to enhance understanding of the Santa Clara River fluvial mechanics to support a description of the existing conditions, and to identify potential impacts associated with development of the Specific Plan. The analysis included detailed modeling of the Santa Clara River and its tributaries on the Specific Plan site. The PACE Phase 1 Fluvial Study (2006a) and Phase 2 Fluvial Study (2008) are found in **Appendix 4.21**.

Philip Williams and Associates (PWA) prepared the "Newhall Ranch Tributary Channel Design Guidelines" (November 2008). This document developed design criteria for each of the five major Specific Plan tributary drainages, including Lion Canyon of the Mission Village tract map site, evaluated current geomorphic conditions in each drainage, and developed drainage-specific design criteria to ensure that each drainage would have a "dynamically stable channel" in the post-development condition where neither long-term erosion and/or deposition would occur and where restored and/or enhanced vegetation communities would be supported. The basis of the design development process was to ensure hydromodification control within these drainages in the post-development condition. The PWA report is provided in **Appendix 4.21**.



NOT TO SCALE

SOURCE: PACE – November 2006

FIGURE **4.21-1**

Study Area Locations

32-99•03/07

Geosyntec Consultants, Inc. (Geosyntec) prepared a plan entitled, "Newhall Ranch Specific Plan Sub-Regional Stormwater Mitigation Plan (SWMP)" (April 2008). This plan sets forth the urban runoff management program that will be implemented for the Newhall Ranch Specific Plan subregion, consistent with the Los Angeles County Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit, and the Standard Urban Stormwater Mitigation Plan (SUSMP). Stormwater management, including planning water quality and hydromodification control, is central to assuring the long-term viability of beneficial uses, including important habitat systems and species dependent upon those systems. The plan assessed potential water quality and hydromodification impacts associated with the Specific Plan development, and proposes Best Management Practices (BMPs) and other control measures to mitigate potential impacts and ensure beneficial uses. The Geosyntec plan is provided in **Appendix 4.21**.

5. REGULATORY SETTING

a. Federal

(1) Clean Water Act (33 U.S.C. sections 1251 et seq.)

Section 402 of the Clean Water Act. The CWA prohibits the discharge of pollutants to "waters of the United States" from any point source unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. The CWA, section 402, requires a NPDES Permit for the discharge of stormwater from MS4 serving urban areas with a population greater than 100,000; construction sites that disturb 1 acre or more; and industrial facilities. The RWQCB administers these permits with oversight provided by the State Water Resources Control Board (SWRCB) and U.S. Environmental Protection Agency (USEPA) Region IX.

Section 401 of the Clean Water Act. Under CWA section 401, every applicant for a federal permit or license for any activity that may result in a discharge of dredge or fill material to a water body must obtain a State Water Quality Certification that the proposed activity will comply with state water quality standards (*i.e.*, beneficial uses, water quality objectives, and anti-degradation policy).

Section 404 of the Clean Water Act. Under CWA section 404, the Corps is authorized to permit the discharge of dredged or fill materials to "waters of the United States," which includes both wetland and non-wetland aquatic habitats within the jurisdictional extent of rivers and streams defined by the ordinary high-water mark (OHWM) and wetlands adjacent to waters of the United States. Section 404 permits can be issued as individual or general (nationwide or regional). A section 404(b)(1) alternatives analysis and section 401 certification is required for all individual permits.

b. State

(1) Porter-Cologne Water Quality Control Act; California Water Code sections 13000-14957

This Act establishes the SWRCB and the Regional Boards as the principal state agencies with primary responsibility for the coordination and control of water quality. The Regional Water Quality Control Board (RWQCB) has jurisdiction over water quality within the region of the proposed Project. The RWQCB developed the Water Quality Control Plan (Basin Plan) for the Los Angeles Region,[4] which guides conservation and enhancement of water resources and establishes beneficial uses for surface waters within the region. Beneficial uses, and the water quality objectives necessary to sustain those beneficial uses, are designated for receiving waters (groundwater and surface waters).

(2) Stormwater Permit

In 2001, the RWQCB issued a NPDES Permit and Waste Discharge Requirements (Order No. 01-182) under the CWA and the Porter-Cologne Act for discharges of urban runoff in public storm drains in Los Angeles County. The Permittees are Los Angeles County and the cities within the County. This permit regulates stormwater discharges from MS4s in the Project area. The NPDES Permit details requirements for new development and significant redevelopment, including specific sizing criteria for treatment BMPs and hydromodification control requirements. Hydromodification is defined by USEPA as the "alteration of the hydrologic characteristics of surface waters, which, in turn, could cause degradation of water resources."

The MS4 Permit, part 4, section D.1, notes that increased volume, velocity, and discharge duration of stormwater runoff from developed areas may potentially accelerate downstream erosion and impair habitat-related beneficial uses in "Natural Drainage Systems." Natural Drainage Systems are defined by the MS4 Permit to include the Santa Clara River. Section D.1 of the MS4 Permit stipulates that Permittees must control post-development peak stormwater runoff discharge rates, velocities, and durations in Natural Drainage Systems to prevent accelerated stream erosion and protect stream habitat.

(3) Fish and Game Code, sections 1601-1605

Under sections 1601 through 1605 of the Fish and Game Code, the CDFG must be notified prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream,

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4 California Regional Water Quality Control Board, Los Angeles Region 4, Water Quality Control Plan for the Los Angeles Region, February 23, 1995. The Basin Plan is available for public inspection and review at the County of Los Angeles Public Library, Valencia Branch, 23743 West Valencia Boulevard, Santa Clarita, California 91355-2191, and incorporated by reference.

or lake. The term "stream" can include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blueline streams, and watercourses with subsurface flows.

c. Local

(1) County of Los Angeles Department of Public Works (LACDPW)

The LACDPW was formed on January 1, 1985, consolidating the former County Road Department, a portion of the County Engineer-Facilities, and the County Flood Control District. In 1995, LACDPW assumed the responsibility for capital projects from the County Internal Services Department. The LACDPW is responsible for the design, construction, operation, maintenance, and repair of roads, bridges, airports, sewers, water supply, flood control, water quality, and water conservation facilities, and for the design and construction of capital projects. Additional responsibilities include regulatory and ministerial programs for the County of Los Angeles, Los Angeles County Flood Control District, other special districts, and contract cities that request services.

The LACDPW has developed specific design, operation, and maintenance criteria for stormwater management facilities. The Project Preparation Instruction Manual for Drainage Facilities (LACDPW, 1988) states that the criteria for stormwater management facility design shall be contained in the following Los Angeles County Flood Control District and Department Manuals:

- Project Preparation Instruction Manual (February 1988)
- Hydraulic Design Manual (March 1982)
- Structural Design Manual (April 1982)
- Pump Station Design Manual
- Debris Dams and Basins Design Manual (January 1983)

The Project Preparation Manual states that deviations from LACDPW design criteria as provided in the above manuals shall be submitted to the LACDPW for approval prior to use.

The LACDPW subsequently developed requirements for hydrologic design of flood control and stormwater management facilities. The following manuals were last updated in January 2006:

- Hydrology Manual (December 1991)
- Sedimentation Manual (June 1993)
- Addendum to the 1991 Hydrology/Sedimentation Manual (June 2002)

Santa Clara River and Major Tributaries Drainage Policy. The LACDPW has determined that the Santa Clara River Basin is a major source of sediment for coastal beaches. In addition, groundwater recharge provides a significant amount of water for the Santa Clarita Valley and should be maintained. Based on these needs, the LACDPW developed a drainage policy for the Santa Clara River as follows (LACDPW, 1993):

- The design of flood protection facilities for the Santa Clara River shall be based on:
  - LACDPW Capital Flood flow rates (50-year rainfall discharge, bulked only);
  - Soft bottom waterways with levees; and
  - Protective levees and additional facilities, such as drop structures or stabilizers as required, shall be designed using LACDPW criteria.
- The design of flood protection facilities for tributary streams to the Santa Clara River that have existing flood control improvements shall be compatible with these existing facilities.
- The soft bottom waterways shall be designed to maintain an equilibrium between sediment supply to the waterway and sediment transport through the waterway. In cases where a soft bottom waterway is subject to significant deposition due to high sediment supply or significant erosion due to lack of sediment supply, then the drainage concept shall be discussed with LACDPW prior to submitting plans.

Debris Production Zones. The Project area is located within debris production zones designated by LACDPW's Hydraulic/Conservation Division. Debris production zones are designated by the LACDPW for use in determining the bulking process and the sediment production rates in a drainage. The debris production zones are designated based on geologic, topographic, vegetative, and rainfall features. Specific debris production maps are provided in Appendix A of the LACDPW 1991 Hydrology Manual. The LACDPW has constructed and maintained several debris control and storm structures to minimize the chance of channels clogging with debris. Debris control structures, volumes, and transportation rates are provided in the LACDPW Sedimentation Manual.

Los Angeles Department of Public Works, Flood Control Division. The Flood Control Division within LACDPW is responsible for collecting and analyzing hydrologic data to support the design, operation, and maintenance of flood control facilities within Los Angeles County. Among other duties, the Flood Control Division performs hydrology and sedimentation studies; collects stream flow, precipitation, and evaporation data; forecasts rainfall runoff; and analyzes flood flows.

Hydromodification Control. Under part 4, section D.1 of the MS4 Permit, Los Angeles County was required to develop and implement numeric criteria for peak flow control in accordance with the findings of the Peak Discharge Impact Study analyzing the potential impacts on natural streams due to

impervious development. On January 31, 2005, the County adopted and submitted to the RWQCB an Interim Peak Flow Standard to be in effect until such time as a final standard could be adopted based on a completed study.

The intent of the Interim Standard, as described by the County in a letter, dated January 31, 2005, is to provide protection for natural streams to the extent supported by findings from the ongoing study, and consistent with practical construction practices. The Interim Peak Flow Standard adopted by the County is as follows:

> *The Peak Flow Standard shall require that all post development runoff from a 2-year, 24-hour storm shall not exceed the predevelopment peak flow rate, burned, from a 2-year, 24-hour storm when the predevelopment peak flow rate equals or exceeds five cubic feet per second. Discharge flow rates shall be calculated using the County of Los Angeles Modified Rational Method. The Peak Flow Standard shall also require that post development runoff from the 50-year capital storm shall not exceed the predevelopment peak flow rate, burned and bulked, from the 50-year capital storm.*

Proposed projects in Los Angeles County are required to meet the Interim Peak Flow Control Standard as a part of the development plan approval process for building and grading permits.

In addition to the Interim Peak Flow Standard, the Newhall Ranch Specific Plan Subregional Stormwater Mitigation Plan (SWMP; Geosyntec, 2008) that was approved by Los Angeles County provides an alternative performance standard for the Specific Plan projects (NRSP projects) that was developed to ensure the stability of drainages by maintaining sediment transport characteristics rather than relying solely on a "flow based" standard. The NRSP projects will be conditioned to require, as a project design feature, sizing and design of hydraulic features as necessary to control hydromodification impacts in accordance with this Newhall Ranch Specific Plan Subregional Stormwater Management Plan. The NRSP projects will comply with the following performance standard:

> *The erosion potential (Ep) of stormwater discharges from the Project shall be maintained within 20% of the target value in the tributary drainages that will receive post-development flows. The target erosion potential (Ep) will consider changes in sediment supply.*

The erosion potential (Ep) is a metric that measures the potential impact of modified flows on stream stability and substantial erosion, and has been developed as a means to define an in-stream performance standard and a "significance test" of the effectiveness of proposed hydromodification control strategies. An equivalently effective, similarly geomorphically referenced approach may be developed and applied in the future in place of the erosion potential approach.

The hydromodification performance standard will be met for all of the NRSP projects from the point of discharge to the tributary drainage channel downstream to the confluence of the tributary drainage with the Santa Clara River, and shall be achieved through on-site or in-stream controls, or a combination thereof.

6. EXISTING CONDITIONS

a. Existing Hydrology and Hydraulic Conditions Along the River

The Santa Clara River traverses the northern portion of the site that is located within a contributing drainage of 2,650 acres[5] of the overall 1,634-square-mile Santa Clara River basin watershed basin. This area represents less than 1 percent of the Santa Clara River basin and consists primarily of undeveloped property. Rainfall in the tributary area is an annual average of 17 inches and generally occurs in the winter months. Runoff flows to and through seven contributing drainage areas on the site via sheet flows and natural concentrated flows.

(1) Santa Clara River

(a) Flows, Velocity and Depth

The reach of the Santa Clara River adjacent to, and downstream of, the project site has perennial surface flows primarily created by tertiary treated effluent discharges from two upstream water reclamation plants operated by the County Sanitation Districts of Los Angeles County, and by urban runoff. The Santa Clara River is perennial downstream to approximately 3.5 miles downstream of the Los Angeles County/Ventura County line. Downstream of the County line, the Santa Clara River flows through the Piru groundwater basin where surface flows in the river are lost to groundwater. This ephemeral reach of the river is referred to as the "Dry Gap." Natural flows in the river only occur in the winter due to storm runoff and vary significantly from year to year. The flow line of the river is currently along the southerly bank.

The reach of the river within and adjacent to the project site has multiple channels (braided). High sediment loads, high bank erodibility, and intense, intermittent runoff conditions characterize this kind of system. Combined with the relatively flat gradient of the river at this point (less than 1 percent), the river has a high potential to aggrade (deposit sediment) at low flow velocities.

5 Psomas, *Mission Village Drainage Concept Report*.

The peak discharge rates, or flows (i.e., volume of water for a given time frame), for floods of different return periods (2-year, 5-year, 10-year, 20-year, 50-year,[6] 100-year) at the downstream end of the project site under existing conditions are shown in **Table 4.21-1, Discharge, Velocity, and Flow Area Changes by Cross-Section – 2- and 100-Year Interval Storm Events**. A 2-year event has a probability of occurring once every two years, while a 50-year flood event has a probability of occurring once every 50 years. The 2-year flood event would have modest flows, while the latter event would have much higher flows.

As shown, velocities and water surface elevations in the river vary from section-to-section based on various hydraulic and hydrologic parameters. In general, velocity and depth along the river will increase with higher discharge. An example of these relationships is provided in **Table 4.21-1**. The data indicates that velocities measured in feet per second (fps), more than double, on average, from the 2-year to the 100-year event, while depth increases approximately 10 times, on average. In contrast, discharge increases almost 23 times from the 2-year to the 100-year event. Velocity and water depth percent increases do not correspond to the percent discharge increases because the wide river channel allows flood flows to spread out with increasing discharge.

Table 4.21-1
Discharge, Velocity, and Flow Area Changes by Cross-Section
2- and 100-Year Interval Storm Events

Station (1)	Event	Q (cfs)	Velocity (fps)	Flow Area (ft^2)	Q100/Q2	A100/A2
39755	Q100	40,300	12.49	3,226.02	23.4	7.2
	Q2	1,720	3.83	449.51		
39605	Q100	40,300	14.46	2,786.9	23.4	8.3
	Q2	1,720	5.09	337.6		
39310	Q100	40,300	13.04	3,091.6	23.4	10.7
	Q2	1,720	5.93	290.0		
39100	Q100	40,300	16.06	2,509.8	23.4	5.2
	Q2	1,720	3.56	483.4		
38925	Q100	40,300	11.39	3,558.1	23.4	11.7
	Q2	1,720	5.64	304.7		
38710	Q100	40,300	8.73	4,659.1	23.4	10.0
	Q2	1,720	3.71	463.6		
38475	Q100	40,300	12.80	3,147.3	23.4	11.1
	Q2	1,720	6.08	283.1		
38300	Q100	40,300	16.59	2,429.7	23.4	8.4
	Q2	1,720	5.94	289.6		

6 Note this is not the 50-year Capital Flood (Qcap), which is based on a theoretical 4-day storm event occurring right after the watershed has been burned with the resulting flow rate being increased again by a bulking factor. For purposes of comparison, the predicted flow during the 100-year FEMA flood event at the Castaic Creek confluence is 31,300 cfs, while the County Qcap at this same location is 163,000 cfs.

Station (1)	Event	Q (cfs)	Velocity (fps)	Flow Area (ft^2)	Q100/Q2	A100/A2
38065	Q100	40,300	9.48	4,253.0	23.4	7.9
	Q2	1,720	3.19	539.6		
37810	Q100	40,300	12.99	3,102.3	23.4	8.5
	Q2	1,720	4.71	365.4		
37655	Q100	40,300	13.43	2,999.9	23.4	8.7
	Q2	1,720	5.01	343.5		
37390	Q100	40,300	13.41	3,004.6	23.4	7.8
	Q2	1,720	4.46	385.9		
37135	Q100	40,300	9.61	4,193.0	23.4	11.6
	Q2	1,720	4.76	361.7		
36930	Q100	40,300	7.62	5,287.8	23.4	9.0
	Q2	1,720	2.92	588.3		
36735	Q100	40,300	6.91	5,839.0	23.4	15.1
	Q2	1,720	4.46	385.9		
36515	Q100	40,300	5.50	7,327.6	23.4	10.9
	Q2	1,720	2.55	674.1		
36358	Q100	40,300	4.87	8,271.9	23.4	9.4
	Q2	1,720	1.95	880.9		
36239	Q100	40,300	5.31	7,590.3	23.4	11.1
	Q2	1,720	2.51	686.6		
36080	Q100	58,207	12.21	4,875.0	23.0	12.3
	Q2	2,527	6.37	396.5		
35845	Q100	58,207	8.77	6,633.5	23.0	13.2
	Q2	2,527	5.04	501.3		
35725	Q100	58,207	8.84	6,700.6	23.0	11.2
	Q2	2,527	4.21	600.8		
35515	Q100	58,207	9.92	7,257.8	23.0	8.9
	Q2	2,527	3.10	814.9		
35245	Q100	58,207	8.26	8,407.5	23.0	6.2
	Q2	2,527	1.87	1,348.5		
35040	Q100	58,207	8.59	6,776.4	23.0	10.2
	Q2	2,527	3.82	662.0		
34860	Q100	58,207	11.90	4,889.6	23.0	9.6
	Q2	2,527	4.97	508.9		
34720	Q100	58,207	13.20	4,408.5	23.0	10.8
	Q2	2,527	6.22	406.3		
34495	Q100	58,207	8.16	7,136.3	23.0	13.5
	Q2	2,527	4.78	528.6		
34310	Q100	58,207	6.71	8,670.58	23.0	18.4
	Q2	2,527	5.37	470.36		
34090	Q100	58,207	5.63	10,339.8	23.0	17.8
	Q2	2,527	4.36	580.1		
33880	Q100	58,207	4.84	12,034.4	23.0	20.6
	Q2	2,527	4.32	585.0		
33710	Q100	58,207	4.71	12,351.1	23.0	19.7
	Q2	2,527	4.03	626.4		
33500	Q100	58,207	4.39	13,269.0	23.0	14.8
	Q2	2,527	2.82	896.5		

Station (1)	Event	Q (cfs)	Velocity (fps)	Flow Area (ft^2)	Q100/Q2	A100/A2
33310	Q100	58,207	4.75	12,259.7	23.0	25.4
	Q2	2,527	5.23	483.1		
33115	Q100	58,207	6.36	9,149.2	23.0	9.4
	Q2	2,527	2.60	973.6		
32795	Q100	58,207	10.48	5,553.5	23.0	13.1
	Q2	2,527	5.97	423.4		
32605	Q100	58,207	11.52	5,055.2	23.0	11.5
	Q2	2,527	5.75	439.3		
32265	Q100	58,922	15.41	3,823.1	23.0	5.9
	Q2	2,558	3.97	643.9		
31875	Q100	58,922	7.49	7,869.5	23.0	10.0
	Q2	2,558	3.24	789.7		
31585	Q100	58,922	7.37	7,998.6	23.0	10.6
	Q2	2,558	3.40	752.6		
31360	Q100	58,922	7.71	7,642.4	23.0	9.0
	Q2	2,558	3.02	848.4		
31060	Q100	58,922	5.72	10,293.5	23.0	24.3
	Q2	2,558	6.03	424.0		
30720	Q100	58,922	4.35	13,538.5	23.0	23.8
	Q2	2,558	4.49	569.8		
30445	Q100	58,922	3.85	15,328.0	23.0	29.3
	Q2	2,558	4.89	523.0		
30095	Q100	58,922	3.83	15,435.1	23.0	14.0
	Q2	2,558	2.32	1,104.9		
29815	Q100	58,922	4.45	13,345.3	23.0	9.3
	Q2	2,558	1.79	1,428.3		
29565	Q100	58,922	4.50	13,227.4	23.0	6.9
	Q2	2,558	1.33	1,919.3		
29385	Q100	58,922	5.43	10,963.6	23.0	6.5
	Q2	2,558	1.52	1,686.6		
29140	Q100	58,922	8.64	6,819.6	23.0	9.7
	Q2	2,558	3.62	706.3		
28895	Q100	58,922	15.61	3,774.1	23.0	11.6
	Q2	2,558	7.86	325.5		
28695	Q100	58,922	25.81	2,283.1	23.0	4.2
	Q2	2,558	4.76	537.7		
28500	Q100	58,922	21.85	2,696.9	23.0	6.8
	Q2	2,558	6.48	394.5		
28280	Q100	58,922	14.46	4,074.3	23.0	5.5
	Q2	2,558	3.44	744.3		
28080	Q100	58,922	12.28	4,797.1	23.0	10.7
	Q2	2,558	5.68	450.4		
27925	Q100	58,922	11.84	4,985.0	23.0	8.9
	Q2	2,558	4.54	562.9		
27725	Q100	58,922	16.45	3,581.37	23.0	7.1
	Q2	2,558	5.09	502.11		
27545	Q100	58,922	19.42	3,034.2	23.0	6.3
	Q2	2,558	5.35	478.4		

Station (1)	Event	Q (cfs)	Velocity (fps)	Flow Area (ft^2)	Q100/Q2	A100/A2
27335	Q100	58,922	13.94	4,226.1	23.0	7.7
	Q2	2,558	4.65	550.5		
27155	Q100	58,922	15.42	3,879.1	23.0	6.6
	Q2	2,558	4.33	591.4		
26990	Q100	58,922	16.60	3,550.0	23.0	8.6
	Q2	2,558	6.18	414.1		
26780	Q100	58,922	17.96	3,331.7	23.0	6.9
	Q2	2,558	5.27	485.2		
26575	Q100	58,922	8.84	6,668.1	23.0	11.0
	Q2	2,558	4.24	603.8		
26355	Q100	58,922	9.72	6,411.1	23.0	13.1
	Q2	2,558	5.23	488.8		
26170	Q100	58,922	13.44	4,883.0	23.0	11.4
	Q2	2,558	5.98	428.0		
25965	Q100	58,922	17.18	3,508.5	23.0	5.5
	Q2	2,558	4.01	638.0		
25785	Q100	58,922	9.37	6,816.1	23.0	7.7
	Q2	2,558	2.91	880.3		
25600	Q100	58,922	9.79	6,984.6	23.0	10.9
	Q2	2,558	4.01	638.1		
25425	Q100	58,922	11.47	5,518.2	23.0	8.9
	Q2	2,558	4.11	622.5		
25215	Q100	58,922	11.58	5,377.9	23.0	14.5
	Q2	2,558	6.90	370.7		
25000	Q100	58,922	14.10	4,272.0	23.0	9.0
	Q2	2,558	5.36	477.1		
24795	Q100	58,922	13.88	4,518.9	23.0	10.7
	Q2	2,558	6.05	423.0		
24550	Q100	58,922	15.17	5,034.8	23.0	8.3
	Q2	2,558	4.22	605.8		
24335	Q100	58,922	14.04	5,304.5	23.0	11.2
	Q2	2,558	5.40	473.8		
23975	Q100	58,922	14.01	5,584.8	23.0	10.0
	Q2	2,558	4.57	559.9		
23755	Q100	58,922	12.64	6,112.3	23.0	12.8
	Q2	2,558	5.35	477.7		
23565	Q100	58,922	11.15	6,878.8	23.0	21.0
	Q2	2,558	7.81	327.7		
23365	Q100	58,922	9.79	7,598.0	23.0	16.0
	Q2	2,558	5.39	474.3		
23180	Q100	58,922	12.57	7,071.4	23.0	16.5
	Q2	2,558	5.97	428.6		
23000	Q100	58,922	16.41	3,589.9	23.0	4.9
	Q2	2,558	3.47	737.8		
22790	Q100	58,922	6.78	8,688.7	23.0	20.0
	Q2	2,558	5.90	433.4		
22600	Q100	58,922	12.78	6,378.9	23.0	11.5
	Q2	2,558	4.63	552.6		

Station (1)	Event	Q (cfs)	Velocity (fps)	Flow Area (ft^2)	Q100/Q2	A100/A2
22415	Q100	58,922	11.40	6,766.1	23.0	16.4
	Q2	2,558	6.19	413.3		
22195	Q100	59,457	12.33	4,822.0	23.0	12.7
	Q2	2,581	6.78	380.6		
22010	Q100	59,457	16.14	3,683.2	23.0	5.7
	Q2	2,581	4.02	642.5		
21790	Q100	59,457	15.88	3,745.0	23.0	5.8
	Q2	2,581	3.99	647.1		
21615	Q100	59,457	12.98	4,607.3	23.0	10.4
	Q2	2,581	5.82	443.3		
21440	Q100	59,457	14.63	4,065.2	23.0	8.6
	Q2	2,581	5.47	471.4		
21225	Q100	59,457	14.76	4,270.8	23.0	9.4
	Q2	2,581	5.68	454.6		
21020	Q100	59,457	12.33	5,479.6	23.0	9.6
	Q2	2,581	4.54	568.2		
20845	Q100	59,457	11.58	6,079.1	23.0	13.7
	Q2	2,581	5.81	444.3		
20595	Q100	59,457	10.49	7,086.3	23.0	12.1
	Q2	2,581	4.39	587.3		
20435	Q100	59,457	8.93	8,695.4	23.0	10.0
	Q2	2,581	2.96	873.0		
20280	Q100	59,457	11.68	6,518.8	23.0	15.7
	Q2	2,581	6.20	416.3		
20070	Q100	59,457	15.87	3,937.9	23.0	7.9
	Q2	2,581	5.16	500.6		
19855	Q100	59,457	13.97	4,384.3	23.0	8.5
	Q2	2,581	5.02	514.0		
19630	Q100	59,457	10.88	6,278.6	23.0	11.3
	Q2	2,581	4.65	555.2		
19440	Q100	59,457	9.02	7,627.1	23.0	11.6
	Q2	2,581	3.93	657.3		
19240	Q100	59,457	10.88	6,140.3	23.0	13.9
	Q2	2,581	5.86	440.8		
19050	Q100	59,457	7.65	8,794.9	23.0	14.5
	Q2	2,581	4.27	604.8		
18830	Q100	59,457	8.72	8,804.4	23.0	18.9
	Q2	2,581	5.54	465.9		
18650	Q100	59,457	7.72	9,802.3	23.0	22.4
	Q2	2,581	5.91	436.8		
18475	Q100	59,457	6.89	11,311.5	23.0	23.3
	Q2	2,581	5.31	486.1		
18290	Q100	59,457	6.80	11,250.5	23.0	27.6
	Q2	2,581	6.32	408.3		
18025	Q100	59,457	5.08	12,735.9	23.0	18.4
	Q2	2,581	3.72	693.6		
17785	Q100	59,457	5.06	11,816.4	23.0	13.1
	Q2	2,581	2.86	904.0		

Station (1)	Event	Q (cfs)	Velocity (fps)	Flow Area (ft^2)	Q100/Q2	A100/A2
17510	Q100	59,457	8.59	6,922.5	23.0	11.5
	Q2	2,581	4.29	601.8		
17360	Q100	59,457	10.50	5,689.1	23.0	9.9
	Q2	2,581	4.50	573.8		
17110	Q100	59,457	11.83	5,062.5	23.0	8.9
	Q2	2,581	4.53	569.7		
16970	Q 100	59,457	12.20	4,928.29	23.0	7.3
	Q2	2,581	3.84	672.05		
16720	Q 100	59,457	11.52	5,309.7	23.0	13.4
	Q2	2,581	6.52	395.9		
16515	Q 100	59,457	14.04	4,595.7	23.0	10.4
	Q2	2,581	5.84	442.0		
16305	Q 100	59,457	10.50	7,049.3	23.0	14.2
	Q2	2,581	5.18	497.9		
16130	Q 100	59,457	11.73	7,145.7	23.0	11.0
	Q2	2,581	3.96	651.2		
15960	Q 100	59,457	12.95	6,468.5	23.0	16.7
	Q2	2,581	6.68	386.2		
15745	Q 100	59,457	9.00	8,605.0	23.0	23.8
	Q2	2,581	7.14	361.3		
15540	Q 100	59,457	9.38	7,870.7	23.0	13.9
	Q2	2,581	4.55	567.1		
15335	Q 100	59,457	6.45	9,227.9	23.0	23.3
	Q2	2,581	6.52	395.6		
15125	Q 100	60,000	5.53	10,882.4	23.1	12.6
	Q2	2,600	3.01	862.8		
14900	Q 100	60,000	5.93	11,850.9	23.1	10.2
	Q2	2,600	2.25	1,157.3		
14720	Q 100	60,000	5.52	12,068.9	23.1	23.1
	Q2	2,600	4.98	522.1		
14480	Q 100	60,000	8.60	7,915.5	23.1	14.1
	Q2	2,600	4.64	559.8		
14315	Q 100	60,000	9.02	6,650.7	23.1	11.2
	Q2	2,600	4.37	594.8		
14090	Q 100	60,000	8.42	7,122.4	23.1	13.7
	Q2	2,600	5.00	519.7		
13635	Q 100	60,000	12.93	6,795.2	23.1	10.7
	Q2	2,600	4.11	633.2		
13425	Q 100	60,000	15.12	3,968.3	23.1	6.6
	Q2	2,600	4.32	601.6		
				MAXIMUM=	**23.4**	**29.3**
				MINIMUM=	**23.0**	**4.2**
				AVERAGE=	**23.1**	**12.1**

Source: PACE, 2007
cfs = cubic feet per second
*(1) Refer to **Figure 4.21-1** for Station location*

(b) Channel and Floodplain Conditions

The difference in elevation between the active channel bottom and the 100-year floodplain along the margins of the river varies greatly at the project site. This difference ranges from approximately 5.5 to 19.6 feet and is dependent upon the width of the river channel at a particular location. For example, in wider portions of the river channel where flows widen with corresponding low velocities, there is only a small elevation difference between the channel bottom and the adjacent floodplain boundary. In contrast, the channel is often deep where it is narrower, creating a large elevation difference between the channel bottom and the floodplain boundary.

The existing river channel contains a variety of vegetation types. The active river channel is mostly barren due to annual scouring. However, vegetation types on the adjacent terraces vary based on elevation relative to the active channel bottom and the frequency of flooding. Vegetation types are described below.

The substrate of the river channel (i.e., top layer of the river bottom) is primarily sand, which is actively eroded and deposited in flood events. Previous studies by the Los Angeles County Flood Control District have demonstrated that sediment deposition and scouring along the upper Santa Clara River are generally in equilibrium, and that there are no major trends of channel degradation or aggradation.[7] However, some localized areas may experience either greater scouring or deposition.

(c) Erosion and Sedimentation

The Santa Clara River flows through a complex, tectonically active trough formed by the Ventura anticline and San Gabriel Mountains, located to the northwest and southwest of the River, respectively. (Balance Hydrologics, 2005.) The northeastern and southeastern corners of the watershed are underlain by deeply weathered granitic and schistose rocks, which produce sands that are coarser than those of other rock units when they weather and erode. The San Gabriel fault crosses the valley, bringing slightly more resistant rock to the surface and creating a local base level reflected as a slight rise or "bump" on the River's longitudinal profile.

The existing floodplain generally consists of a natural alluvial river system and has multiple channels (braided channels) within and adjacent to the Newhall Ranch Specific Plan area. Bed material in the Santa Clara River is mostly composed of non-cohesive sands and gravels. Bank erosion is due to flow impinging upon the banks. This kind of system is characterized by high sediment loads, high bank erodibility, and intense and intermittent runoff conditions. Combined with the relatively flat gradient of

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7 Simons, Li & Associates, *Fluvial Study of Santa Clara River and the Tributaries Summary Report*. Prepared for Los Angeles County Department of Public Works, 1990.

the River through the Project Area (average slopes range from five to 0.5 percent), it has a high potential to aggrade (deposit sediment) at low velocities.

Based on study of the response of the Santa Clara River to several different anthropogenic and natural disturbances, Balance Hydrologics (2005) concluded that the sediment delivery within the River is highly episodic. Concepts of "normal" or "average" sediment-supply and flow conditions have limited value in this "flashy" environment, where episodic storm and wildfire events have enormous influence on sediment and storm flow conditions. In such streams, a large portion of the sediment movement events can occur in a matter of hours or days.

The PACE Fluvial Study (2006a) also provides an evaluation of the existing fluvial characteristics and long-term stability of the Santa Clara River between I-5 and an area generally west of the Los Angeles County/Ventura County line. The long-term riverbed adjustment analysis indicates that riverbed degradation is more prevalent in the upstream one-half of the study reach, while the downstream one-half appears to be stable or fluctuating around a mean elevation. This result is likely due to the relatively steep, narrow, winding upstream reaches versus the relatively flat, wide, braided channel in the downstream portion of the study reach.

Understanding how the River has responded to perturbation in the past is a useful tool for predicting its potential response to development within the watershed. Based upon information in the PACE Fluvial Study (2006a), several historic events since 1928 have had an impact on the riverbed and fluvial mechanics, but the system has since recovered. The failure of the St. Francis Dam in 1928 was the most significant historical event in the formation of the present bed condition. Within the Project reach, failure of the dam appears to have resulted in significant scour. Based on long-term topographical analysis, however, the riverbed appears to have mostly recovered from the dam flood scour (PACE, 2006a). The construction of Castaic Dam in 1974, which regulated approximately 25 percent of the watershed at the Los Angeles County/Ventura County line, cut off a significant supply of sediment to the Santa Clara River. This change, however, does not appear to have had a measurable effect on the channel dimensions of the Santa Clara River mainstem. The width of the active corridor, as well as the general form of the channel, is generally consistent both before and after construction of the dam. It appears that the Santa Clara River adjusted without morphological expression to absorb this change. One factor contributing to the lack of change is the seemingly large volume of sediment stored in the tectonic basin above the County line, a result of bedrock control associated with movement along the San Gabriel fault, which supports the large extent of semi-consolidated and alluvial deposits adjoining the drainage net. Small perturbations, which can potentially affect channel geometry, appear to have transitory or minor effects. For example, the effects on Santa Clara River channel width due to the construction of levees upstream of the Newhall Ranch Specific Plan area in the 1980s was barely discernible by 2005, probably mostly due to

morphologic compensation associated with the storm events in the mid- to late 1990s. As a result, the River's channel morphology, stability, and character is almost entirely determined by the "reset" events from large, El Niño-driven precipitation events that occur within the watershed every five to 15 years. (Balance Hydrologics, 2005.) Specifically, a reset flood event refers to the effect that large storm events have on the stability of local channel geomorphology and riparian vegetation. This reset condition occurred in 2005 following the 2004 through 2005 floods related to a pattern of heavy rainfall.

Evidence of episodic channel changes can be seen in the reach of the Santa Clara River within the Specific Plan area. Based on interpretation of a near-yearly sequence of aerial photographs from the last decade, the channel appears to maintain a consistent platform during average rainfall years (such as between 2000 and 2004). Large events (such as the 1998 and 2004 through 2005 stormflow events), however, can significantly modify the channel form. Specifically, extensive bank scour from the flood events in 2004 through 2005 has resulted in extensive fine sediment deposition within the existing Newhall Ranch reach of the Santa Clara River. Some of this bed material (fine sediment) is currently being transported through stream load downstream through the lower Santa Clara River. Hydraulic action from stream flow will eventually create various habitat structures (pools, riffles, backwater habitats) through this newly deposited substrate that will benefit aquatic species by providing in-stream cover and velocity refugia.

Existing Newhall Ranch site runoff conditions were calculated for each drainage area based on a Capital Flood design storm (clear and burned and bulked) by Sikand Engineering Associates (1996). According to Sikand Engineering Associates (1996), clear flows for 20,724 acres of the Santa Clara River watershed, including drainages contributing to the Specific Plan area reach, total 34,031 cubic feet per second (cfs), and burned and bulked flows total 52,729 cfs for a 50-year Capital storm. As such, the estimated total debris volume during a 50-year Capital storm was estimated to be 1,203,790 cubic yards (cy).

(d) Beach Replenishment

Ventura County has three major sources of beach sand: the Santa Clara River (contributing 60 percent), the other rivers and streams (*e.g.*, Ventura River) (10 percent), and beaches upcoast of the Ventura River (30 percent). The Santa Clara River exports an estimated 4.08 million tons per year from its mouth into the Santa Barbara Channel. The addition of new sand to the beaches is seasonal, occurring during rainy periods when the rivers' flow and sediments are washed into the ocean. The Santa Clara River is capable of depositing large quantities of sand during floods, but very little during dry years. For example, 52.4 million tons of sediment were discharged during the 1969 floods, floods that ended 30 years of relative drought when very little new sand was added to the beaches. This sand becomes part of the Santa Barbara littoral cell, in which the north to south littoral sediment transport terminates in the Mugu and Hueneme submarine canyons.

Sandy beaches are nourished largely by the weathering of coastal bluffs and dunes, and by fluvial transport of material to the sea. The maintenance of sandy beaches is critical because beaches serve as natural buffers between wave action and erodible uplands. Sandy beaches tend to dissipate wave energy, yet incur very little damage. Over the past 50 years, the supply of new sand to Southern California beaches has been greatly reduced by human activity. In Ventura County, beaches are eroding at the rate of 0.7 foot per year. Specifically, river sand has been restricted by dams in the watershed areas and mining of floodplain gravels by private industry. Approximately 37 percent of the Santa Clara River watershed is dammed. These dams trap river sediments and affect the natural supply of sediment to beaches. Dams are estimated to have reduced suspended sediment delivery by 21 percent. In the Santa Clara River, morphologic effects of dams may be the greatest in the reach downstream of both the Castaic and Piru Creeks; these effects presumably decrease near Fillmore, following significant sediment contributions from the unregulated Sespe Creek watershed. Sespe Creek provides the largest individual contribution of sediment through the Santa Clara River watershed.

Sediment loading from tributaries is difficult to precisely predict. This is because it depends on numerous factors besides the rate of supply of sediment from hill slope erosion. Prediction of sediment loading is further complicated by the fact that sediment delivery is episodic, depending on the frequency, magnitude, and timing of events such as storms, fires, landslides, and earthquakes. However, regional erosion rate data are available from the Los Angeles County debris detention basins, located on the southern side of the San Gabriel Mountains. For the past 30 years, the Ventura County Watershed Protection District has published regular updates on its monitoring and maintenance of debris basins and detention dams. The sediment data has recently been used to quantify how sand retention by the dams affects the supply of sand for beach formation and maintenance. According to this study, roughly 1,170 tons per square mile per year of suspended sediment originates from the area upstream of the Los Angeles County/Ventura County line[8]. Given this estimate, **Table 4.21-2** includes the approximate sediment currently supplied by the tributary watersheds located on the Mission Village tract map site in the Project area. Of the 4.08 million tons of sediment delivered to the Santa Clara River mouth each year, 3,451 tons of sediment originate from the project site. This is less than one-tenth of 1 percent (0.085 percent) of the sediment supply delivered by the Santa Clara River each year.

8 Sediment delivery upstream of the Los Angeles County/Ventura County line is reduced by dams located on Castaic Creek and Bouquet Creek and is less than the sediment delivery to downstream reaches following significant sediment contributions from the unregulated Sespe Creek watershed and the lower Santa Clara River subwatershed where weak Plio-Pleistocene siltstones predominate and presumably contribute to enhanced erosion.

Table 4.21-2
Estimated Annual Sediment Supply From
Tributaries Located on the Mission Village Tract Map Site

Tributary	Tributary Drainage Area (sq. mi.)*	Approximate Sediment Supply (tons/year)**
Dead-End Canyon	0.19	222
Exxon Canyon	0.03	35
Lion Canyon***	0.84	983
Magic Mountain Canyon	1.32	1,544
Middle Canyon	0.53	620
Unnamed Canyon D	0.04	47
TOTAL	**2.95**	**3,451**

Notes:
* *Tributary drainage areas from PACE 2008B.*
** *The sediment supply from each tributary drainage was calculated by multiplying the drainage area by the sediment product rate of 1,170 tons per square mile that was specified in Stillwater 2005 for the Santa Clara River watershed.*
*** *Includes the entire watershed area, including portions not on the Mission Village tract map site.*

(2) On-Site (Tract Map) Tributary Drainages

Tributary drainages on the Mission Valley tract map site include Middle Canyon, Magic Mountain Canyon, Dead End Canyon, Exxon Canyon, Lion Canyon and Unnamed Canyon D. **Figure 4.21-2, Mission Village Tributaries,** depicts the location of each of the tributaries.

(a) Flows, Velocity and Depth

Flows discharge from the tract map site to the Santa Clara River from approximately eight on-site areas (over 100 sub-basins). The acreage for each of the sub-basins is provided in **Table 4.21-3, Existing On-Site Drainages**. There are currently two existing drainage or erosion/sedimentation control improvements located within the site. The existing drainage infrastructure is two open channel facilities, one that runs along Magic Mountain Theme Park, and a second open channel that runs along The Old Road.

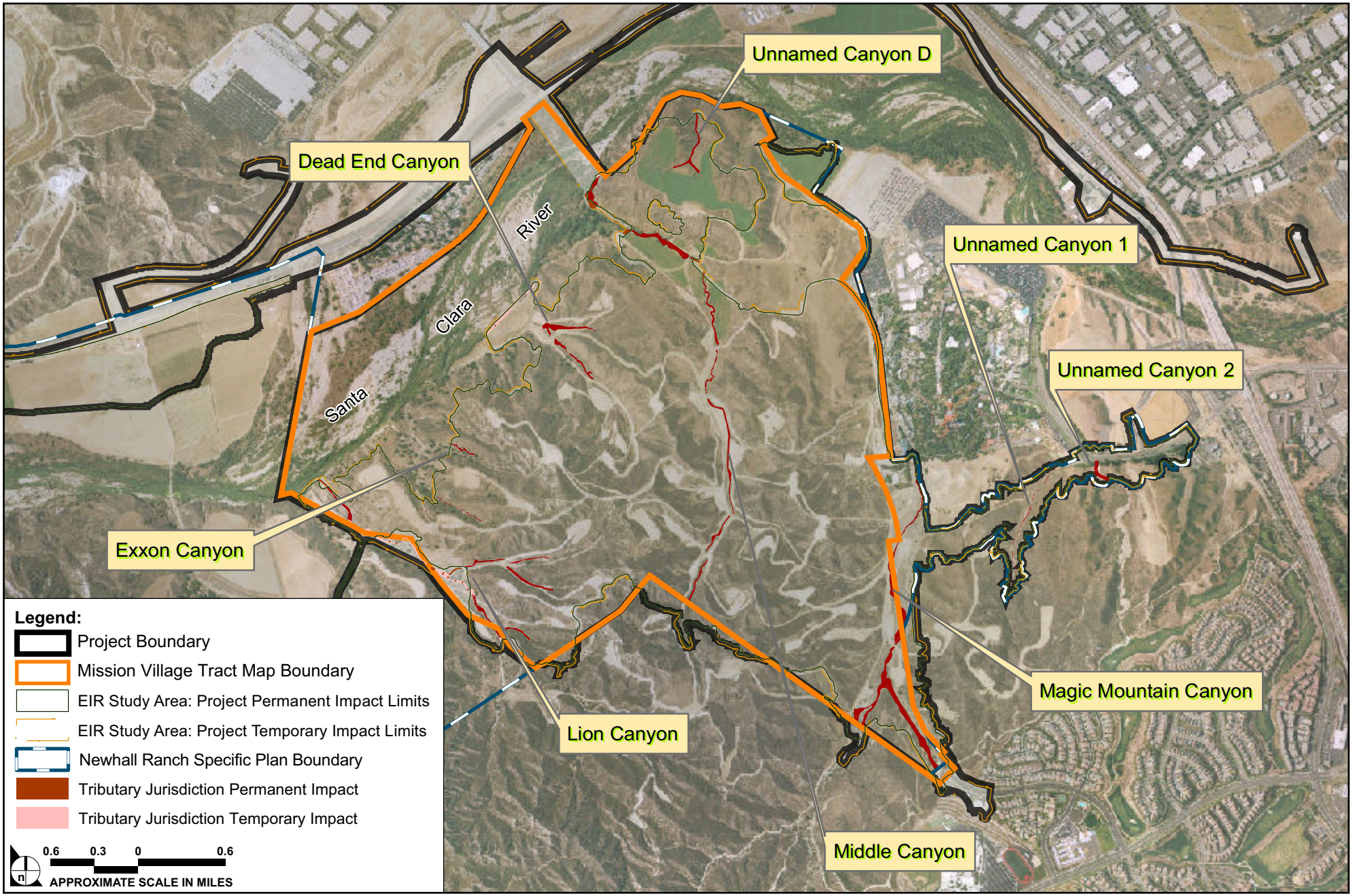
Table 4.21-3
Existing On-Site Drainages

Sub basins Area (AC) Qbb (cfs) Q/A (cfs/Ac)	Area (Ac)	Capital Storm Event	
		Qbb (cfs)	Q/A (cfs/Ac)
1-23 series	743.8	1,493	2.01
30-40 series	534.3	1,057	1.98
50 series	358.6	551	1.54
60 series	169.3	416	2.46
70 series	26.1	63	2.41
75 series	17.3	49	2.83
80 series	75.3	109	1.45
90 series	95.8	224	2.34
100 series	105.2	198	1.88
120 series	18.2	52	2.86
500 series	102.7	276	2.69
600 series	402.1	1,059	2.63
610 series	19.8	61	3.08
620 series	21.6	54	2.50
622 series	6.0	21	3.50
Total	**2,696.1**	**5,682**	**2.11**

Source: Psomas, 2010
Notes:
bb: Burned and bulked flow.
This was calculated by Sikand in the Newhall Ranch Specific Plan Master Hydrology and Drainage Concept, dated 6/29/99.

Project site runoff quantities for the capital flood for each of the eight existing drainages defined by Psomas are provided in **Table 4.21-3.** Under existing conditions, and during a Capital Flood event, combined flows from the project site to the river total 5,682 cubic feet per second (cfs).

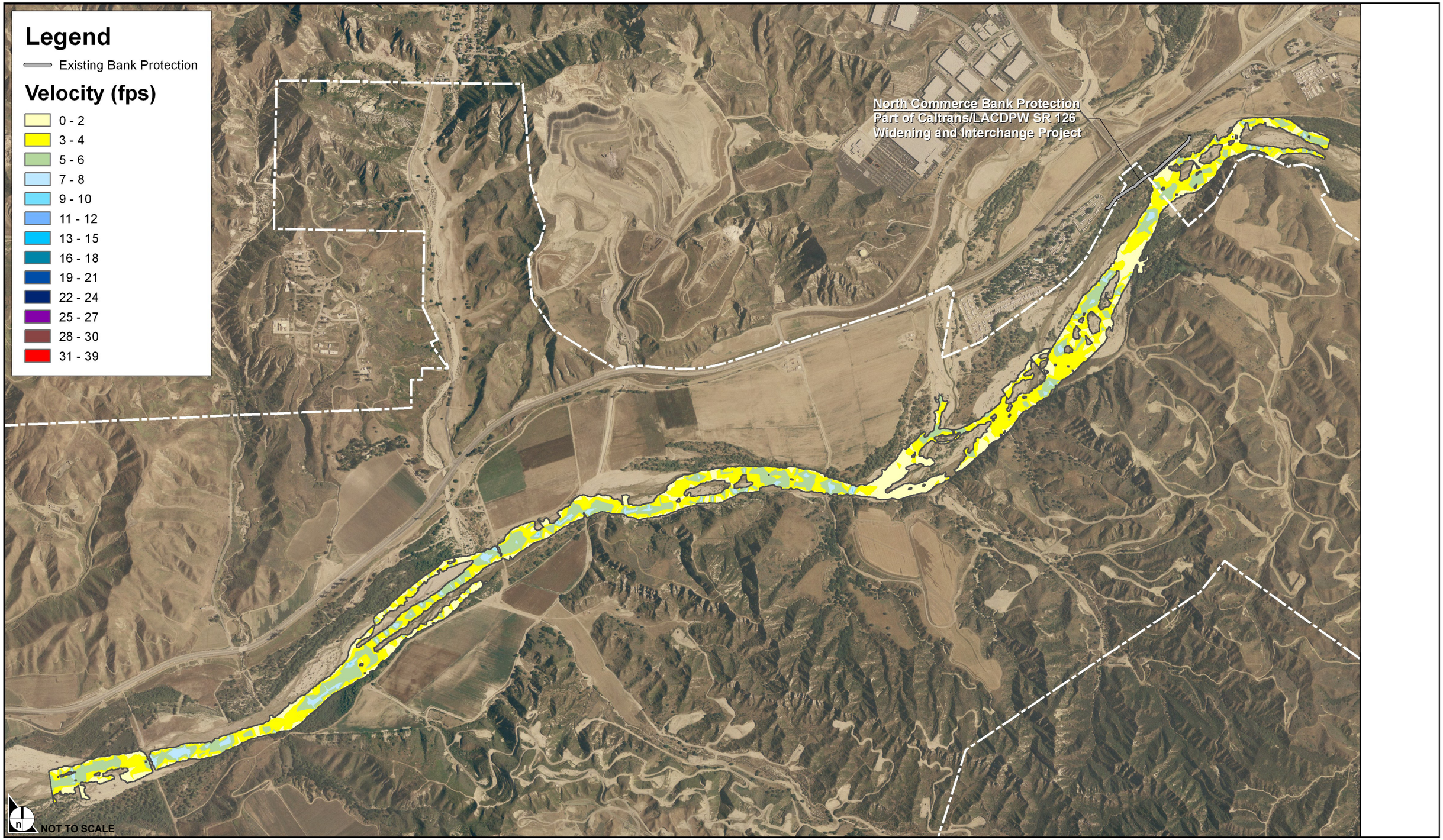
Existing flow rates from observed data at the project site during the 2-, 5-, 10- 20-, 50-, and 100-year interval storm events are compiled in **Table 4.21-4, Existing Conditions River Discharge Stations 32265 to 22195 Downstream of Castaic Creek Confluence**. Also please see **Figures 4.21-3a** through **4.21-3f,** which show the existing condition floodplain boundary and water velocity zone plots for the 2-, 5-, 10-, 20-, 50-, 100-, and capital storm events.



SOURCE: PACE, Impact Sciences, Inc. – September 2010

FIGURE **4.21-2**

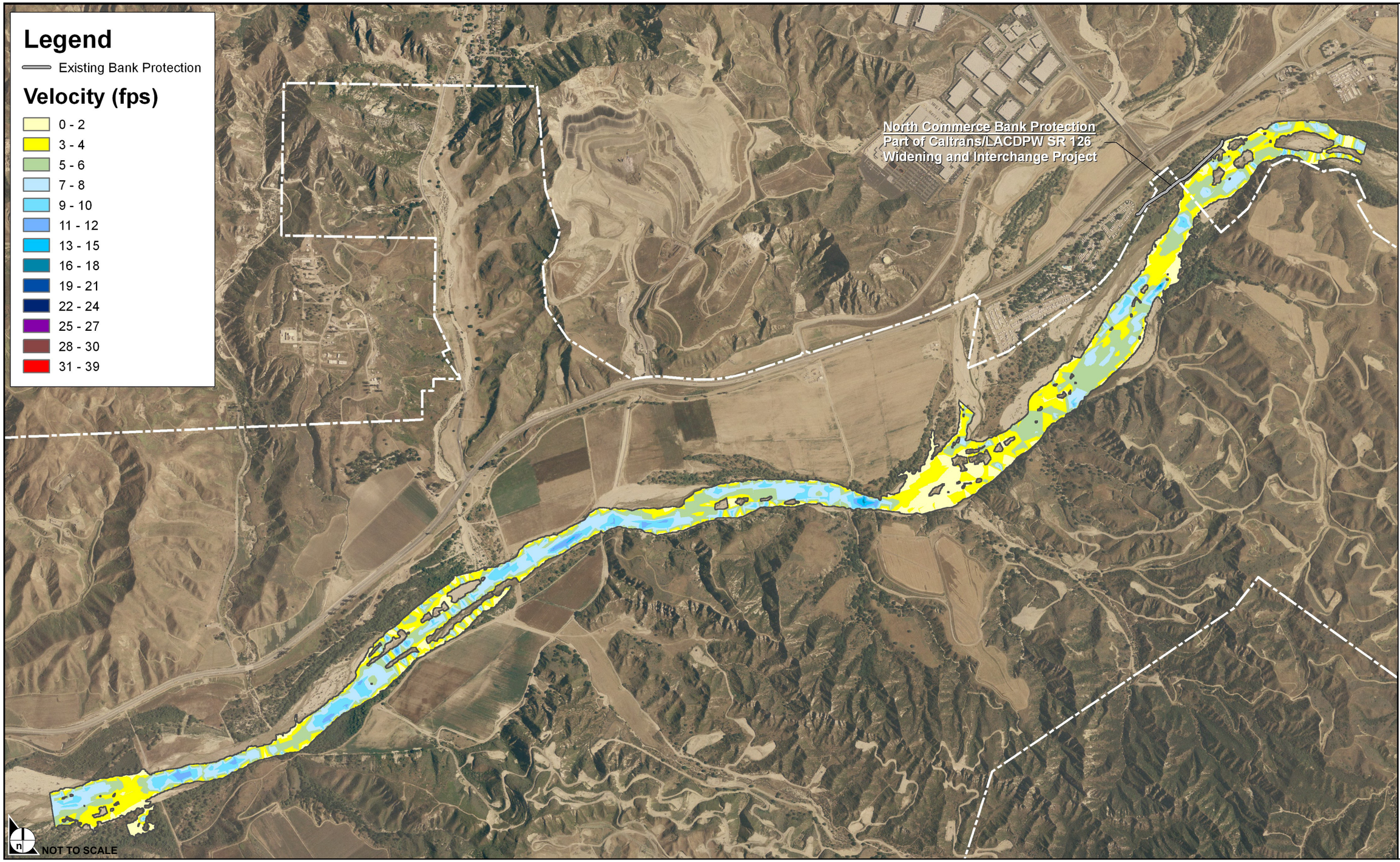
Mission Village Tributaries



SOURCE: PACE – November 2006

FIGURE **4.21-3a**

Existing Conditions - Santa Clara River 2-year Flood Event

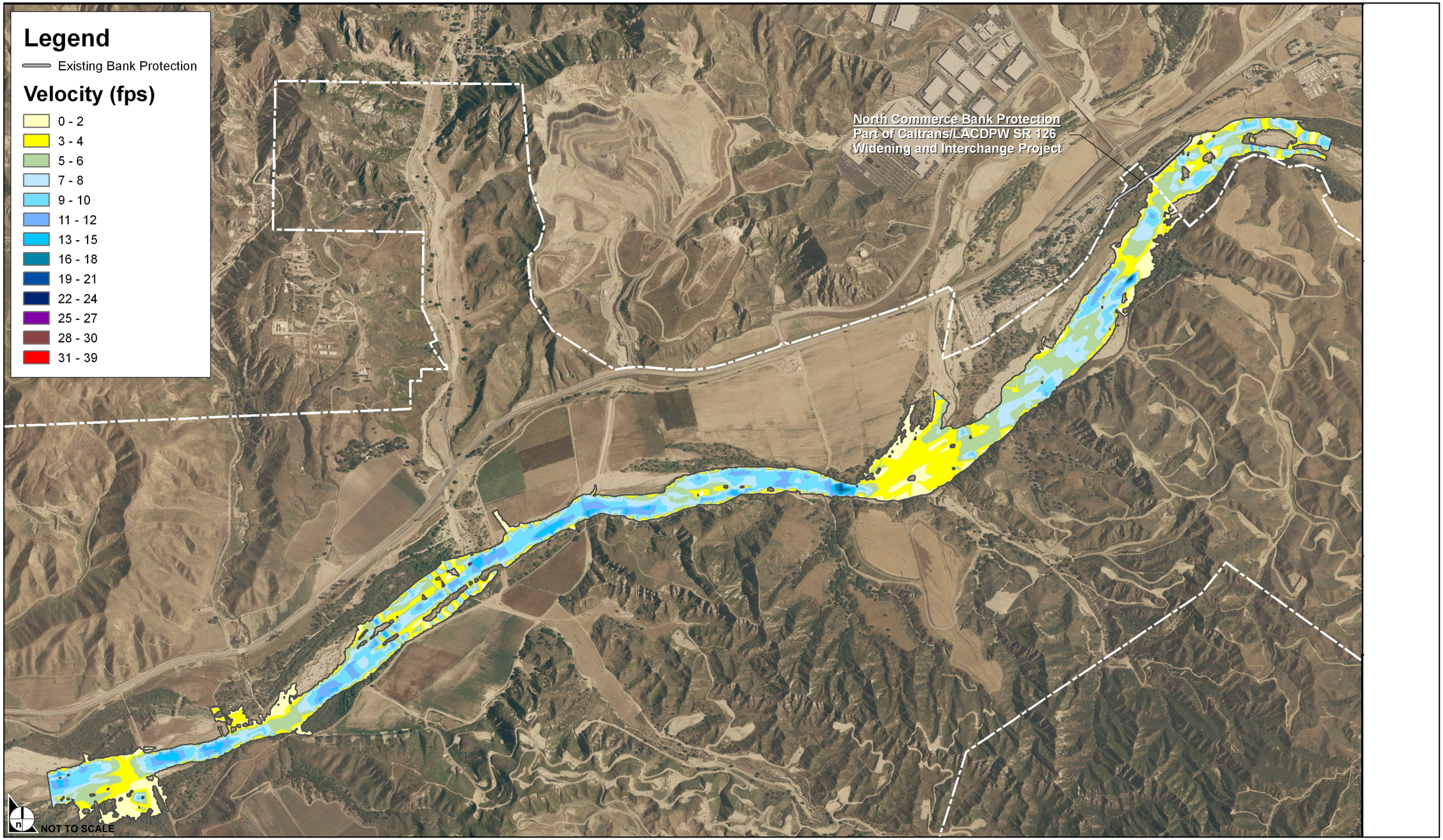


SOURCE: PACE – November 2006

FIGURE **4.21-3b**

Existing Conditions - Santa Clara River 5-year Flood Event

32-99•05/10

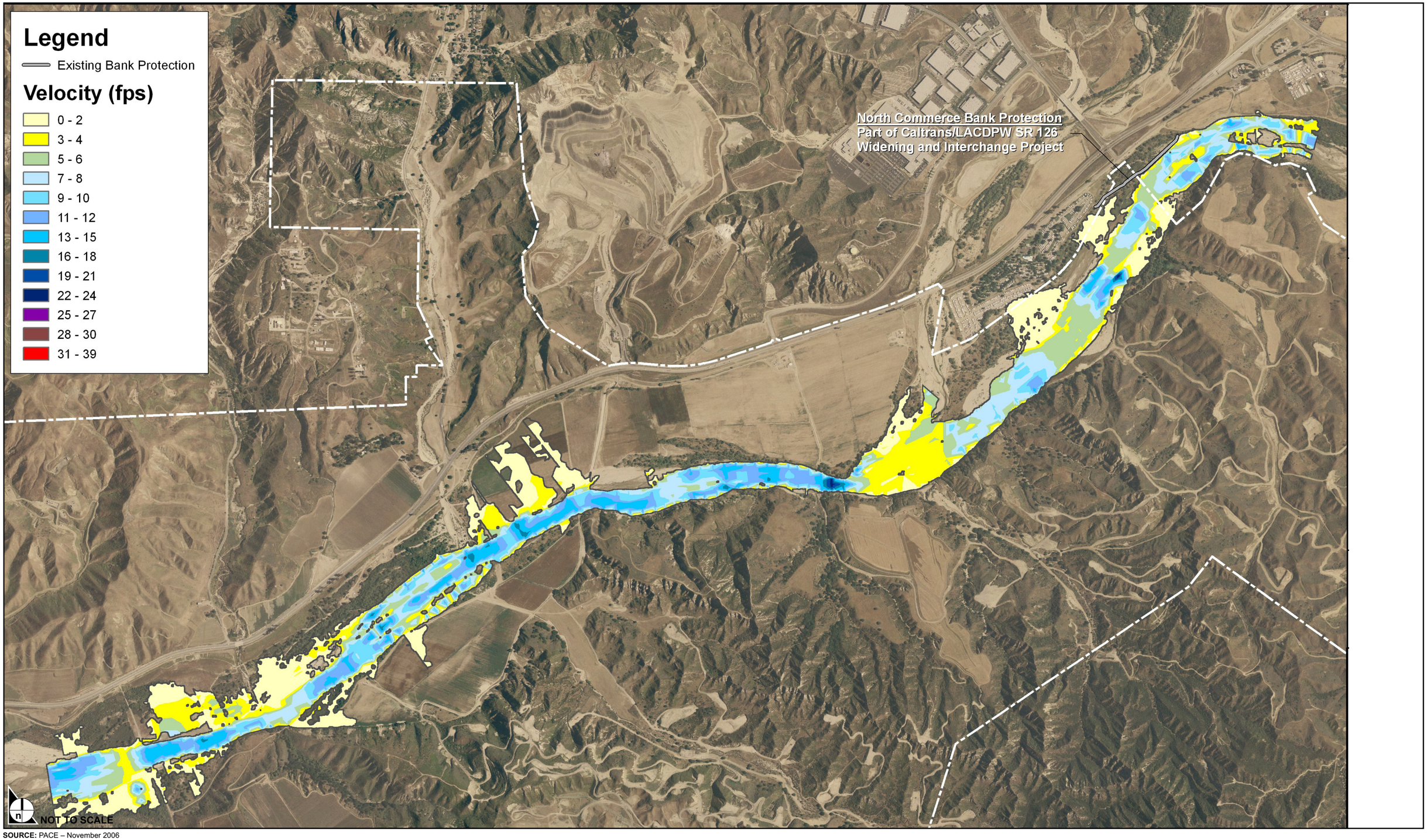


SOURCE: PACE – November 2006

FIGURE **4.21-3c**

Existing Conditions - Santa Clara River 10-year Flood Event

32-99•05/10

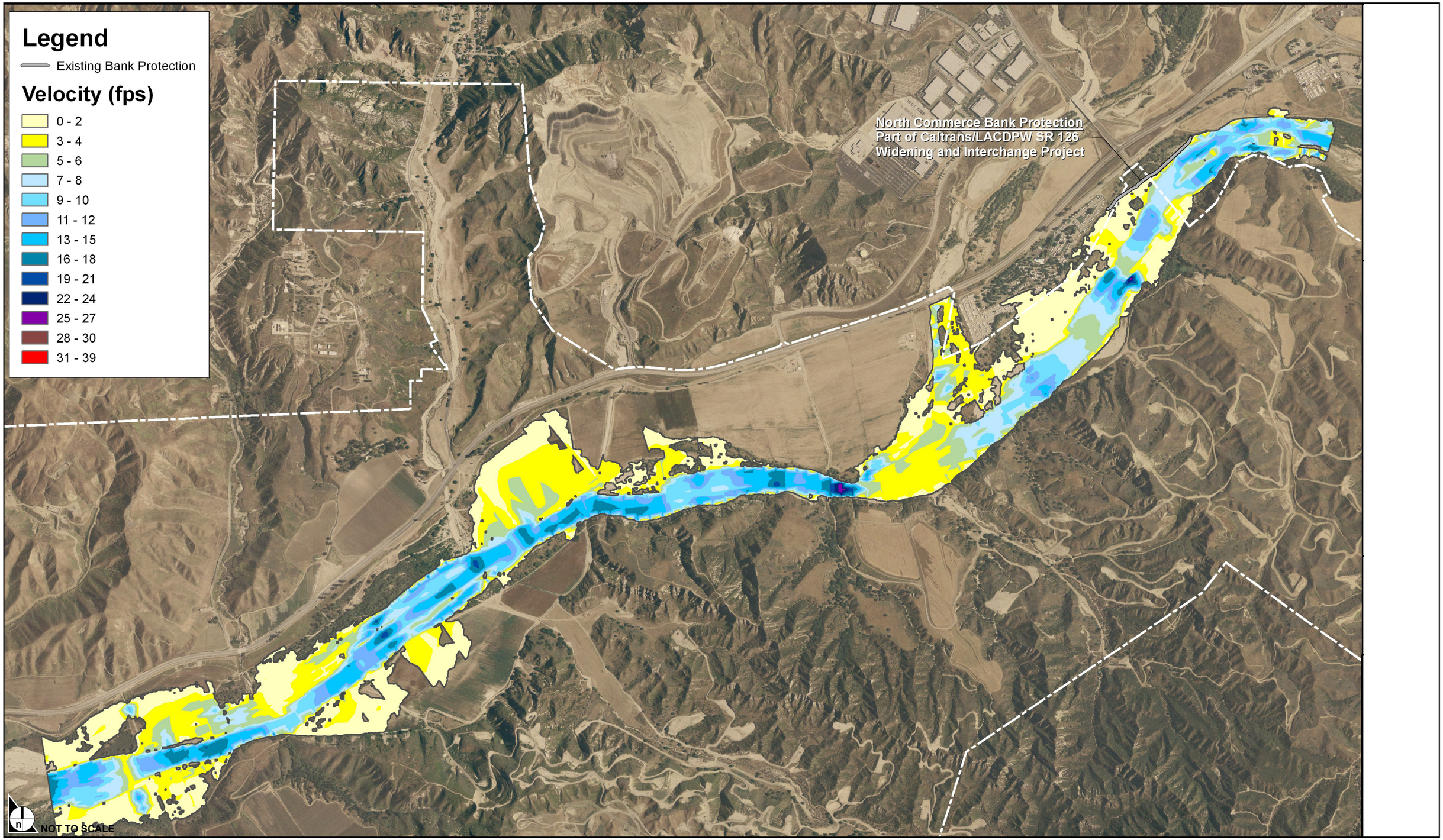


SOURCE: PACE – November 2006

FIGURE **4.21-3d**

Existing Conditions - Santa Clara River 20-year Flood Event

32-99•05/10

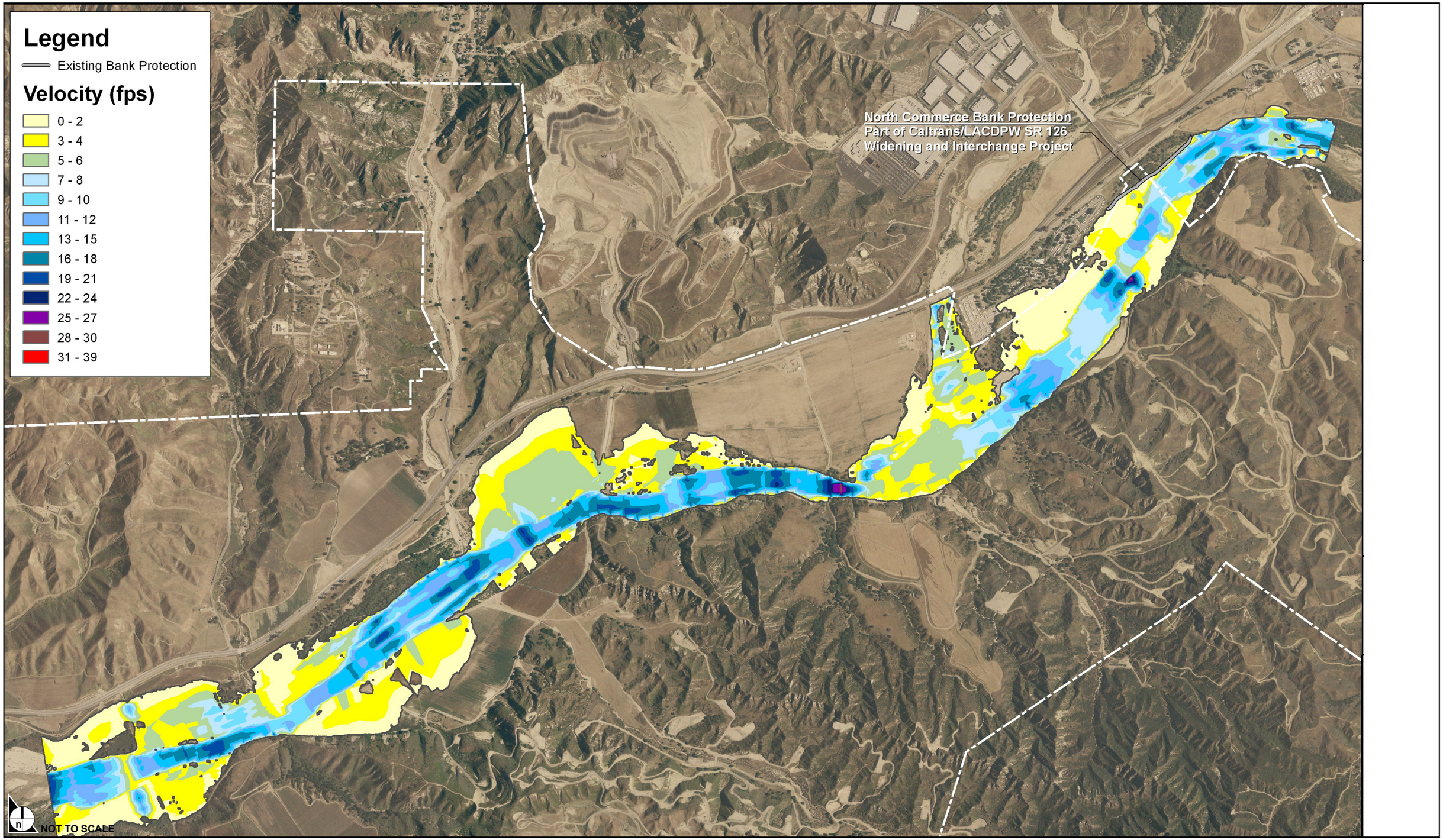


SOURCE: PACE – November 2006

FIGURE **4.21-3e**

Existing Conditions - Santa Clara River 50-year Flood Event

32-99•05/10



SOURCE: PACE – November 2006

FIGURE **4.21-3f**

Existing Conditions - Santa Clara River 100-year Flood Event

32-99•05/10

Table 4.21-4
Existing Conditions River Discharge Stations
32265 to 22195 Downstream of Castaic Creek Confluence

Recurrence Interval	Flow (Discharge) Rate (cfs)
2-Year[1]	2,527
5-Year[1]	8,232
10-Year[1]	14,942
20-Year[1]	24,157
50-Year[1]	41,141
100-Year[1]	58,207
Capital Flood[2]	163,000
Capital Flood[3]	140,776

Source: PACE, 2007.

[1] *Existing flows from United States Army Corps of Engineers, Santa Clara River Adopted Discharge Frequency Values. Adopted May 3, 1994, by the United States Army Corps of Engineers and the Ventura County Flood Control Department.*

[2] *LACDPW published Capital Design Flows.*

[3] *Q_{CAP} used in the Specific Plan EIR.*

(b) Erosion and Sedimentation

As discussed above, sandy beaches are nourished by fluvial transport of sediment towards the ocean. The tributaries to the Santa Clara River export a large percentage of the total sediment load to the River, which is then transported to the Santa Barbara Channel and area beaches.

The geomorphology of the active tributaries to the Santa Clara River on the Mission Village tract map site are generally characterized as highly variable and sinuous alignments reflective of the influence of the physical and topographic features. There is also a high degree of variation of the active channel geometry (*i.e.*, width and depth) along these relatively short channel reaches. In general, the active portions of the creeks are more deeply incised below the canyon valley floors. The floodplains are generally entirely contained within the active creek banks and there is little over-bank flow. The changes in creek geometry and form may indicate influences from the upper watersheds that affect the sediment delivery. The change in channel geometry is also reflected in coincidental variations of the streambed slopes, *i.e.*, the slope variations are generally higher in the contractions of the channel geometry and flatter in the expansion areas, upstream and downstream.

Generally, the soils in the tributary watersheds are characterized as silty clay loams from both the Castaic and Saugus Formations. Also, the soils within the watersheds are predominately classified as hydrologic soil Type C (higher runoff potential) with the exception of areas adjacent to the main stem creek that are soil Type A (lower runoff potential) and soil Type B in the lower reaches (Geosyntec, 2008). The associated vegetative cover within the watersheds varies, but primarily consists of native grasses, chaparral, scrub oak, and sage brush.

Lion Canyon is the primary tributary on the Mission Village tract map site and has a watershed area of 0.8 square mile that drains westerly into the bank of the Santa Clara River. The watershed is currently used for a combination of cattle grazing and oil production. Lion Canyon has steep headwaters (above the project boundary) that supply large amounts of sediment into the aggrading upper reach, producing an undersized, transport-limited channel. Aggradation continues downstream producing a well-connected and vegetated floodplain. There is a short stable reach with mature oaks upstream of another aggradational reach which terminates at an existing culverted road crossing. There is a very sharp transition from aggrading to eroding conditions downstream of the road crossing, which acts as a grade control protecting the upper reaches from headcutting and incision. Downstream of the culverted road crossong is a 12-foot-high knickpoint (bedrock outcrop) and a reach of deeply incised channel with some failing banks. This reach opens up into a wider section that historically incised material derived from the right hillside (identified by the geotechnical assessment as a former quarry spoil deposit). This material constrained the channel and deflected it to the left bank where it is actively eroding and causing slab failures. Despite the longer-term appearance of incision, the bed shows recent signs of aggradation. Downstream the channel remains historically incised with erosion on the outside bends, local bed aggradation, and the formation of a small new floodplain on the inner bends. The right valley side looking downstream is undercut by the creek, creating a high unstable slope. This reach terminates in an 8-foot-high knickpoint suggesting that the channel is currently eroding the bed sediment deposited in the 2004–05 floods.

(3) Off-Site Drainages

The total contributing drainage area that drains through the project site is approximately 2,690 acres. This runoff flows to and through the project site via sheet flows and natural concentrated flows. The capital flood on the river is approximately 140,776 cfs at the Castaic Creek confluence. The project site peak existing (burned and bulked) flow rate is approximately 5,682 cfs. Therefore, capital flood flows from the project site are approximately 4 percent of the river capital flood discharge rate.

In addition to the 2,690-acre drainage area, there are four jurisdictional drainages located in the vicinity of the project, excluding the Santa Clara River. These include Castaic Creek, Chiquito Canyon Creek, San Martinez Grande Canyon Creek, and Potrero Canyon Creek.

b. Existing Riparian Habitat Along the River

(1) Santa Clara River

The Santa Clara River corridor supports riparian habitat consisting of woody vegetation along the margins of the active channel and on the floodplain. The key characteristics of the dominant riparian habitat in the river corridor at the project site are summarized in **Table 4.21-5, Summary of Dominant Wetland and Riparian Habitat Types in the River at the Specific Plan Site**.

Figure 4.21-4, Habitats in the Santa Clara River, illustrates the location of different types of vegetation found in and adjacent to the river along the study corridor. The density, biomass, and location of the vegetation in relation to the channel bottom are directly dependent upon the frequency of disturbance by flood flows. A summary of the frequency of disturbance is provided in **Table 4.21-6, Summary of Flood Disturbance Frequencies for Dominant Wetland and Riparian Habitat Types in the River**. Successional mule fat scrub occupies the active channel and is disturbed annually by flows. This habitat also includes all aquatic features such as infrequent pools and flowing water, as well as most of the emergent wetlands in the river corridor because of the occasional presence of water. In contrast, cottonwood willow forest is located above the active river channel and is only flooded during infrequent events, which allows large shrubs to become established between disturbance events.

Table 4.21-5
Summary of Dominant Wetland and Riparian Habitat Types in the River at the Specific Plan Site

Habitat	Dominant Species	Structure	Location in the Floodplain	Height Above Channel Bottom (ft)
Alluvial Scrub	Sagebrush and scalebroom	Open, sparse mixture of shrubs.	Upper dry terraces; old braided channels.	8
Arrow weed scrub	Arrow weed	Dense monoculture.	Upper terraces.	8
Cottonwood willow forest	Fremont cottonwood and red willow	Mature woodland with large overstory trees and dense understory.	Upper terraces, near or at upland boundary.	9.5
Riverwash	Mule fat, sandbar willow, tamarisk, scalebroom, sandwash groundsel, big saltbush and Great Basin sagebrush	Highly variable because of the dynamic nature of vegetation growth within the river channel. The plant composition within the river channel can change from year to year.	River channel.	0–2
Mule fat scrub; contains some wetland areas	Mule fat, giant reed, arrow weed, and tamarisk	Moderately dense shrubs, 6 to 10 feet in height; patches of emergent wetlands.	Terrace adjacent to active channel.	5.5
Successional mule fat scrub (includes aquatic and wetland habitat)	Mule fat, giant reed, narrow-leaf willow	Mostly barren with scattered small shrubs; flowing water; pools; emergent wetlands.	Active channel that is continually disturbed by flows.	1.5
Willow woodland	Red and arroyo willow, Freemont cottonwood	Mature woodland with large overstory trees and dense understory.	Upper terraces, near or at upland boundary.	9
Willow scrub	Arroyo willow	Dense willow plants, 10 to 12 feet in height.	Mid-level terraces.	6.5

Source: Impact Sciences.

Table 4.21-6
Summary of Flood Disturbance Frequencies for
Dominant Wetland and Riparian Habitat Types in the River

Habitat	Frequency of Inundation and Disturbance by Flood Flows (years)
Alluvial scrub	20–50
Arroweed scrub	15–20
Cottonwood willow forest	15–20
Mule fat scrub	10–15
Successional mule fat scrub	Annually
Willow woodland	20–30
Willow scrub	10–15

Source: Impact Sciences, Inc.

The Santa Clara River provides year-round and seasonal aquatic habitats that are described in **Table 4.21-7, Summary of Aquatic Habitats in the Santa Clara River**. All aquatic habitats are subject to periodic disturbances from winter flood flows. These flows inundate areas that are dry most of the year. They also carry and deposit sediments, seeds, and organic debris (e.g., stems, downed trees). New sandbars are formed and old ones are destroyed. Stands of vegetation are eroded by high flows, and new areas are created where vegetation becomes established by seeds or buried stems. Flows can change the alignment of the low flow channel, the number and location of pools, and the depth of pools when flows are present. In years with low winter flows, there may be very little change in the aquatic habitats of the river. In such years, wetland vegetation along the margins of the low flow channel would increase. In high flow years, this vegetation would be removed, but would become re-established during the spring and summer due to natural colonization processes. As can be seen, the aquatic habitats of the river are in a constant state of creation, development, disturbance, and destruction. The diversity of habitat conditions in the river at any one time supports a variety of aquatic invertebrates, aquatic plants, and fish when flows are present.

Legend:

100 YEAR FLOODPLAIN LIMITS

NEWHALL RANCH
SPECIFIC PLAN BOUNDARY

HABITAT TYPES

- AGRICULTURAL
- ALLUVIAL SCRUB
- ARROW WEED SCRUB
- COASTAL SAGE SCRUB
- COASTAL SAGE/GRASSLAND
- ELDERBERRY SCRUB
- VALLEY FRESHWATER MARSH
- GRASSLAND
- GRASSLAND/DISTURBED
- DISTURBED
- GREAT BASIN SCRUB RIPARIAN
- GREAT BASIN SCRUB RIPARIAN ADJACENT
- SO. COTTONWOOD/WILLOW RIPARIAN FOREST
- SO. COTTONWOOD/WILLOW UPLAND FOREST
- GRASSLAND RIPARIAN
- COAST LIVE OAK WOODLAND
- COAST LIVE OAK WOODLAND/MIXED CHAPARRAL
- MIXED CHAPARRAL
- MULE FAT SCRUB
- MULE FAT SCRUB/DISTURBED
- SUCCESSIONAL MULE FAT SCRUB
- SCALEBROOM SCRUB
- SOUTHERN WILLOW RIPARIAN WOODLAND
- SOUTHERN WILLOW SCRUB

Los Angeles Co. / Ventura Co.

Chiquito Canyon

San Martinez Grande Canyon

Castaic Creek

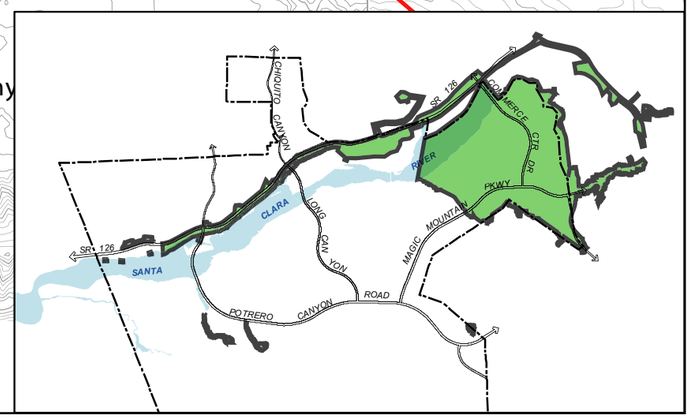
Mission Village

Lion Canyon

Long Canyon

Salt Creek Canyon

Potrero Cany



2600 1300 0 2600

APPROXIMATE SCALE IN FEET

SOURCE: FORMA/Impact Sciences, Inc. – June 2005

FIGURE **4.21-4**

Habitats in the Santa Clara River

Table 4.21-7
Summary of Aquatic Habitats in the Santa Clara River

Habitat Type	Description	Source of Water	Frequency of Disturbance
Low-flow channel	Highly variable depth, dimensions, and locations. Emergent wetlands form along edges each spring and summer. Mostly sandy substrate with unstable banks. Mostly exposed runs and scattered riffles. Shallow depth (<1 ft).	Year-round treated effluent and winter runoff.	Annual disturbance from flood-related flows. Daily changes in water depth and flow due to variable effluent flows.
On-channel pools	Small, scattered pools (less than 20 ft long) that form in the main channel in response to debris dams or sandbars. Emergent wetlands and young woody willows along margins. Shallow depths (<1 ft).	Year-round treated effluent and winter runoff.	Annual disturbance from flood-related flows. Daily changes in water depth and flow due to variable effluent flows.
Off-channel pools	Highly variable size. Generally <2-ft depth. Vegetation along the margin may be dense emergent or riparian shrubs, or in some areas, absent.	Groundwater seepage.	Inundation by flood flows every 1–2 years.
Road crossing ponds and plunge pools	Six at-grade river crossings create upstream ponds and downstream plunge pools with depths of 3 feet. Aquatic vegetation along the margins.	Year-round treated effluent and winter runoff.	Annual disturbance from flood-related flows. Crossings are re-built every year.
Winter secondary channels and overflow areas	Highly variable areas where winter flood flows occur when the low-flow channel is full. Ranging from discrete channels to sheet flow areas. Usually containing young mule fat scrub.	Winter flood-related flows. Ephemeral aquatic features. May only persist for several days to weeks after a flood.	Inundation and scouring every 1–2 years.
Tributary channels	Highly variable channels that convey water from tributaries to the river channel. Usually small channels with slow moving water, except during the winter. Often densely vegetated with wetlands.	Winter flows, and occasional seepage flow from side canyons. Ephemeral flows.	Disturbance each year from flood flows in the tributaries.

Source: Impact Sciences, Inc.

The year-round effluent-dominated flows in the river have enhanced the aquatic habitats and species in the river. Under natural conditions, there would be very little, if any, open water in the river during the summer. The presence of a year-round source of water provides more habitat for aquatic species and fish, and thereby supports greater populations than would occur under natural conditions. Larger populations in the project area enhance the probability of these species persisting during or after adverse events, such

as significant droughts or catastrophic flooding. See EIR **Section 4.3, Biota**, for information regarding sensitive species and their habitat.

(2) Tributaries

This section provides a summary of the riparian habitat and other biological resources found in tributary drainages within the Mission Village tract map area. For detailed information on these resources, please refer to **Section 4.3, Biota**, of this EIR.

Lion Canyon. The upper reaches of the Lion Canyon watershed, which contains several branches, contains mostly undifferentiated chaparral, coastal sage, and California sagebrush scrub – California buckwheat. Along the channel, alluvial scrub, coast live oak woodland, grassland, scalebroom scrub, and chamise chaparral are present. The two easternmost branches of this drainage also contain big sagebrush scrub, which is absent from the watershed of the western branch (Dudek 2006C).

Middle Canyon. This watershed is dominated by California sagebrush scrub and California sagebrush scrub – California buckwheat, with small pockets of undifferentiated chaparral and California annual grassland. The stream channel flows through California annual grassland, agricultural areas, alluvial scrub, big sagebrush scrub, and coast live oak woodland. Freshwater marsh and southern cottonwood-willow riparian forest is present at the Santa Clara River confluence (Dudek 2006C). Additionally, the Middle Canyon Spring, a unique slope wetland, is located on an upper terrace along the southern bank of the Santa Clara River, just downstream from the confluence with Middle Canyon. Discharge from the spring supports riparian habitat including a dense, mature southern cottonwood–willow riparian forest that surrounds the core spring area.

Magic Mountain Canyon. The small segment of this drainage that passes through the project site is surrounded by California sagebrush scrub, California sagebrush scrub – California buckwheat, California sagebrush scrub – purple sage, and big sagebrush scrub, with undifferentiated chaparral, California annual grasslands, agricultural areas (Dudek 2006C). This drainage flows into a concrete lined channel that flows through the existing Six Flags Theme Park before exiting into the Santa Clara River.

Dead-End Canyon. This watershed consists almost exclusively of California sagebrush scrub, California sagebrush scrub – purple sage, California sagebrush scrub – California buckwheat, undifferentiated chaparral, and big sagebrush scrub, although isolated pockets of California annual grassland, elderberry scrub, river wash, southern cottonwood-willow riparian forest, and coast live oak woodland are present as well (Dudek 2006C).

Exxon Canyon. This drainage is dominated by California sagebrush scrub, California sagebrush scrub – purple sage, California buckwheat, big sagebrush scrub, coast live oak woodland, and undifferentiated chaparral. On branches, alluvial scrub and California annual grasslands are also present along the stream channel. Herbaceous wetlands and river wash can be found at the confluence of the Exxon Canyon drainage and the Santa Clara River (Dudek 2006C).

Unnamed Canyon D. The associated vegetative cover within the Unnamed Canyon D watershed consists of California sagebrush scrub, valley oak woodlands, southern cottonwood-willow riparian forest, California annual grasslands, and agriculture areas (Dudek 2006C).

7. PROPOSED PROJECT IMPROVEMENTS

a. Flood Protection

The proposed project would provide flood, erosion control and drainage improvements that would occur in and adjacent to the River Corridor SMA/SEA 23, including bank stabilization and various storm water drainage outlet structures. The project also includes construction of the Commerce Center Drive Bridge across the river, which would involve bridge abutments and piers. The project utilizes innovative techniques to meet the requirements of flood control while maintaining the natural resources within the Santa Clara River. Traditional flood control techniques in use within Los Angeles County rely upon reinforced concrete or grouted rock riprap to minimize erosion while maximizing the volume of flood flows carried by the drainage. While exceedingly efficient as a flood control technique, this approach retains none of the natural resource value.

In contrast, the drainage plan for the proposed project provides drainage and flood control protection to developed uses while preserving the river as a natural resource. **Figure 4.21-5**, **Bank Stabilization – Typical Cross Section**, depicts typical cross sections for the buried bank stabilization concept. As shown, this approach uses soil cement that is buried beneath the existing banks of the river. Disturbed areas are then revegetated with native plant species maintaining the natural habitat presently found along the river.

A total of approximately 2,150 linear feet of bank stabilization would be constructed as part of the Mission Village project on the south side of the Santa Clara River, including 450 linear feet at the Lion Canyon outlet structure confluence with the Santa Clara River. Refer to **Figure 4.21-6, Location of Commerce Center Drive Bridge and Proposed Bank Stabilization**, for a graphic depiction of the location of buried bank stabilization.

The bank stabilization along portions of the southerly side of the Santa Clara River would be designed and constructed to retain the river's significant riparian vegetation and habitat, to allow the river to continue to function as a regional wildlife corridor, and to provide flood protection pursuant to Los Angeles County standards. Additionally, approximately 16,000 linear feet of turf reinforcement mat or a similar bank stability protection would be installed along the southern edge of the utility corridor from the western end of the project site to the easterly end of the previously approved Newhall WRP.

The buried bank stabilization approach uses either buried soil cement, ungrouted rock riprap, or concrete gunite slope lining, which is buried beneath the existing banks of the river to resist scouring. The following guidelines will be applied in selecting the proper revetment system:

- Buried soil cement bank protection will be used in situations where the stream velocities are high or where there is the potential for lateral bank migration based on stream characteristics. Alternatively, buried ungrouted riprap will be used if in situ soils do not meet soil cement design requirements.

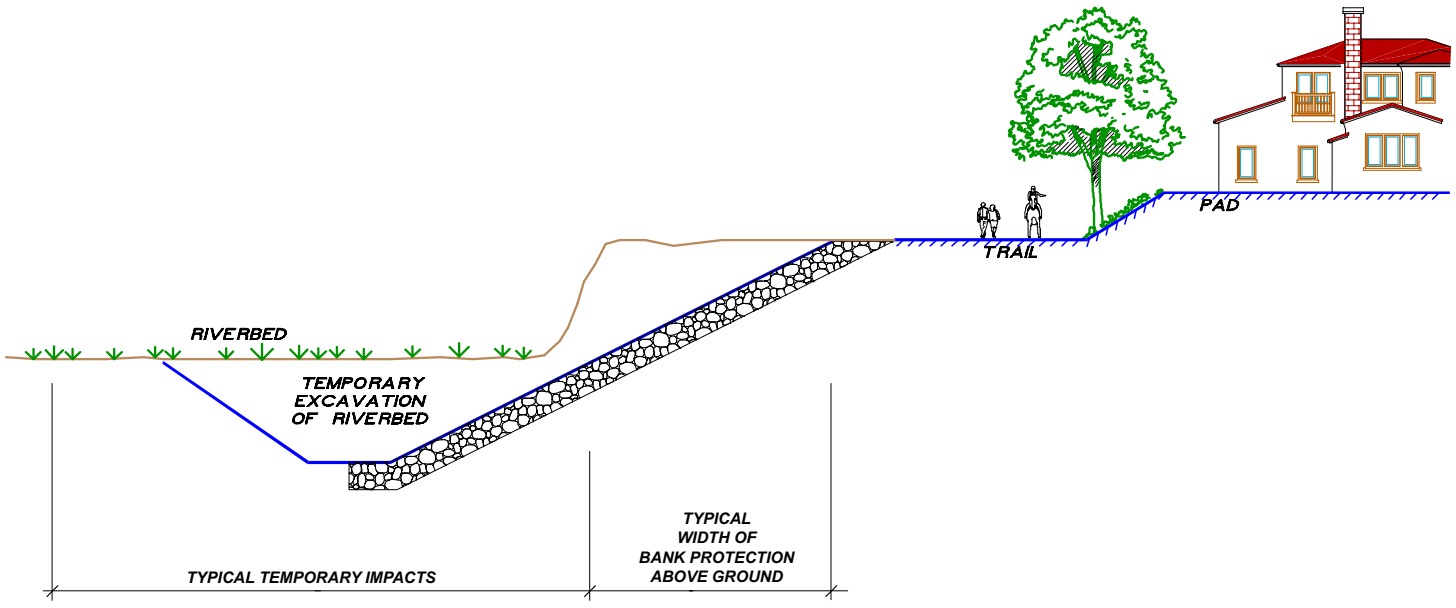
- If there is not sufficient space to allow covering of the revetment with the earthen fill because of physical constraints such as topographic features or existing facilities, then exposed ungrouted rock riprap will be used if the velocities do not exceed the limitations of the rock.

- Locations where there are proposed bridge crossings would require that the banks underneath the bridge have concrete gunite slope protection.

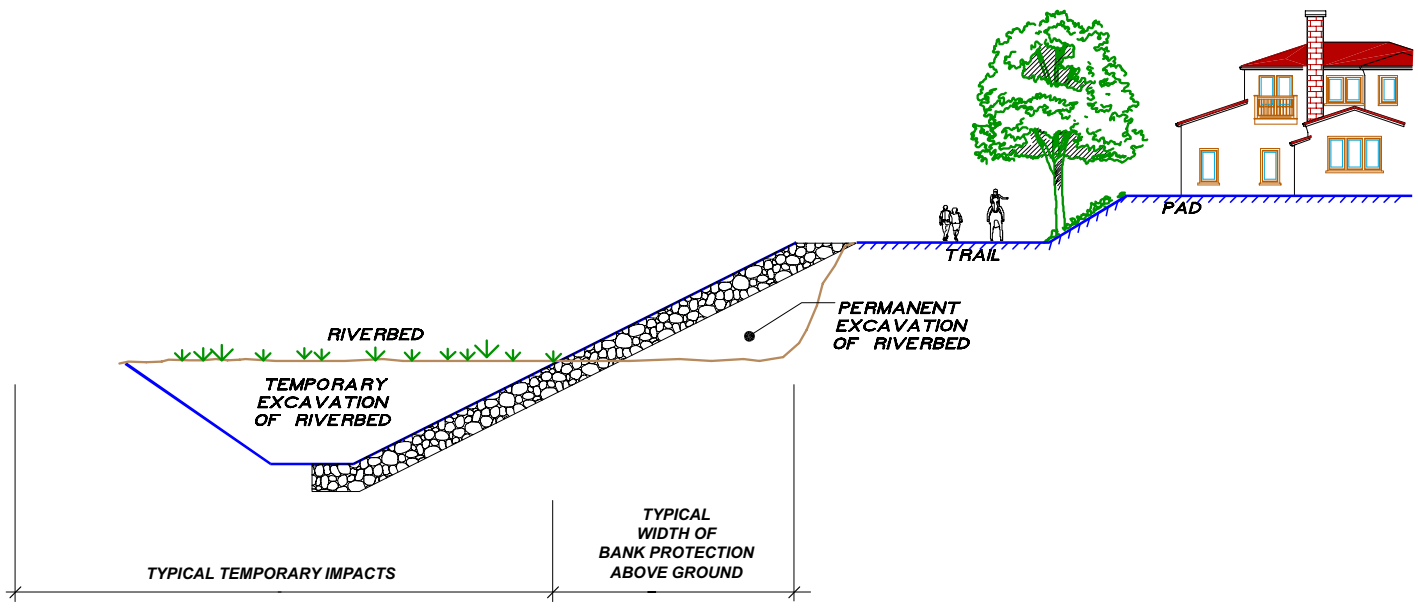
The Specific Plan Public Services and Facilities Plan utilizes several criteria that are to be implemented by projects that develop within the Specific Plan area. The primary criteria used to design the Mission Village Drainage Concept and the discussion of how the Mission Village Drainage Concept compares to these criteria is provided below:

- **Flood corridor must allow for the passage of Los Angeles County Capital Flood flow without the permanent removal of natural river vegetation (except at bridge crossings).** The Mission Village EIR **Section 4.3, Biota**, discusses impacts to riparian plant communities in detail.

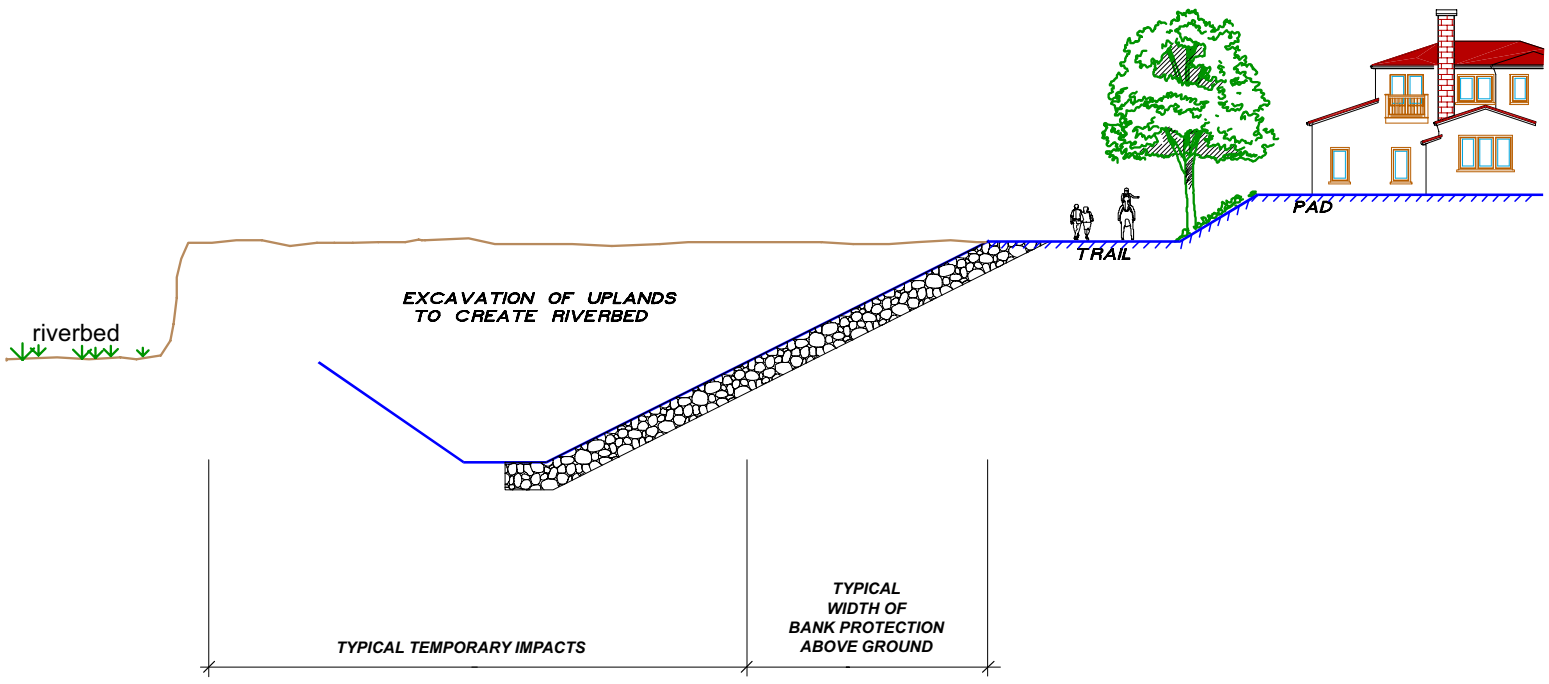
- **The banks of the river will generally be established outside of the "waters of the United States" as defined by federal laws and regulations and as determined by the delineation completed by the USACE in August 1993**. As illustrated on **Figure 4.21-5** the proposed bank stabilization locations along the main stem of the Santa Clara River are predominantly located outside of USACE jurisdiction. The entire Mission Village project, inclusive of the utility corridor, would result in the permanent fill of 20.95 acres and the temporary disturbance of an additional 1.8 acres of drainages under the jurisdiction of USACE. The Newhall Ranch Specific Plan Program EIR contemplated this impact.



Section A
No Permanent Loss of Riverbed, Only Temporary Impacts



Section B
Permanent Loss of Riverbed and Temporary Impacts



Section C
No Permanent Loss of Riverbed and No Temporary Impacts

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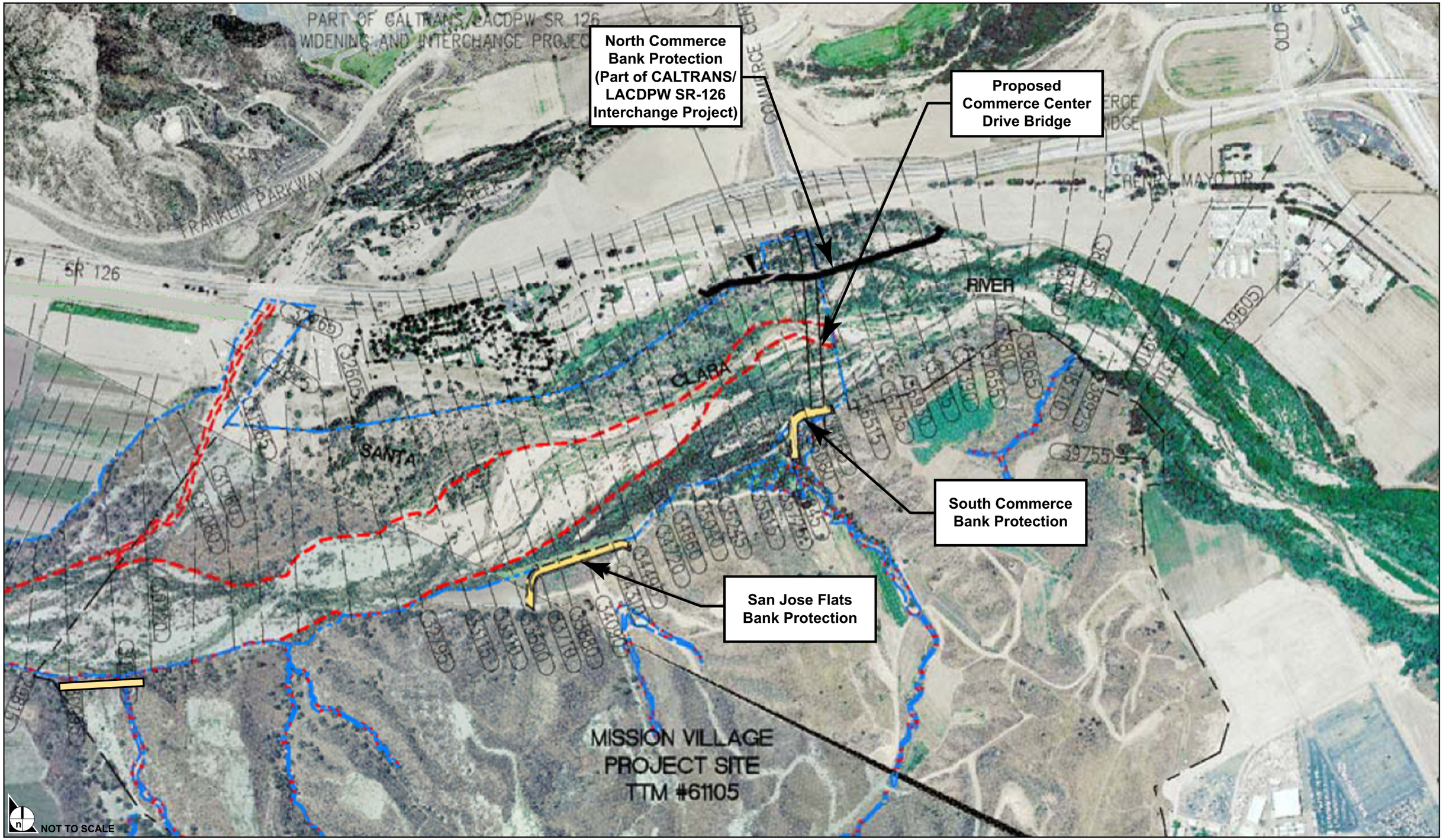
APPROXIMATE SCALE IN FEET

SOURCE: FORMA – March 2002

FIGURE **4.21-5**

Bank Stabilization, Typical Cross Section



SOURCE: PACE – November 2006

FIGURE **4.21-6**

Location of Commerce Center Drive Bridge and Proposed Bank Stabilization

32-99•05/10

- **Soil cement would occur only where necessary to protect against erosion adjacent to the proposed development. Where existing bluffs are determined to be stable and there is no adjacent proposed development, no bank protection will be built.** Approximately 17 percent of the river corridor would be protected with flood protection improvements, while 83 percent of the corridor would remain in a natural state. Of the 17 percent to be protected, approximately 4 percent would consist of buried bank protection, approximately 12 percent would consist of TRMs, and roughly 1 percent would consist of riprap or reinforced concrete.

Installation of soil cement in the vicinity of the approved Newhall Ranch WRP would likely be installed prior to implementation of the project, and impacts of this action were previously evaluated at the project level in the certified Newhall Ranch Specific Plan Program EIR.

b. On-Site Drainage Control

At project buildout, runoff from the eight drainage areas that drain through or onto the project site, as defined by the Psomas *Mission Village Drainage Concept Report,* 2010, would continue to flow through the project site to the river. Runoff from the developed portions of the project would be channeled through the proposed storm water conveyance system and discharged to the river after passing through various debris and water quality basins. As required in the Los Angeles County Department of Public Works memorandum entitled, "Level of Flood Protection and Drainage Protection Standards," all on-site drainage systems carrying runoff from developed areas are to be designed for the 25-year design storm (urban flood), while storm drains under major and secondary highways, open channels (main channels), debris carrying systems, and sumps are to be designed for the capital flood.

Runoff from the developed portions of the project would be conveyed through the project site using a combination of storm drains, vegetated swales, catch basins, retention/detention basins, water quality basins, outlet structures, and debris basins.

7. PROJECT IMPACTS

a. Significance Threshold Criteria

Based on the thresholds of significance identified in Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, the proposed project would result in a significant impact due to geomorphic changes if the project would:

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

(b) substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site.

For the purposes of this analysis, the Mission Village project would also result in a significant impact if it would:

(c) substantially reduce the amount of sediment delivered to Ventura County beaches.

b. Construction-Related Impacts

Installation of bank stabilization features and bridge piers and abutments would directly impact Santa Clara River geomorphology including alteration of the River in a way that would cause substantial erosion, resulting in significant impacts. The Mission Village project includes the development of the Commerce Center Drive Bridge, which was previously permitted in 1998 under the Valencia Natural River Management Plan.

The bridge would consist of concrete girders placed over concrete filled piers. Construction of this type of bridge usually involves the temporary disturbance of a 60-foot-wide corridor on each side of the bridge. Following completion of construction activities, the temporary impact zone would be restored to channel grade and revegetated with native riparian and upland species as appropriate.

Construction of bank stabilization and turf reinforcement mats, and the road crossing and grade stabilizers in Lion Canyon, would require grading of river and tributary embankments and excavation of terrace areas along the edge of the streambed. Typically, the bank lining must be buried to a depth equal to the height of the lining to resist scouring. Burying the toe of the lining requires temporary excavation and backfilling. A temporary construction zone width of 85 feet is required during construction of the bank protection. Following completion of construction activities, the temporary impact zone would be restored to channel grade and revegetated with native riparian and upland species as appropriate.

Excavation depths required for bank protection would be below the stream bottom; groundwater would be frequently encountered and would need to be removed during the construction period. The dewatering activity would place shallow wells close to the excavation, drawing down the groundwater in the construction zone. Typically, soil composition within the dry streambed is such that the discharged dewatering flows would percolate quickly back into the ground from which they came. However, in some instances, the amount of discharged water may create sufficient flow during dewatering operations to form a continuous wetted channel from the work site to the Santa Clara River or a tributary.

To protect water quality in flows back to the Santa Clara River or a tributary, the water generated would be treated in conformance with RWQCB conditions. The dewatering discharge would be conveyed through an engineered system designed to remove particulates, such as a weir tank, which allows sediment to settle out of suspension before the water is discharged. To minimize impacts to receiving

waters from the dewatering discharge, each groundwater well would be connected either to a larger manifold or individually piped to a specific discharge point. Each discharge point would consist of a weir tank and energy dissipater. Discharged water would be allowed to "sheet-flow" from energy dissipaters soaking into the dry soils, or the discharge would be routed through a sprinkler field and sprayed over a large upland area adjacent to the river/streambed with the intent to percolate the entire discharge. Compliance with effluent limitations pursuant to NPDES requirements will include use of BMPs to minimize erosion of the streambed.

All project-related construction projects, including the installation of buried storm drains, would be subject to CWA section 402(p), which regulates construction, municipal, and industrial stormwater discharges under the NPDES program. The Project proposes to implement a regional stormwater mitigation plan (EIR **Appendix 4.21**, Geosyntec, 2008) to comply with NPDES permit requirements. Pursuant to NPDES regulations for permitting of stormwater discharges, the SWRCB has issued a statewide general Permit and Waste Discharge Requirements for stormwater discharges from construction sites. Under this Construction General Permit, discharges of stormwater from construction sites with a disturbed area of one or more acres are required to either obtain individual NPDES permits for stormwater discharges or be covered by the Construction General Permit. It is anticipated that the Mission Village project would obtain coverage under the Construction General Permit by completing and filing a Notice of Intent with SWRCB and implementing a Stormwater Pollution Prevention Plan (SWPPP). This plan requires the implementation of BMPs to reduce or eliminate pollutants in stormwater discharges.

Absent mitigation, there would be significant short-term sedimentation impacts during construction. However, the previously adopted Specific Plan Mitigation Measures SP-4.2-2 (acquire state and federal permits), SP-4.2-3 (CDFG streambed agreements), SP-4.2-5 (LACDPW plan and map approvals), and SP-4.2-7 (LACDPW SUSMP and SWPPP requirements) would ensure that regulatory requirements are implemented and short-term impacts related to construction are less than significant through proper application of sediment controls and other BMPs required by existing local, state, and federal regulations.

c. Operation-Related Impacts

The focus of the impact analysis is on the project-related post-development changes in hydraulic conditions along the Santa Clara River and related effects on riparian resources. Key hydraulic impacts that may occur include effects on floodplain boundary and area, discharge (i.e., river flow amount), flow velocities, water surface elevation and scour. Changes in these conditions can affect the location and amount of riparian habitat along the river.

(1) Predicted Hydraulic Conditions

(a) Impact on Flows

Implementation of the project would affect the previously described on-site natural tributary drainage channels. While existing storm water discharges from the project site are not concentrated into centralized outlet structures (as proposed by the project), surface water flows naturally form paths of least resistance and concentrate at existing topographic depressions or cut channels that serve as concentrated discharge locations. Therefore, while the project includes development of a storm drain system with predefined outlets, this condition will not significantly alter existing drainage patterns. The project also includes the use of energy dissipaters at the storm drain outlets to the river. Installation of these improvements would reduce the energy that can cause erosion at the outlets.

Creation of impervious surfaces associated with project development would increase the amount of clear flow runoff from the site. Burned and bulked runoff and debris volumes, however, would be reduced because the developed portions of the project site would be covered with impervious surfaces and non-erodible vegetation, and because debris basins are proposed just upstream of the project site that would reduce the amount of debris and sediment in the runoff. The post-development runoff quantities are provided in **Table 4.2-3** found in **Section 4.2**, **Hydrology**, of this EIR. This information indicates that post-development discharge is predicted to total 4,862 cfs for the project site during a 50-year storm, which is an 820 cfs reduction in 50-year flows when compared to pre-development conditions. This reduction in discharge is largely due to project debris basins that would capture upstream bulk flows and allow debris to settle out from the runoff before it enters the storm system through the developed portion of the site.

(b) Impact on Velocity

Proposed project improvements will encroach upon portions of the river corridor with placement of buried soil cement, TRMs, bridge abutments and piers, storm drain outlets and energy dissipaters. These improvements have the potential to increase water velocities during storm events. Streambed modification is a result of erosion or sediment deposition and can be evaluated as a function of in-stream velocities, which are indicators for potential riverbed scouring.

Because the Santa Clara riverbed is composed of alluvial materials, the non-erodible velocities (velocities below which no erosion would occur) range from 2.5 fps (fine gravels under clear flow conditions) to

5.0 feet per second (alluvial silts transporting colloidal materials).[9] Therefore, a representative velocity of 4.0 feet per second was determined to be the appropriate indicator for potential erosion.

The proposed Commerce Center Drive Bridge would be constructed across the river, and would include piers, abutments, and bank protection within the river corridor. In addition, segments of the utility corridor parallel the river and would require protection at certain locations. However, as shown on **Figures 4.21-7a** through **4.21-7f,** for the 2-, 5-, and 10-year events, no loss of floodplain area and minimal (less than 1 percent) changes in velocity are expected. The 20-, 50-, 100-year and Capital events all have floodplain area loss of 1 percent or less and minimal changes in velocity. Localized increases in velocity would occur, particularly at and immediately downstream of the Commerce Center Drive Bridge, however, the project improvements would not cause a significant increase in areas of the river that would be subject to velocities over 4 feet/second during a 2- and 5-year storm event, because bridge and bank improvements would not encroach into flow areas, so the flows would remain unaffected.

Increases in velocity in excess of 4 fps would occur along the project site. However the project-related increases in velocity would be mitigated by installation of buried bank protection on the river corridor. The buried bank stabilization is consistent with the bank stabilization improvements described in the certified Newhall Ranch Specific Plan Program EIR. All of these changes are localized within the study area, and no impacts to velocities will occur upstream or downstream of the project.

(c) Impact on Water Surface Elevations

The results of the PACE (2007) study indicate that project-related improvements would result in 17 locations where water surface elevation changes occur (none of which exceed 1 foot) and 4 locations where there is a decrease in water surface elevations (none of which exceeds 1 foot). All of these changes are localized within the study area, and no water surface elevation impacts would occur upstream or downstream of the project.

(d) Scour

Modifications to the river bed are measured as bed adjustment in feet. Positive adjustment indicates aggradation and negative adjustment indicates degradation. Several types of adjustments are considered in the PACE (2007) study including general adjustment, long-term adjustment, and other scour. General adjustment is scour that occurs in an individual discharge event and is calculated as the difference between sediment inflow and outflow of a given River reach. Long-term adjustment consists of fluvial

9 Chow, 1959.

processes that occur over several years. Other scour is made up of local scour, bend scour, low-flow incisement, and bedform formation.

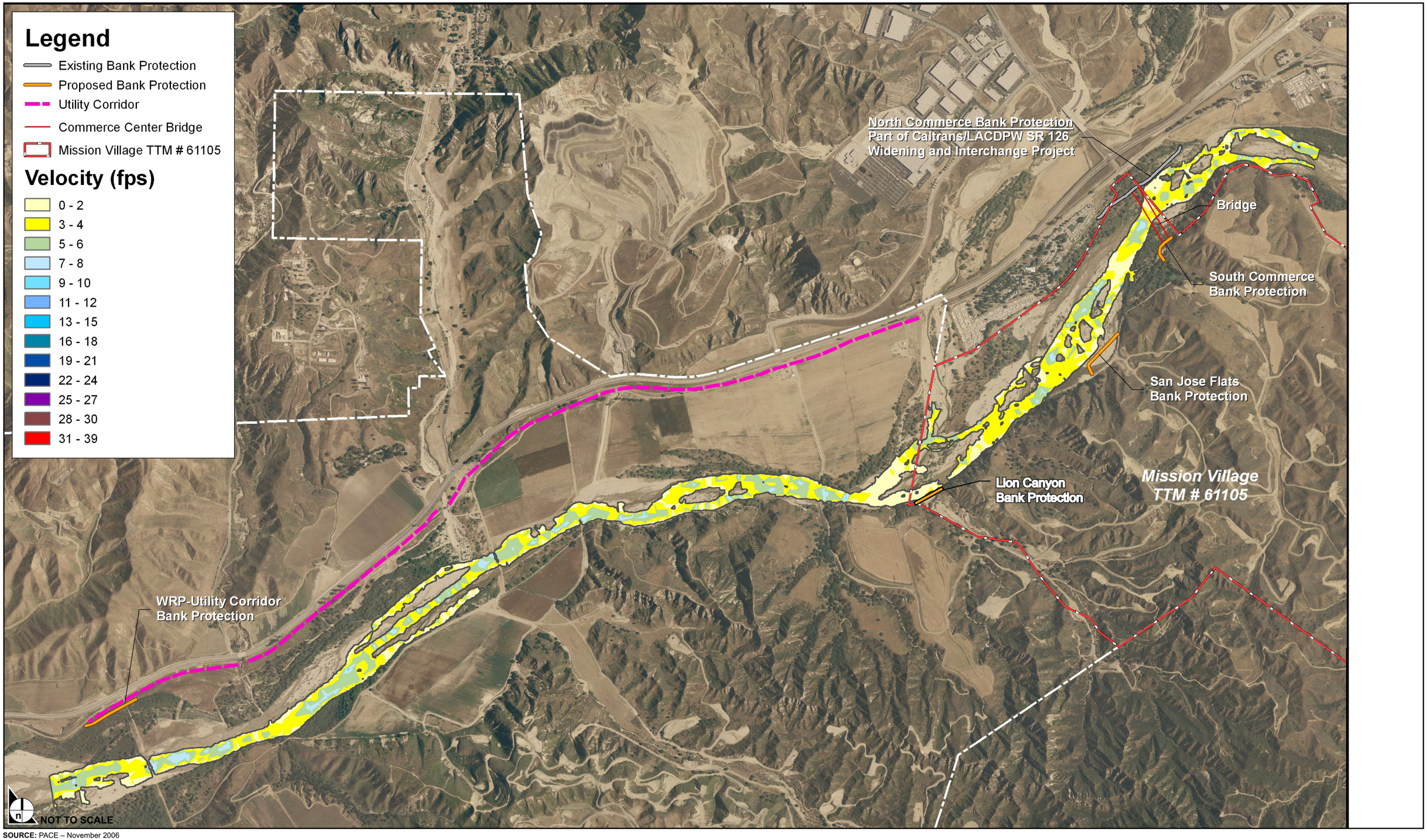
Project-related changes in river scour characteristics are not considered significant, and it is expected that impacts will be localized and the fluvial mechanics of the River will remain essentially the same after construction of the Mission Village flood protection improvements. The River is expected to continue to behave fluvially as it did prior to construction of these proposed improvements.

(e) Impact to River Corridor SMA/SEA 23

As described above, the Newhall Ranch Specific Plan project approvals authorized an adjustment to the existing SEA 23 boundary and permitted Specific Plan development within the revised and approved River Corridor SMA/SEA 23 boundary, including bridge crossings, trails, bank stabilization, development, and other improvements. The approved River Corridor SMA/SEA 23 boundary adjustments were intended, in part, to more accurately reflect the location of the sensitive biological resources located within the existing SEA 23.

The effects on flows in the river caused by the introduction of these improvements into the River Corridor SMA/SEA 23 are illustrated above on **Figures 4.21-7a**, **4.21-7b**, and **4.21-7c,** which depict areas inundated by flows during high frequency floods (2, 5, and 10 year) and river velocities. As shown, under these conditions, the proposed floodplain modifications would not hinder flows. Instead, these flows would spread across the river channel, unaffected by the bank protection because the river would have sufficient width to allow these flows to meander and spread out as under pre-project conditions. During more infrequent floods (20-, 50-, and 100-year events), river flows would be confined within the river corridor now defined by the bank stabilization (**Figure 4.21-7d** through **4.21-7f**).

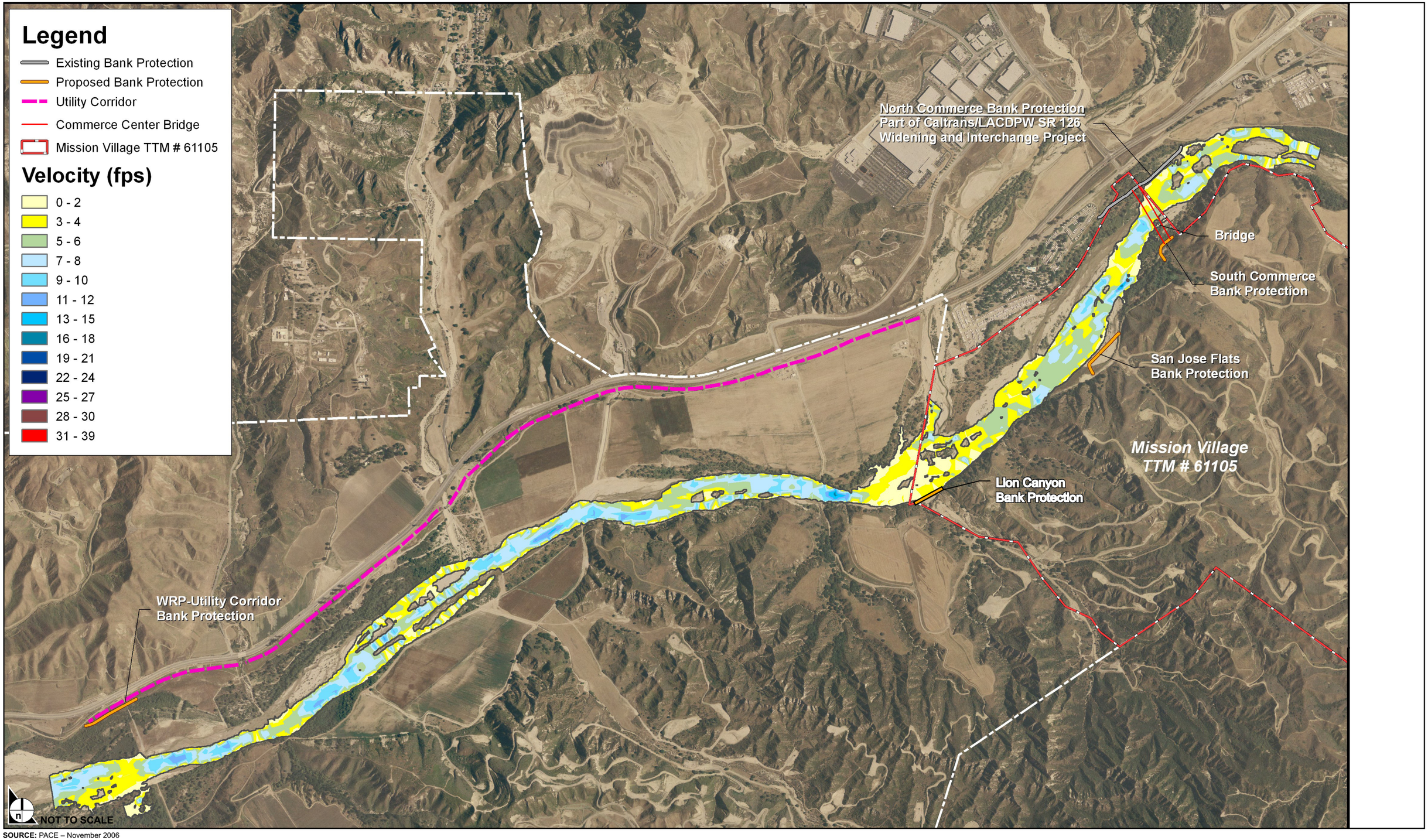
Consistent with the findings of the Newhall Ranch Revised Additional Analysis, implementation of the Mission Village project would not significantly alter river hydrology in the river corridor because the effects associated with the floodplain modifications would be infrequent and would not substantially alter flows, water velocities and depths. Under the project, the river would retain sufficient width to allow natural fluvial processes to continue.



SOURCE: PACE – November 2006

FIGURE **4.21-7a**

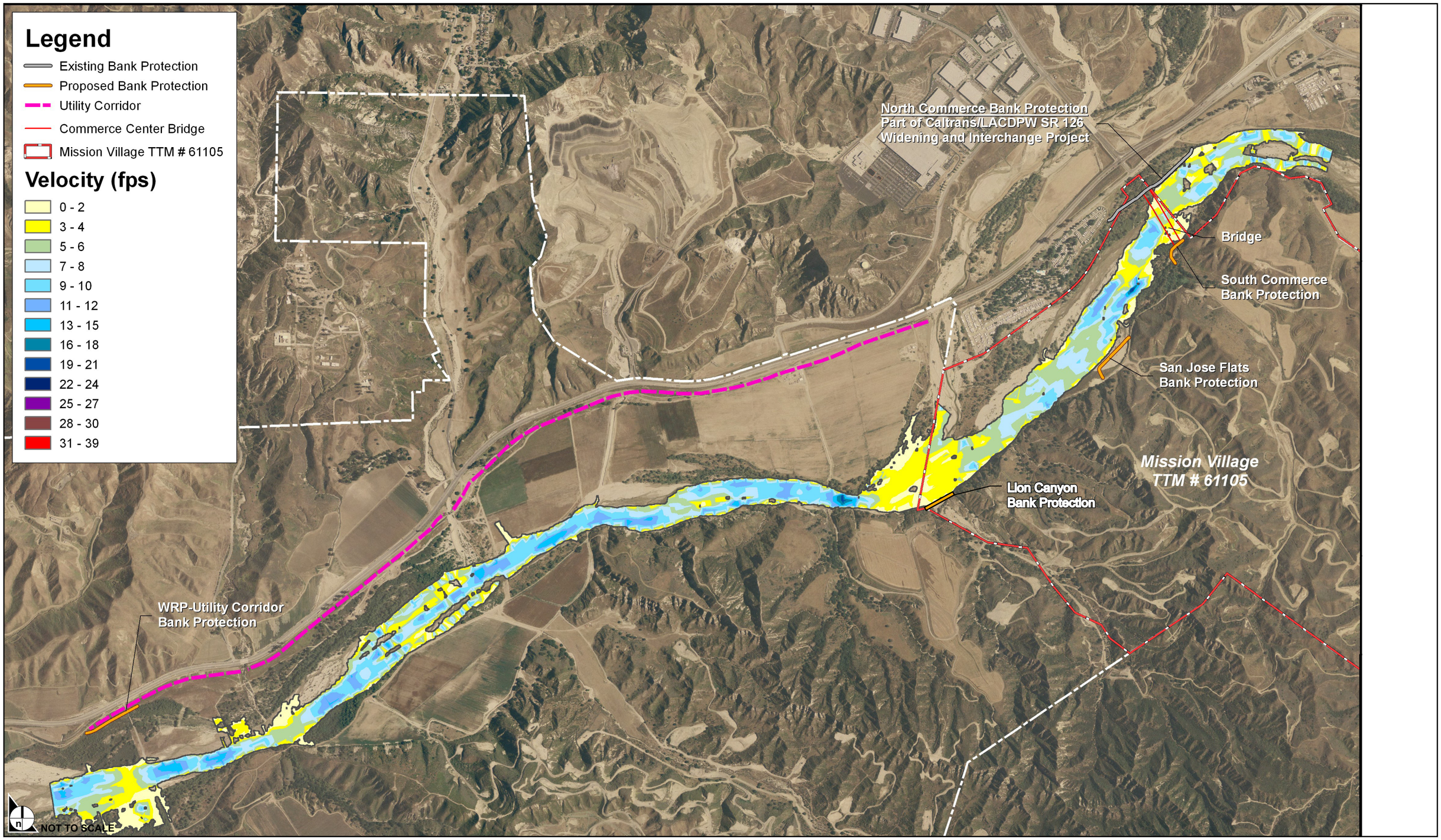
Proposed Conditions - Area Inundated by 2-year Storm Event



SOURCE: PACE – November 2006

FIGURE **4.21-7b**

Proposed Conditions - Area Inundated by 5-year Storm Event

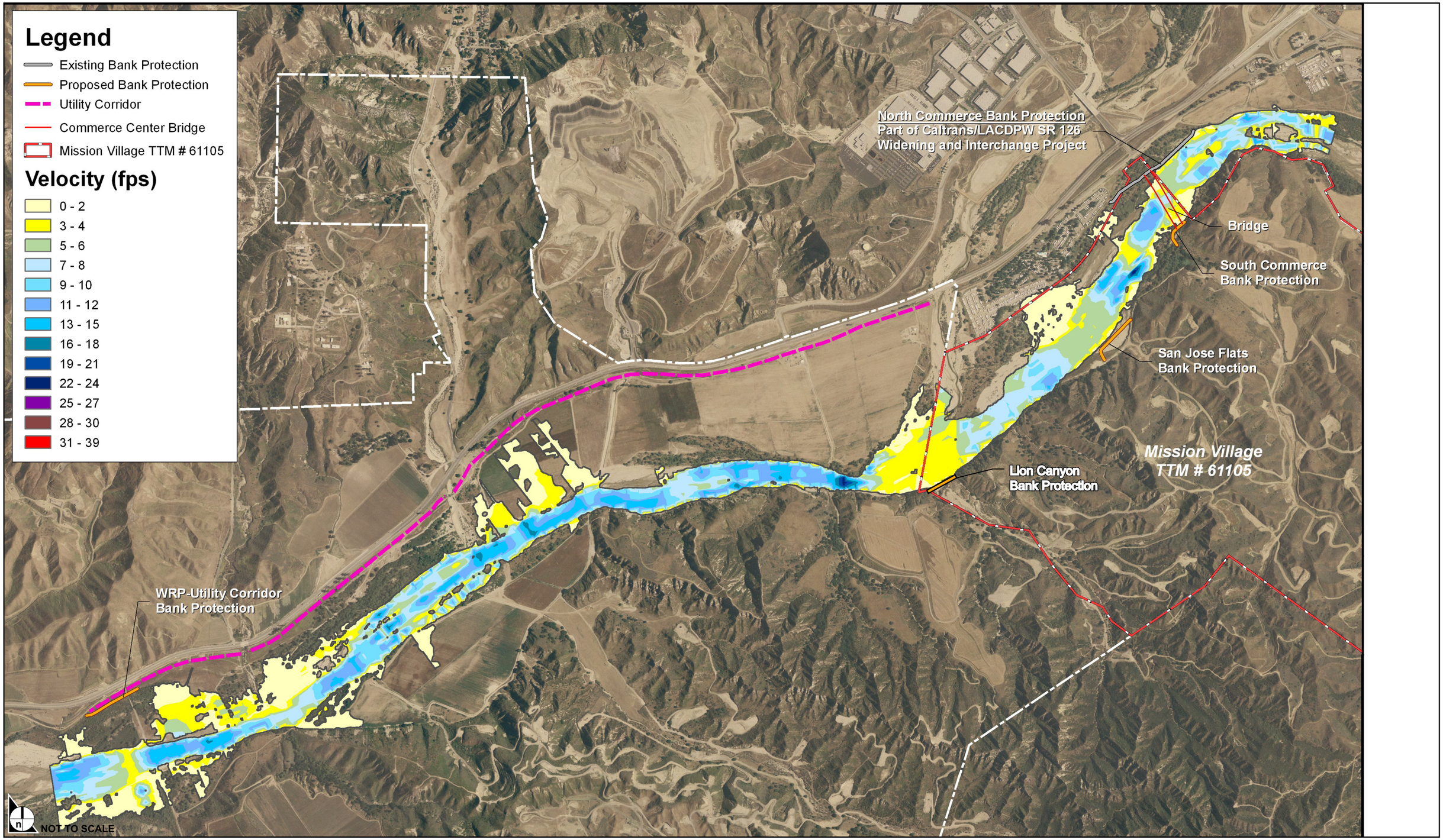


SOURCE: PACE – November 2006

FIGURE **4.21-7c**

Proposed Conditions - Area Inundated by 10-year Storm Event

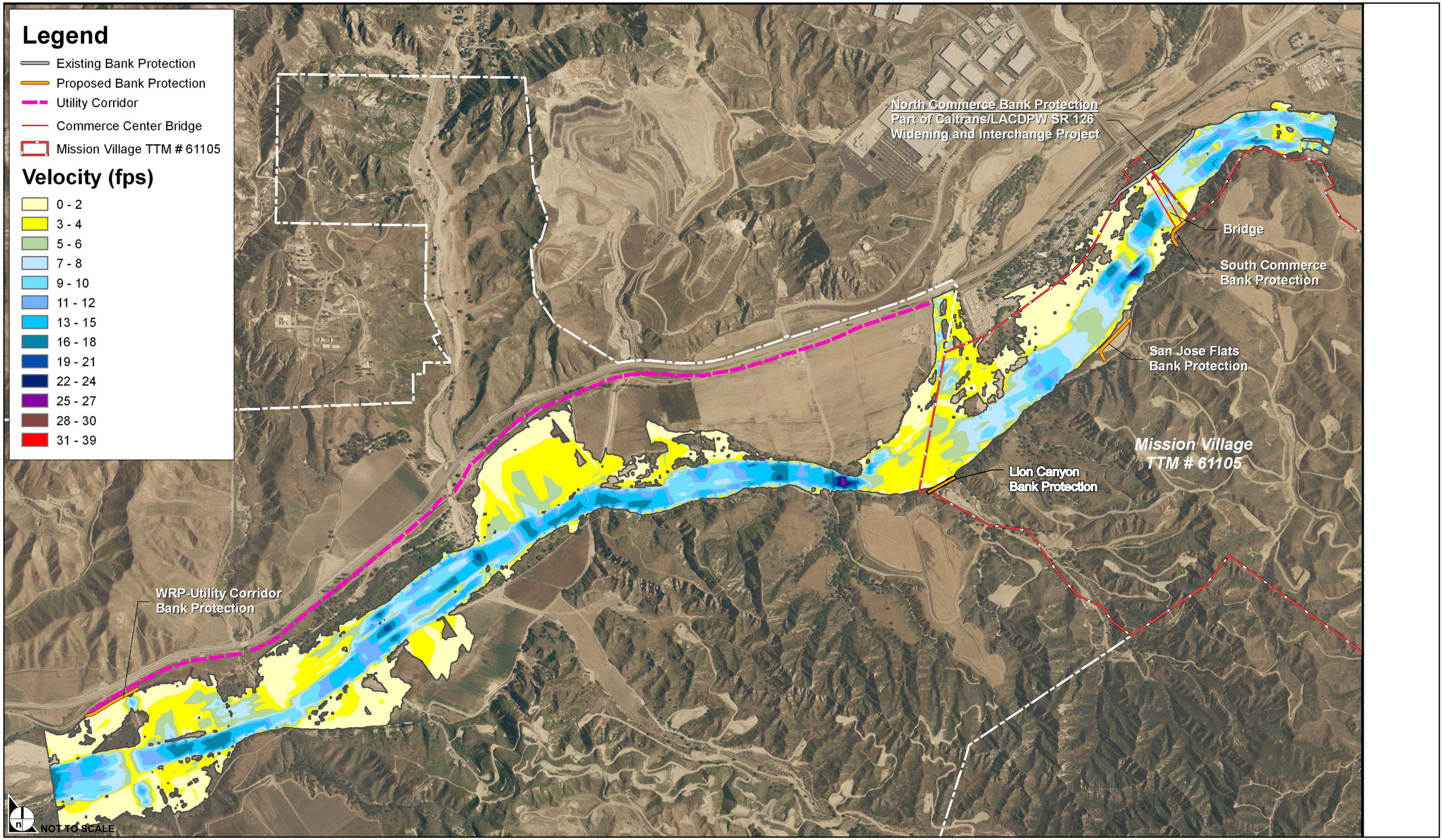
32-99•05/10



SOURCE: PACE – November 2006

FIGURE **4.21-7d**

Proposed Conditions - Area Inundated by 20-year Storm Event

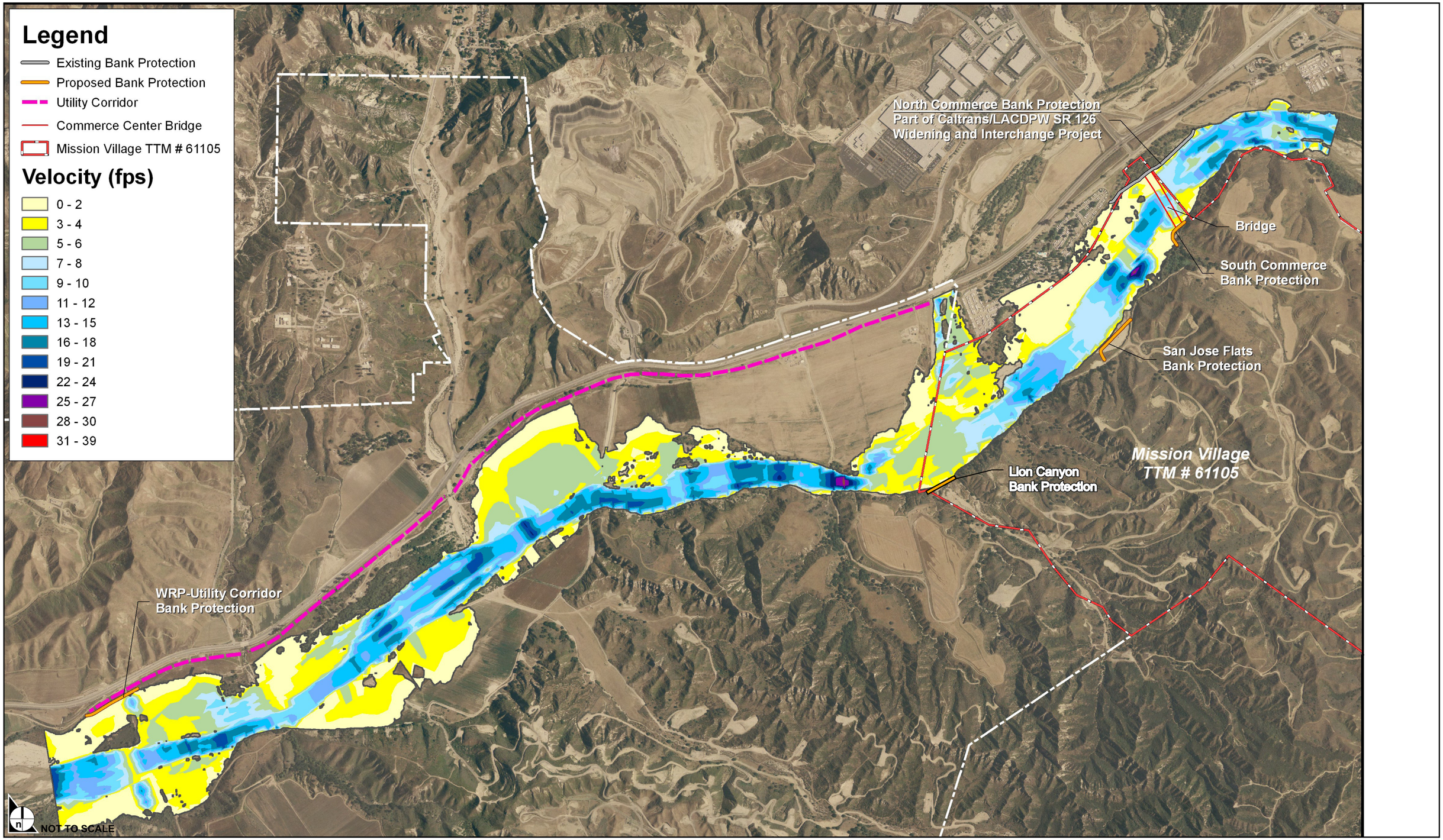


SOURCE: PACE – November 2006

FIGURE **4.21-7e**

Proposed Conditions - Area Inundated by 50-year Storm Event

32-99•05/10



SOURCE: PACE – November 2006

FIGURE **4.21-7f**

Proposed Conditions - Area Inundated by 100-year Storm Event

32-99•05/10

(f) Erosion of Project Site Tributaries

Construction of the proposed project, particularly site clearing and grading operations, would have the potential to increase sediment flows downstream during storm events. Long-term impacts associated with erosion and sediment deposition are evaluated as a function of geomorphic stability. The basis of design for the Lion Canyon, which is the major tributary located on the Mission Village tract map site, is such that the new channel would be designed to be in geomorphic equilibrium in terms of channel stability, sediment transport, and flow conveyance under future conditions. The channel would be designed to meet the following criteria:

- Geomorphic stability – The channel would not aggrade with sediment or erode its banks or bed substantially. The bankfull[10] channel will be sized for the dominant[10] (channel forming) discharge. Sizing would be based on the proposed channel slope and the modeled post-development discharge conditions.

- Flood conveyance – The floodplain would convey the capital flood (Qcap) (discharge resulting from a hypothetical four-day storm with a 50-year return period falling on a saturated watershed with debris from a wildfire) with a minimum of 3 feet of freeboard, and meet LACDPW standards for flood channels.

- Ecological function – The channel and floodplain would support a combination of riparian habitat, coastal sage scrub, oak woodland, *etc.*, as appropriate. Grade stabilizer structures, culverts, and other hydraulic structures would be designed to accommodate wildlife requirements.

- Hydromodification — The combined urban runoff management program, in conjunction with the channel design, would address potential "hydromodification" impacts resulting from development of the Mission Village tract map site. The channel would not aggrade or generate excess sediment from erosion or create a larger than natural downstream impact from sedimentation associated with hydrograph modification.

- Low maintenance – The channel and associated structures would require minimum maintenance. The channel and floodplain would not require sediment removal or vegetation clearance. Following construction, a monitoring and management plan would be implemented to evaluate compliance with the basis of design criteria to ensure that the engineered channels function as intended (see **Mitigation Measure MV 4.21-6**).

The proposed Project includes the placement of a new road crossing in Lion Canyon. This crossing may constrict the floodplain, resulting in an increase in the velocity of flows (*i.e.*, a decrease in channel area would result in an increase in fluid velocity to pass a given flow volume), which would be a significant effect prior to mitigation. The basis of design for this drainage is such that Lion Canyon would be

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10 The design approach assumes dominant discharge is equivalent to bankfull flow for purposes of channel design. Using continuous rainfall-runoff simulation for the Newhall Ranch watersheds, Geosyntec (2008) calculated the dominant discharge; this corresponded closely with the two-year recurrence interval storm event.

designed to be in geomorphic equilibrium in terms of stability and delivery of sediment and water under future conditions. The channel floodplain would be designed to maximize geomorphic stability and ecological function, provide adequate flood conveyance, and avoid hydromodification to the extent possible. In addition, the design would minimize the need for maintenance activities.

PWA (PWA, 2007g) evaluated the channel design erosion potential. Post-development condition sediment supplies to the Lion Canyon drainage are predicted to range from 27 percent to 37 percent of the existing condition. The results of the analysis indicate that with the proposed components, the erosion potential within Lion Canyon would be in equilibrium and that the proposed channel would not aggrade or generate excess sediment from erosion or create a larger than natural downstream impact from sedimentation associated with hydromodification. Mitigation measure SP-4.2-3 (state and federal permits) would require that hydraulic modeling be performed for the final design to assess the effects within Lion Canyon, and that the design would be modified as necessary to reduce any erosion or deposition impacts. The Lion channel design incorporates the calculated post-development equilibrium slope to ensure a dynamically stable condition allowing for more or less equal amounts of erosion and deposition.

Prior to mitigation, erosion and sedimentation impacts within Lion Canyon would be significant. The Newhall Ranch Specific Plan EIR identified feasible measures to reduce the effects of the Specific Plan on floodplains within the Project area. Specifically, Mitigation Measures SP-4.2-1 through SP-4.2-7 (flood control improvement approval from LACDPW, state and federal permits, CDFG stream bed agreements, FEMA CLOMR, LACDPW plan and map approvals, LACDPW-approved permanent erosion controls, LACDPW SUSMP and SWPPP requirements) are incorporated to reduce these impacts. In addition, **Mitigation Measures MV 4.21-1** through **MV 4.21-6** (LACDPW required runoff controls, minimization of bridge and structures, structural durability, hydromodification controls and channel design, sediment and debris control facilities, sediment redistribution) would further reduce these impacts by controlling runoff and sediment delivered through the project reach, minimizing localized impacts from bridge crossings, using erosion resistant materials to ensure the long-term stability of drainage structures, and ensuring that the Project design provides an equilibrium slope in the post-development condition. Finally, to ensure that the channel functions as intended, **Mitigation Measure MV 4.21-6** describes the Geomorphology Monitoring and Management Plan that would be implemented to evaluate compliance with the basis of the design criteria, the triggers for implementing remedial actions (if necessary), the approach for implementing remedial actions, and a description of potential remedial measures. Incorporation and implementation of proper design, regulatory compliance, facility maintenance, and specified mitigation measures would reduce the impact of erosion and/or downstream deposition to a less-than-significant level.

The other drainages on the tract map site, including Exxon Canyon, Dead-End Canyon, Unnamed Canyon D, Middle Canyon, and Magic Mountain Canyon would be converted to underground storm drains within the limits of development. The conversion of open drainages to buried underground conduits would eliminate the erosion of existing drainage channels and the associated sediment loading from other upland sources. The effect of underground storm drains would be to significantly decrease erosion and siltation; however, the sediment supplied by these minor drainages prior to construction of the project is negligible compared to the overall sediment regime of the Santa Clara River watershed. As such, the decrease in erosion and siltation in these tributaries would not result in downstream sediment deprivation or erosion. Because the proposed underground conduits would not be erodible, and because the flows entering these systems from developed areas would not contain high sediment volumes, there would be negligible potential for aggradation or erosion impacts within the underground storm drains. Accordingly, the modification of on-site drainages and the construction of buried storm drains would not result in significant erosion or deposition impacts.

(2) Impacts to Riparian Resources due to Hydraulic Changes

An increase in velocities in the river could result in significant biological impacts if the increase caused (1) widespread and chronic scouring of the channel bed that removes a significant amount of riparian habitat from the river channel; and/or (2) substantial modification of the relative amounts of riparian habitat in the river, essentially altering the quality of the riverine environment.

(a) Impact on Flows

The hydraulic analysis above indicates that implementation of the project would increase clear flows, but decrease burned and bulked flows since project debris basins would capture upstream bulk flows and allow debris to settle out before entering into the river during a given return event. These hydraulic effects would be minor in magnitude and extent (<1 percent), and would not be sufficient to alter the amount, location, and nature of aquatic and riparian habitats in the project area and downstream. Therefore, no significant impacts would occur due to river flows.

(b) Impact on Velocities

The results of the hydraulic analysis indicate that the overall velocities in the river would not change during the frequent storm intervals (i.e., 2- and 5-year events) due to the floodplain modifications associated with the project. Overall, velocities for all return events are not significantly different between existing and proposed conditions at and downstream of the project site.

Based on these results, the floodplain modifications associated with the project (i.e., bank protection, bridge, and development in the River Corridor SMA/SEA 23 described above) would not cause significant scouring, and therefore, would not alter the amount and pattern of aquatic, wetland, and riparian habitats in the river at the project site. The current pattern of scouring due to storm-related high velocities would remain intact, as shown previously on **Figures 4.21-7a** through **4.21-7f**. Based on this information, no significant impacts would occur due to changes in river velocity.

(c) Impacts on Water Depths

An increase in water depth in the river could result in significant biological impacts if the additional water depth causes greater "shear forces" (i.e., friction caused by the weight of water) on the river bottom, and thereby increasing scouring of the channel bed and removal of vegetation. This effect could reduce the extent of aquatic, wetland, and riparian habitats in the river.

The results of the hydraulic analysis indicate that water depths in the river would not increase significantly due to project improvements. Water depths for all return events would not be significantly different between existing and proposed conditions at the project site and downstream. Hence, the project improvements would not cause significant scouring and therefore, would not alter the amount and pattern of aquatic, wetland, and riparian habitats in the river. Therefore, no significant impacts would occur due to changes in water depths in the river.

(d) Scour

Project-related changes in river scour characteristics are not considered significant, and it is expected that impacts will be localized and the fluvial mechanics of the River will remain essentially the same after construction of the Mission Village flood protection improvements. The River is expected to continue to behave fluvially as it did prior to construction of these proposed improvements.

(e) Impact on Floodplain and Habitat Area

The proposed drainage infrastructure would alter the existing boundary of the River floodplain at the project site. For higher frequency floods the proposed floodplain modifications are very minor and would minimally hinder flows or reduce the floodplain area. During more infrequent floods the River flows would be confined within the bank protection stabilizations. This would limit the area of the floodplain during infrequent flood events, resulting in inundation over a smaller area.

Table 4.21-8, Change in Acreage of Vegetation by Type Exposed to Velocities Greater than 4 Feet per Second by Return Period, depicts the project-related change in the total area of floodplain on the project

site subject to velocities greater than 4 fps. The total floodplain area subject to potentially erosive velocities would be decreased as a result of the project for all return intervals with the exception of the 10-year storm. However, the additional 1.5 acres subject to velocities greater than 4 fps during the 10-year storm is not significant relative to the decrease in area subject to erosive velocities during the 2-, 5-, 20-, 50-, 100-year and capital flood events.

Table 4.21-8
Change in Acreage of Vegetation by Type
Exposed to Velocities Greater than 4 Feet per Second by Return Period

Vegetation Type	Change in Area (Acres)						
	2-Year	5-Year	10-Year	20-Year	50-Year	100-Year	CAP
Agriculture	0.0	0.0	0.0	0.1	0.5	0.6	-2.6
Arroweed Scrub	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Big Sagebrush Scrub	0.0	0.0	0.0	0.0	0.0	0.0	0.0
California Annual Grassland	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Undifferentiated Chaparral	0.0	0.0	0.0	0.0	0.0	0.0	0.0
California Sagebrush	0.0	0.0	0.0	0.0	0.0	0.0	0.0
California Sagebrush-California Buckwheat	0.0	0.0	0.0	0.0	0.0	0.0	0.0
California Sagebrush-Undifferentiated Chaparral	0.0	0.0	0.0	0.0	0.0	0.0	0.0
California Sagebrush-Purple Sage	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cottonwood Willow Riparian Forest	-0.2	-0.4	0.2	0.6	1.9	2.2	-0.1
Developed	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Disturbed Land	0.0	0.0	0.0	0.0	-0.1	0.0	-0.2
Giant Reed	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
Herbaceous Wetlands	-0.1	0.3	0.4	0.4	0.2	0.4	-0.1
Live Oak Woodland	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mulefat	0.0	0.0	0.0	0.1	-0.1	0.0	-0.1
Southern Coast Live Oak Riparian Forest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
River Wash	-0.7	-0.4	-1.1	-1.6	-1.4	-0.8	-1.9
Southern Willow Scrub	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tamarisk Scrub	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Valley Oak Woodland	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Greater than 4 Feet per Second	-0.9	-0.5	-0.5	-0.4	1.1	2.5	-4.8
Less than 4 Feet per Second	0.8	0.5	2.0	-4.7	-8.0	-7.3	-2.3
Total Change	**0.0**	**0.0**	**1.5**	**-5.1**	**-6.9**	**-4.8**	**-7.1**

Source: PACE, 2007.

(f) Impacts on River Corridor SMA/SEA 23

Consistent with the Specific Plan, limited amounts of riparian habitat (6.1 acres permanent and 15.2 acres temporary) located within the River Corridor SMA/SEA 23 would be converted to developed uses as part of the Mission Village project. The 6.1 acres permanently impacted and 15.2 acres temporarily impacted consist of riparian-associated plant communities, including southern willow scrub, southern cottonwood willow riparian forest, big sagebrush scrub, freshwater marsh, and herbaceous wetland. Development within the River Corridor SMA/SEA 23 is limited to piers and abutments associated with the Commerce Center Drive Bridge and portions of the utility corridor.

The Mission Village project development would result in the permanent conversion of 39.7 acres of wildlife habitat within the SMA/SEA 23 boundary, of which 17.1 acres are agricultural land, 2.1 acres are arrow weed scrub, 0.8 acre is big sagebrush scrub, 4.8 acres are California sagebrush scrub, 4.8 acres are cottonwood willow riparian forest, 0.7 acre is coast live oak woodland, 0.2 acre is mulefat scrub, 2.3 acres are river wash, 0.4 acre is herbaceous wetland, and 0.1 acre is southern willow scrub. An additional 9.6 acres of disturbed land, which provides limited wildlife habitat value, would also be permanently converted within the boundaries of the SMA/SEA 23. An additional 40.4 acres of habitat within the SMA/SEA 23 would be temporarily disturbed by bank stabilization, but would be planted with native vegetation following completion of construction.

The Board of Supervisors contemplated these impacts during the project approvals for the Newhall Ranch Specific Plan. Section 22.56.215(A)(1) of the County Code requires that a conditional use permit be obtained prior to commencing development within an SEA, and Section 22.56.215(F) requires the applicant to demonstrate that the proposed development conforms to the SEA "design compatibility criteria." The Board of Supervisors found that the Newhall Ranch Specific Plan is consistent with the County's SEA design compatibility criteria as it relates to SEA 23. The Board also determined that the development proposed in the Specific Plan is designed to be compatible with the biotic resources present in SEA 23, including the setting aside of appropriate and sufficient undisturbed areas.

Further, the Board found that the Specific Plan is consistent with General Plan policies regarding the balancing of SEA policies against other competing public needs. In its discussion of SEA policies, the General Plan states: "Major factors influencing the realization of Plan [SEA] objectives … include … the competing priorities between resource preservation and other critical public needs."[11] Among other things, the Board found that the Specific Plan's bridge crossings implement portions of the County's Master Plan of Highways and are considered essential to the development of a local and regional

11 Los Angeles County General Plan. LU-A12.

transportation system. In addition, the Specific Plan's RMP includes an extensive mitigation and habitat management program for the River Corridor SMA/SEA 23. The RMP is considered a significant benefit to the river corridor.

Finally, the hydraulic analysis shows that the proposed bank stabilization and bridge improvements would not hinder flows under most conditions or cause widespread and chronic scouring of the channel bed and banks through increased velocities or water depth. Scouring can remove a significant amount of aquatic, wetland, and riparian habitats from the river channel. This could substantially modify the relative amounts of these habitats in the river, essentially altering the nature and quality of the riverine environment. Because, the floodplain modifications associated with the project would not alter the amount and pattern of aquatic, wetland, and riparian habitats in the river at the project site, no significant impacts would occur due to changes in flows within the river. See EIR **Section 4.3, Biota**, for additional analysis regarding sensitive species.

(3) Sediment Transport Impacts to Ventura County Beaches

The effects of the Mission Village project on beach replenishment is a function of the sediment load delivered from the project site. A reduction of area subject to erosion due to the buildout of the proposed project could result in a corresponding reduction in floodwater sediment.

The component of the proposed project that would have the most effect on sediment supply is the conversion of tributary drainages to buried storm drain. For this analysis, it is assumed that the area converted to buried storm drain results in a net loss of sediment supplied by the affected area. As described above, approximately 3,451 tons of sediment originate from the Mission Village tract map site and are transported to the Santa Clara River. This is less than one-tenth of 1 percent (0.085 percent) of the sediment supply delivered by the river each year. Based on this analysis, the reduction of sediment delivered to Ventura County beaches due to the proposed project would not be substantial and would result in a less than significant impact.

(a) Conclusion

The proposed project would place bank stabilization along selected portions of the river, developing areas behind the bank stabilization, and installing a bridge across the river. These actions would alter flows in the river; however, the effects would only be observed during infrequent flood events that reach the buried bank stabilization. The proposed project would cause an increase in flows, water velocities, and water depth. However, these hydraulic effects would be minor in magnitude and extent. These effects would be insufficient to substantially alter the amount or location of riparian habitat in the project area and downstream. Under the project, the river would still retain sufficient width to allow natural

fluvial processes to continue. Hence, the mosaic of habitats in the river would be maintained and the proposed project would not have a substantial adverse effect on riparian habitat or other sensitive natural community relative to floodplain modification. Nor would the proposed project alter an existing drainage pattern in a manner that would result in a substantial increase or decrease in erosion or siltation on or off site. For additional information regarding the proposed projects impacts relative to riparian habitat, sensitive natural communities, and drainage patterns, please see EIR **Section 4.2, Hydrology**, and **Section 4.3, Biota**.

8. PROJECT MITIGATION MEASURES

The following mitigation measures have been adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). These measures are applicable to the Mission Village project due to its geographic location along the river and the type of project improvements proposed. Those mitigation measures applicable to the Mission Village project will be implemented, as appropriate.

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as they Relate to the Mission Village Project

Please refer to **Section 4.2**, **Hydrology**, of this EIR for a listing of Program EIR mitigation measures pertaining to flood control.

b. Additional Mitigation Measures Proposed by this EIR

Based on the impacts analysis presented above, the following mitigation measures are proposed to ensure that impacts related to geomorphology and riparian resources are reduced to less than significant. These proposed mitigation measures are to be implemented in addition to those previously adopted by the County of Los Angeles in connection with its approval of the Newhall Ranch Specific Plan. These measures are preceded by "MV" to designate that they are to be implemented in conjunction with the Mission Village project.

MV 4.21-1 Post-peak stormwater runoff discharges from storm drainage systems must be controlled to minimize localized erosion impacts to River geomorphology and riparian habitat. Discharge flows would be regulated using water control features that must capture the runoff from small, frequent flows (*i.e.*, one- and two-year events). Water and hydromodification control features must be designed in accordance with DPW criteria. Where applicable, energy dissipation structures must be incorporated at drainage outlets to the Santa Clara River to minimize discharge velocities and potential localized erosion.

MV 4.21-2 Where practical, the proposed Santa Clara River bridge crossing shall minimize the number and size of piers and/or columns to minimize localized impacts to River and/or tributary geomorphology and riparian resources.

MV 4.21-3 Structural features such as outlets, bank stabilization, grade stabilization structures, bridge abutments, culverts, and other features that may be subjected to River or tributary flows will be constructed of erosion resistant materials such as concrete, soil cement, or secured riprap to ensure long-term stability and reduce the need for routine maintenance and/or rehabilitation/replacement activities and be subject to approval by DPW.

MV 4.21-4 Prior to building permit, in-stream tributary channel design features for Lion Canyon drainage will be incorporated to control potential hydromodification impacts to geomorphology and riparian resources. The design will be based on erosion potential and other hydrologic modeling to determine appropriate equilibrium slope in the post-development condition as described in the Subregional Stormwater Mitigation Plan and be subject to approval by DPW.

MV 4.21-5 Sediment/debris control structures must be constructed downstream of natural watersheds to protect developed area drainage systems from debris flows. The design capacity for sediment/debris control structures must take into account the classifications stated in the debris production maps provided in Appendix A of the DPW 1991 Hydrology Manual. Sediment/debris control structure capacity and transport rates must be based on the specification stated in the DPW Sedimentation Manual.

MV 4.21-6 A Geomorphology Monitoring and Management Plan (Plan) will be prepared to ensure that the modified/re-engineered Lion Canyon drainage comply with the mitigation objectives and design goals outlined in the Newhall Ranch Tributary Channel Design Guidelines (PWA 2008). Specifically, the Plan shall include the measures to be implemented to ensure the integrity of the structural elements and a state of "constrained dynamic equilibrium.[12]" The Plan shall specify the following: (1) a framework to collect baseline data to characterize conditions immediately after construction; (2) a post-development monitoring program; (3) a framework to develop erosion and sedimentation threshold parameters and performance standards that activate adaptive management measures across a series of potential future scenarios; and, (4) contingency plans and appropriate remedial measures in the event that management efforts are not successful. The Plan shall be subject to final approval by the U.S. Army Corps of Engineers, CDFG, and DPW.

12 In this context, "constrained dynamic equilibrium" indicates that the channels will be designed to periodically change width, depth, and location on the floodplain in response to changing rainfall and vegetation dynamics, but stay within a predefined corridor and not encroach on infrastructure or fill slopes.

9. CUMULATIVE IMPACTS

Because the Mission Village project implements a part of the Newhall Ranch Specific Plan, this Draft EIR is tiering from the certified Newhall Ranch Specific Plan Program EIR and Revised Additional Analysis in accordance with Public Resources Code Section 21093(a) and *State CEQA Guidelines* Section 15168(c). Public Resources Code Section 21093 encourages a lead agency to "tier" from a previously certified program EIR, whenever feasible. In this way, the Draft EIR can focus on site-specific issues relating to the Mission Village project and allow the County, as the lead agency, to concentrate on issues ripe for decision while excluding from consideration issues already decided. (*State CEQA Guidelines* Sections 15168(c), 15385)

In this case, cumulative impacts on the hydrology and hydraulics of the Santa Clara River associated with development of the entire Newhall Ranch Specific Plan were fully evaluated in Section 2.3 (Floodplain Modifications) of the Newhall Ranch Revised Additional Analysis (May 2003). Consequently, this Draft EIR incorporates by reference the floodplain modification analysis and conclusions from the certified Revised Additional Analysis (May 2003).

That analysis concluded that the reduction in floodplain area caused by bank protection would not create a significant increase in overall velocities or water depth, because the volume of flow carried in these shallow, slow-moving areas along the margins of the river is small. Moreover, variations are localized and limited in scope, especially when viewed in the entirety of the river corridor within the Specific Plan site and downstream. Therefore, the overall mosaic of habitats in the river would be maintained because the key hydraulic characteristics would not be significantly different under the Specific Plan. Based on these results, the Board of Supervisors found that the proposed bank protection and bridges associated with the Specific Plan would not cause significant changes to key hydraulic characteristics, and, therefore, would not alter the amount and pattern of aquatic, wetland, and riparian habitats in the river at the Specific Plan site and downstream in Ventura County.

10. CUMULATIVE MITIGATION MEASURES

No additional mitigation beyond those contained in **Section 4.3, Biota**, for the project are required because no significant cumulative impacts to biological resources are anticipated due to construction of the bank stabilization, bridge, or changes in the floodplain due to project modifications.

11. SIGNIFICANT UNAVOIDABLE IMPACTS

No significant unavoidable project or cumulative impacts are anticipated.

4.22 WATER QUALITY

1. SUMMARY

This section is based on the Mission Village Water Quality Technical Report and related appendices, prepared by Geosyntec Consultants (2010). A copy of this report is included in ***Appendix 4.22*** *of this EIR. In addition, various materials and documents were used or referenced in connection with the preparation of this section. The documents are available for public review at the County of Los Angeles Department of Regional Planning and are incorporated by this reference. The report and this section focus on potential water quality impacts. For analysis of the potential hydrological impacts of the project, please see* ***Section 4.2***, ***Hydrology****.*

The Mission Village tract map site presently consists of open space, agriculture, and oil and gas extraction wells with associated access roads, and runoff is conveyed via natural drainages and existing concrete channels to ultimately discharge to the Santa Clara River. Construction and operation of the Mission Village project would replace open space, agricultural land, and extraction well pad runoff with urban runoff. The following summarizes the impacts of the pollutants of concern under wet- and dry-weather conditions in the post-developed conditions:

- ***Sediments:*** *Municipal Separate Storm Sewer System (MS4) Permit, Construction General Permit, Dewatering General Permit, and Standard Urban Stormwater Mitigation Plan (SUSMP)-compliant Best Management Practices (BMPs) would be incorporated into the project to address sediment in both the construction phase and post-development. Mean total suspended solids concentration and loads are predicted to be less in the post-development condition than in the existing conditions. Turbidity in stormwater runoff would be controlled through implementation of a Construction Stormwater Pollution Prevention Plan (SWPPP) and would be permanently reduced through the stabilization of erodible soils with development. On this basis, the impact of the project on sediments is considered less than significant.*

- ***Nutrients (Phosphorus and Nitrogen [Nitrate+Nitrite-N and Ammonia-N]):*** *MS4 Permit, Construction General Permit, Dewatering General Permit, and SUSMP-compliant BMPs would be incorporated into the project to address nutrients in both the construction phase and post-development. Average annual loads for total phosphorus, nitrate plus nitrite and ammonia are predicted to increase from the project due to increased average annual runoff volume. Average concentrations are predicted to decrease for total phosphorus, nitrate-N plus nitrite-N, and ammonia. Average concentrations are predicted to be within the range of observed wet weather values for Santa Clara River Reach 5. Average nitrate-N plus nitrite-N and ammonia-N concentrations are predicted to be well below Los Angeles Regional Water Quality Control Board Basin Plan objectives and Total Maximum Daily Load (TMDL) wasteload allocations. The predicted nutrient concentrations are not expected to cause increased algae growth. On this basis, the impact of the project on nutrients is considered less than significant.*

- ***Trace Metals:*** *MS4 Permit, Construction General Permit, General Dewatering Permit, and SUSMP-compliant BMPs would be incorporated into the project to address trace metals in both the construction phase and post-development. Aside from dissolved copper concentrations which are predicted to increase, the average annual trace metal concentrations are predicted to decrease with project development. Average annual trace metal loads are predicted to increase due to the increase in average annual runoff volume. These differences in loads and volumes concerning trace metals are due to the change of land use (from*

agriculture, oil and gas extraction, and open space to developed) condition. Predicted average annual concentrations of dissolved copper, total lead, dissolved zinc, and total aluminum are below benchmark Basin Plan objectives, California Toxics Rule (CTR) criteria, and National Ambient Water Quality Criteria (NAWQC) criteria. Cadmium is not expected to be present at significant levels in runoff discharges from the project. On this basis, the impact of the project on trace metals is considered less than significant.

- ***Chloride:*** *MS4 Permit, Construction General Permit, Dewatering General Permit, and SUSMP-compliant BMPs would be incorporated into the project to address chloride in both the construction phase and post-development. The mean predicted concentration and load of chloride is predicted to increase with development, although the predicted concentration is well below the Basin Plan objective and is near the low end of the range of observed values in the Santa Clara River Reach 5. On this basis, the impact of the project on chloride is considered less than significant.*

- ***Pesticides:*** *Pesticides in runoff may or may not increase in the post-development phase as a result of landscape applications. Proposed pesticide management practices, including source control, removal with sediments in treatment control PDFs, and advanced irrigation controls, would minimize the presence of pesticides in runoff. During the construction phase of the project, erosion and sediment control BMPs and source controls implemented per General Permit and General De-Watering Permit requirements would prevent pesticides associated with sediment from being discharged. Final site stabilization would limit mobility of legacy pesticides that may be present in pre-development conditions. On this basis, the impact of pesticides is considered less than significant.*

- ***Pathogens:*** *Post-development pathogen sources include both natural and anthropogenic sources. The natural sources include bird and mammal excrement. Anthropogenic sources include leaking septic and sewer systems and pet wastes. Removal of agriculture and ranching operations and a reduction in open space within the project area would reduce the bacteria produced by livestock and wildlife. The project would not include septic systems and the sewer system would be designed to current standards, minimizing the potential for leaks. Thus, pet wastes are the primary source of concern. Pathogens are not expected to occur at elevated levels during the construction phase of the project. The project design features (PDFs) would include source controls and treatment controls which in combination should help to reduce pathogen indicator levels in post-development stormwater runoff. On this basis, the project's impact on pathogen and pathogen indicators is considered less than significant.*

- ***Hydrocarbons:*** *Hydrocarbon concentrations would likely increase post-development because of vehicular emissions and leaks. In stormwater runoff, hydrocarbons are often associated with soot particles that can combine with other solids in the runoff. Such materials are subject to treatment in the proposed extended detention basins and bioretention areas. Source control BMPs incorporated in compliance with the MS4 Permit, the Construction General Permit, and the SUSMP would also minimize the presence of hydrocarbons in runoff. During the construction phase of the project, pursuant to the Construction General Permit, the Construction Stormwater Pollution Prevention Plan must include BMPs that address proper handling of petroleum products on the construction site, such as proper petroleum product storage and spill response practices, and those BMPs must effectively prevent the release of hydrocarbons to runoff per the Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology (BAT/BCT) standards. On this basis, the impact of the project on hydrocarbons is considered less than significant.*

- ***Trash and Debris:*** *Trash and debris in runoff are likely to increase with development. However, the project PDFs, including source control and treatment BMPs incorporated in compliance with the MS4 Permit and the SUSMP requirements would minimize the adverse impacts of trash and debris. Source controls, such as street sweeping, public education, fines for littering, covered trash receptacles, and storm drain stenciling are effective*

in reducing the amount of trash and debris that is available for mobilization during wet weather. Trash and debris would be captured in catch basin inserts in the commercial area parking lots and in the treatment control PDFs. During the construction phase of the project, PDFs implemented per Construction General Permit and Dewatering General Permit requirements would remove trash and debris through the use of BMPs such as catch basin inserts and by general good housekeeping practices. Trash and debris are not expected to significantly impact receiving waters due to the implementation of the project PDFs.

- ***Methylene Blue Activated Substances (MBAS):*** *The presence of soap in runoff from the project would be controlled through the source control PDFs, including a public education program on residential and charity car washing and the provision of a centralized car wash area directed to the sanitary sewer in the multi-family residential areas. Project source control PDFs would reduce the impacts of soaps in post-construction runoff. Other sources of MBAS, such as cross connections between sanitary and storm sewers, are unlikely given modern sanitary sewer installation methods and inspection and maintenance practices. During the construction phase of the project, equipment and vehicle washing would not use soaps or any other MBAS sources. Therefore, MBAS are not expected to significantly impact the receiving waters of the proposed project.*

- ***Cyanide****: In addition to the expected relatively low level of cyanide in untreated stormwater, cyanide in runoff from the project would be readily removed by biological uptake, degradation by microorganisms, and by volatilization in the treatment PDFs. Therefore, cyanide is not expected to significantly impact the receiving waters of the proposed project.*

- ***Bioaccumulation:*** *According to scientific literature, the primary pollutants that are of concern with regard to bioaccumulation are mercury and selenium. However, selenium and mercury are not of concern in this watershed, so bioaccumulation of selenium and mercury is also not expected to result either during the construction or post-development project phases. On this basis, the potential for bioaccumulation in the Santa Clara River and adverse effects on waterfowl and other species is considered less than significant.*

- ***Construction Impacts:*** *Construction impacts on water quality are generally caused by soil disturbance and subsequent suspended solids discharge, or by discharge of certain non-sediment-related pollutants, including construction materials (e.g., paint, stucco, etc); chemicals, liquid products, and petroleum products used in building construction or the maintenance of heavy equipment; and concrete-related pollutants. These impacts would be minimized through implementation of construction BMPs that would meet or exceed measures required by the Construction General Permit, as well as BMPs that control the other potential construction-related pollutants (e.g., petroleum hydrocarbons and metals). A SWPPP specifying BMPs for the site that meet or exceed BAT/BCT standards would be developed as required by, and in compliance with, the Construction General Permit and Los Angeles County Standard Conditions. Erosion control BMPs, including but not limited to hydro-mulch, erosion control blankets, stockpile stabilization, and other physical soil stabilization techniques, also would be implemented to prevent erosion, whereas sediment controls, including but not limited to silt fencing, sedimentation ponds, and secondary containment on stockpiles, would be implemented to trap sediment and prevent discharge. Non-stormwater and construction waste and materials management BMPs (such as vehicle and equipment fueling and washing BMPs; nonvisible pollutant monitoring; and BMPs to manage materials, products, and solid, sanitary, concrete, hazardous, and hydrocarbon wastes) also would be deployed to protect construction site runoff quality. On this basis, the construction-related impact of the project on water quality is considered less than significant.*

- ***Regulatory Requirements:*** *The proposed project satisfies MS4 Permit requirements for new development, including SUSMP requirements and low impact development (LID) requirements, and satisfies construction-related requirements of the Construction General Permit and General Dewatering Permit. Therefore, the project would comply with water quality regulatory requirements applicable to stormwater runoff.*

Finally, the proposed Mission Village project, including proposed drainage and hydromodification controls, would not substantially alter the existing drainage pattern of the Santa Clara River in a manner that would cause substantial erosion, siltation, or channel instability; or substantially increase the rates, velocities, frequencies, duration, and/or seasonality of flows in a manner that causes channel instability or in a manner that harms sensitive habitats or species in the River. Therefore, the impact of the project on hydromodification is considered less than significant.

2. INTRODUCTION

a. Relationship of Project to Newhall Ranch Specific Plan Program EIR

Section 4.2 of the Newhall Ranch Specific Plan (NRSP) Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with the impacts on hydrology and water quality for the entire Specific Plan. The Newhall Ranch mitigation program was adopted by the County in findings and in the revised Mitigation Monitoring Plans for the Specific Plan and Water Reclamation Plant (WRP). The NRSP Program EIR concluded that Specific Plan implementation would result in significant impacts, but that the identified mitigation measures would reduce the impacts to below a level of significance. The EIR also determined that site-specific final hydrology and grading plans would be required as the Specific Plan is implemented through the application and processing of tentative subdivision maps for Newhall Ranch. All subsequent project-specific development plans and tentative subdivision maps must be consistent with the Newhall Ranch Specific Plan, and the County of Los Angeles General Plan and Santa Clarita Valley Area Plan.

This project-level EIR is tiering from the previously certified Specific Plan Program EIR. **Section 4.22** assesses the Mission Village project's existing conditions, the project's potential water quality impacts, the applicable mitigation measures from the Specific Plan Program EIR and any new project-specific mitigation measures recommended by this EIR for the Mission Village project.

b. Definitions

Several terms and acronyms are identified below and used throughout this section of the EIR.

Acute Toxicity	The toxic effect that occurs immediately or shortly after a single, episodic exposure (four days or less).
USACE	United States Army Corps of Engineers.
Basin Plan	California Regional Water Quality Control Board, Los Angeles Region, (RWQCBLAR) Water Quality Control Plan (Basin Plan) for the Los Angeles Region (dated 13 June 1994; approved 23 February 1995).

Beneficial Uses	The existing or potential uses of receiving waters in the permit area as designated in the Basin Plan.[1]
Best Available Technology Economically Achievable (BAT)	A point source best management practice that reduces toxic (including heavy metals and man-made organics) and non-conventional (such as chloride and nitrogen) pollutants in discharges.
Best Conventional Pollutant Control Technology (BCT)	A best management practice that reduces conventional pollutants (including Total Suspended Solids [TSS], oil and grease, fecal coliform, pH, and bacteria) in discharges from construction sites.
Best Management Practices (BMPs)	In water pollution control, the best means available to control pollution of waterways from non-point sources, as opposed to best available technology, which applies to pollution control for point sources. BMPs include methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and non-point source discharges including storm water. BMPs include structural and nonstructural controls and operation and maintenance procedures that can be applied before, during, and/or after pollution producing activities.[2]
Bioretention	Bioretention areas are vegetated (i.e., landscaped) shallow depressions that provide storage, infiltration, and evapotranspiration, and also provide for pollutant removal (e.g., filtration, adsorption, nutrient uptake) by filtering stormwater through the vegetation and soils. In bioretention areas, pore spaces and organic material in the soils help to retain water in the form of soil moisture and to promote the adsorption of pollutants (e.g., dissolved metals and petroleum hydrocarbons) into the soil matrix. Plants utilize soil moisture and promote the drying of the soil through transpiration.
Capital Flood (Qcap)	Theoretical 50-year design storm assumed to occur over a drainage area that has been burned and that contributes debris to runoff. Use in flood control design is required by Los Angeles County for major systems and sump conditions.
Cartridge Media Filtration	Cartridge media filtration is a passive, flow-through filtration system typically comprised of a vault (or catch basin for small drainage catchments) that houses rechargeable, media-filled cartridges that trap particulates and remove pollutants such as dissolved metals, nutrients, and hydrocarbons. During the filtering process, the treatment system also removes surface scum and floating oil and grease.

1 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

2 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

Chronic Toxicity	A toxic effect that occurs after repeated or prolonged exposure.
CDFG	California Department of Fish and Game.
CTR	California Toxics Rule (40 CFR 131.38).
CWA	The Federal Clean Water Act (33 USC Sections 1251 *et seq*.).
Dry Extended Detention Basins	Dry extended detention basins are surface impoundments designed with outlets that detain the runoff volume from the water quality design storm for some minimum time (typically 36 to 48 hours) to allow particulates and associated pollutants (phosphorus, trace metals, some pesticides, and other pollutants) to settle out.
EMC	Event Mean Concentration, which is the average concentration of a pollutant in the runoff from a storm event, equal to the total mass of pollutant divided by the total volume of storm runoff.
ESA	Endangered Species Act (7 USC Section 136, 16 USC Sections 460 *et seq*.).
First Flush	The first storm events in the wet season typically have higher concentrations of pollutants due to accumulation during the dry months. Pollutants deposited onto exposed areas can be dislodged and entrained by runoff; therefore, the storm water that initially runs off an area would be more polluted than the storm water that runs off after the initial rainfall. The storm water containing this high initial pollutant load is called the "first flush." Storm events occurring later in the wet season would typically have lower concentrations as less time elapses between storm events and less accumulation occurs. In general terms, the water quality design storms defined by SUSMP approximate the first flush event (see SUSMP).
General MS4 Permit	Regional Water Quality Control Board, Los Angeles Region Order No. 01-182, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS004001 (December 13, 2001).
HSS	Hydrodynamic separation systems (HSS) are flow-through BMPs that are installed within a storm line in order to remove large sediment particles and associated storm water pollutants, as well as floatable trash, oils, and grease.
LACDPW	Los Angeles County Department of Public Works.
MEP	Maximum Extent Practicable, the standard established by Section 402(p) of the Federal Clean Water Act (33 USC Section 1342(p)) for the implementation of storm water management programs to reduce pollutants in storm water. CWA Section 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the administrator or the state determines appropriate for the control of such

	pollutants."[3] This standard has been defined to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived.[4]
MS4	Municipal Separate Storm Sewer System, a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a state, city, county town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to "waters of the U.S." (See definition, below).[5]
NAWQC	National Ambient Water Quality Criteria.
Non-Storm Water Discharge	Any discharge to a storm drain that is not composed entirely of storm water.[6]
NPDES	National Pollutant Discharge Elimination System, the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and imposing and enforcing pretreatment requirements, under CWA Sections 307, 402, 318, and 405.[7]
Receiving Waters	All surface water bodies and groundwater in the Los Angeles Region that are identified in the Basin Plan and to which the proposed project discharges.[8]
RWQCB	Regional Water Quality Control Board, Los Angeles Region.
Source Control BMP	Any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices, or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.[9]
SUSMP	The Los Angeles Countywide Standard Urban Storm Water Mitigation Plan, which addresses conditions and requirements of new development.[10]

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3 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

4 February 11, 1993 memorandum issued by the Office of Chief Counsel of the State Water Resources Control Board.

5 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

6 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

7 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

8 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

9 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

10 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

SWRCB	State Water Resources Control Board.
SQMP	The Los Angeles Countywide Stormwater Quality Management Program, which includes descriptions of programs, collectively developed by the permittees under the General MS4 Permit in accordance with provisions of the NPDES Permit, to comply with applicable federal and state law, as the same is amended from time to time.[11]
SWPPP	Storm Water Pollution Prevention Plan, a plan, as required by a State General Construction Activity Storm Water Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-storm water discharges and reduce pollutants in storm water discharges during activities covered by the General Permit.[12]
Structural BMP	Any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution.[13]
TMDL	Total Maximum Daily Load, the sum of the individual wasteload allocations for point sources and load allocations for non-point sources, and natural sources that a water body may receive without compromising the designated beneficial use.[14] TMDLs are designated only for impaired (i.e., Section 303(d) listed) water bodies and then only as necessary to address the impairment.
Treatment Control BMP	Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process[15] (see Structural BMP).
U.S. EPA	United States Environmental Protection Agency.
USFWS	United States Fish and Wildlife Service.
Vegetated Swales	Vegetated swales are vegetated channels specifically designed to remove particulates and to reduce the velocity of runoff through the storm system. Swales provide pollutant removal through settling and filtration in the vegetation (often grasses) lining the channels and also provide the opportunity for volume reduction through infiltration and evapotranspiration.

11 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

12 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

13 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

14 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

15 RWQCBLAR Order No. 01-182, NPDES Permit No. CAS004001, Glossary section.

Waters of the U.S. — All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide; all interstate waters including interstate wetlands; all other waters, such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce including any such waters (1) which are or could be used by interstate or foreign travelers for recreational or other purposes; or (2) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) which are used or could be used for industrial purposes by industries in interstate commerce. Also included are all impoundments of waters otherwise defined as "waters of the U.S." under the definition; tributaries of water identified above; the territorial seas; and wetlands adjacent to waters (other than the waters that are themselves wetlands) identified above.[16]

By USACE definition, "waters of the U.S." are defined by the ordinary high water mark, which can be identified by physical characteristics, such as channel scouring, bank shelving, areas cleared of terrestrial vegetation, litter and debris, or other indications that may be appropriate.

Wetlands — Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.[17]

3. SUMMARY OF THE NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

The Newhall Ranch Specific Plan Program EIR identified certain potentially significant impacts related to water quality from implementation of the Specific Plan. Specifically, the Program EIR, and related findings, determined that implementation of the adopted Specific Plan would significantly increase the potential for erosion and sediment discharge downstream during grading activity. Ongoing operation of urban uses also could result in the release of fertilizers, herbicides, or other types of contaminants that could potentially impact surface water quality. Without mitigation, impacts would be significant.

In response to identified significant impacts, the Specific Plan Program EIR identified seven feasible mitigation measures.[18] Based on substantial evidence in the record, the Board of Supervisors found that

16 33 Code of Federal Regulations (CFR) Part 328.3a.

17 33 Code of Federal Regulations (CFR) Part 328.3a.

18 See, Mitigation Measures 4.2-1 through 4.2-7 in both the certified NRSP Program EIR (March 9, 1999) and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

adoption of the recommended mitigation measures would reduce the identified potentially significant impacts to less than significant levels.

4. EXISTING CONDITIONS

a. Regulatory Setting

(1) Federal Clean Water Act

The CWA sets forth the national strategy for controlling water quality. The primary purpose of the act is "… to restore and maintain the chemical, physical, and biological integrity of the Nation's waters…" and to attain a level of water quality "… which provides for the protection of and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water …" (33 United States Code [USC] Section 1251(a)).

In 1972, the CWA was amended to require NPDES permits for the discharge of pollutants to waters of the United States from any point source. In 1987, the CWA again was amended to require that the U.S. EPA establish regulations for the permitting of municipal and industrial stormwater discharges under the NPDES permit program. The U.S. EPA published final regulations regarding stormwater discharges on November 16, 1990. The regulations require that MS4 discharges to surface waters be regulated by an NPDES permit.

In addition, the CWA requires the states to adopt water quality standards for receiving water bodies and to have those standards approved by the U.S. EPA. Water quality standards consist of designated beneficial uses for a particular receiving water body (e.g., wildlife habitat, agricultural supply, fishing, etc.), along with water quality criteria necessary to support those uses. Water quality criteria are prescribed concentrations or levels of constituents—such as lead, suspended sediment, and fecal coliform bacteria—or narrative statements which represent the quality of water that support a particular use. Because California did not establish a complete list of acceptable water quality criteria, U.S. EPA established, in the CTR, numeric water quality criteria for certain toxic constituents in receiving waters with human health or aquatic life designated uses (40 CFR Section 131.38).

(a) CWA Section 303(d) – TMDLs

When designated beneficial uses of a particular receiving water body are being compromised by water quality, Section 303(d) of the CWA requires identifying and listing that water body as "impaired." Once a water body has been deemed impaired, a TMDL must be developed for the impairing pollutant(s). A TMDL is an estimate of the total load of pollutants from point, non-point, and natural sources that a water body may receive without exceeding applicable water quality standards (with a "factor of safety" included). Once established, the TMDL allocates the loads among current and future pollutant sources to the water body.

The Mission Village project would discharge stormwater and runoff to Santa Clara River Reach 5. **Table 4.22-1, 2006 CWA Section 303(d) Listings for the Santa Clara River Main Stem**, lists the water quality impairments for the Santa Clara River main stem as reported on the 2006 CWA Section 303(d) List of Water Quality Limited Segments, including reaches upstream of the project location. Reach 5 of the Santa Clara River is listed for coliform bacteria. Santa Clara River Reach 3, approximately 25 miles downstream of the project location and below the Dry Gap in Reach 4, is listed for total dissolved solids (TDS). Santa Clara River Reach 1, approximately 30 miles downstream of the project location, is listed for toxicity. The Santa Clara River estuary, located approximately 40 miles downstream of the project location, is listed for coliform, chlorinated legacy pesticides, and Toxaphene.

The RWQCB has adopted nitrogen compounds (nitrate-nitrogen plus nitrite-nitrogen and ammonia), chloride; and indicator bacteria TMDLs in the Basin Plan. **Table 4.22-2, 2006 CWA Section 303(d) List of Water Quality Limited Segments Being Addressed By EPA Approved TMDLs,** lists the 2006 Section 303(d) List of Water Quality Limited Segments Being Addressed by EPA Approved TMDLs. The Indicator Bacteria TMDL, adopted by the Regional Board on July 8, 2010, must be submitted for review and approval to the SWRCB, the State Office of Administrative Law, and the U.S. EPA. Reach 7 of the Santa Clara River (Bouquet Canyon Road to above Lang Gaging Station) is listed for coliform bacteria. Reach 6 (West Pier Highway 99 to Bouquet Canyon Road) is listed for coliform bacteria, chlorpyrifos, diazinon, and toxicity; ammonia and chloride are listed as "being addressed" in the reach. The wasteload allocations for municipal stormwater discharges into Reach 5 of the Santa Clara River are summarized in **Table 4.22-3, TMDL Wasteload Allocations for MS4 and Stormwater Sources to Santa Clara River Reach 5**. Pollutant reductions are regulated through effluent limits prescribed in Publicly Owned Treatment Works (POTW) and minor point source NPDES Permits, BMPs required in NPDES MS4 Permits, and SWRCB Management Measures for non-point source discharges. The RWQCB has not yet adopted a TMDL for coliform in Reach 5.

Table 4.22-1
2006 CWA Section 303(d) Listings for the Santa Clara River Main Stem

Santa Clara River Reach or Tributary[1]	Geographic Description and Distance from Project to Upstream End of Reach	Pollutants	303(d) List Proposed TMDL Completion	Potential Sources
7	Bouquet Canyon Rd to above Lang Gaging Station (5 miles upstream)	1) Coliform Bacteria	1) Requires TMDL/2019[2]	1) Nonpoint and Point Sources
6	West Pier Hwy 99 to Bouquet Cyn Rd (Directly upstream of Project site)	1) Coliform Bacteria 2) Chlorpyrifos 3) Diazinon 4) Toxicity 5) Ammonia 6) Chloride	1) Requires TMDL/2019[2] 2) Requires TMDL/2019 3) Requires TMDL/2019 4) Requires TMDL/2019 5) Approved TMDL/2004 6) Approved TMDL/2005	1) Source Unknown 2) Nonpoint and Point Sources 3) Source Unknown] 4) Source Unknown 5) Source Unknown 6) Nonpoint and Point Sources
5	Blue Cut Gaging Station to West Pier Hwy 99 (Project location)	1) High Coliform Count	1) 2019[2]	1) Nonpoint and Point Sources
3	Freeman diversion dam to "A" street [1] (25 miles downstream)	1) Total Dissolved Solids	1) 2019	1) Nonpoint and Point Sources
1	Estuary to Highway 101 Bridge (30 miles downstream)	1) Toxicity	1) 2019	1) Source Unknown
--	Estuary (40 miles downstream)	1) ChemA[3] 2) Coliform 3) Toxaphene	1) 2019 2) 2019[2] 3) 2019	1) Source Unknown 2) Nonpoint Source 3) Nonpoint Source

Source: Geosyntec, 2010.

[1] *Reach 3 is downgradient of the "dry gap" in Reach 4.*

[2] *Indicator Bacteria TMDL adopted by LARWQCB in July 2010; not yet approved by SWRCB and U.S. EPA.*

[3] *ChemA suite of chlorinated legacy pesticides include: Aldrin, chlordane, Dieldrin, Endosulfan I/II, Endrin, gamma-BHC, heptachlor, heptachlor epoxide, and Toxaphene.*

Table 4.22-2
2010 CWA Section 303(d) List of Water Quality Limited Segments Being Addressed By EPA Approved TMDLs

Water Body Name	Pollutants	Potential Sources	EPA Approved TMDL
Santa Clara River Reach 6	Chloride	Nonpoint/Point Source	2005
Santa Clara River Reach 5	Chloride	Nonpoint/Point Source	2005
Santa Clara River Reach 3	Ammonia Chloride	Nonpoint/Point Source Nonpoint/Point Source	2002 2002

Source: Geosyntec, 2010.

Table 4.22-3
TMDL Waste Load Allocations for MS4 and Stormwater Sources to Santa Clara River Reach 5

Impairing Pollutant	Numeric Water Quality Objective	Waste Load Allocation
Chloride	Reach 5: 150 mg/L only when chloride load reductions and/or chloride export projects are in operation and reduce chloride loading; otherwise: 100 mg/L.	Conditional waste load allocations (WLAs) for the Saugus Wastewater Reclamation Plant (WRP) and the Valencia WRP were revised from the Chloride TMDL (03-008). Other NPDES discharges contribute a minor chloride load. The conditional waste load allocations for these point sources is 150 mg/L (12-month average) and 230 mg/L (daily maximum). The source analysis indicates that non-point sources are not a major source of chloride. The conditional load allocations for non-point sources for Reach 5 is 150 mg/L (12-month average) and 230 mg/L (daily maximum). The conditional WLAs for chloride for all point sources shall apply only when chloride load reductions and/or chloride export projects are in operation by the Santa Clarita Valley Sanitation District. If these conditions are not met, waste load allocations shall be based on existing water quality objectives for chloride of 100 mg/L.

<table>
<tr><th>Impairing Pollutant</th><th>Numeric Water Quality Objective</th><th>Waste Load Allocation</th></tr>
<tr>
<td>Indicator Bacteria (Resolution R10-006)</td>
<td>
Numeric Targets:
<table>
<tr><th>Constituent</th><th>SCR Reach 5 Requirement</th></tr>
<tr><td>E. Coli (Single Sample)</td><td>235/100 mL</td></tr>
<tr><td>E. Coli (Geometric Mean)</td><td>126/100 mL</td></tr>
</table>
</td>
<td>
Wasteload Allocations are given in terms of allowable exceedance days. The numeric targets may not be exceeded more than the number of allowable exceedance days allotted in the tables below.
Interim Allowable Exceedance Days
(Enforceable 4 years after effective date of TMDL):
<table>
<tr><th>Time Period</th><th>Santa Clara River Reach 5</th></tr>
<tr><td>Dry Weather</td><td>17 allowable exceedance days of singe sample objectives.</td></tr>
<tr><td>Wet Weather</td><td>61 allowable exceedance days of singe sample objectives;</td></tr>
</table>
Allowable Exceedance Days
(Dry Weather enforceable 11 years after effective date of TMDL; Wet Weather enforceable 17 years after effective date of TMDL):
<table>
<tr><th>Time Period</th><th>Santa Clara River Reach 5</th></tr>
<tr><td>Dry Weather</td><td>5 allowable exceedance days of singe sample objectives:
0 allowable exceedances of geometric mean objectives</td></tr>
<tr><td>Wet Weather</td><td>16 allowable exceedance days of singe sample objectives;
0 allowable exceedances of geometric mean objectives</td></tr>
</table>
</td>
</tr>
</table>

Impairing Pollutant	Numeric Water Quality Objective			Waste Load Allocation
Nitrogen Compounds	The numeric target for nitrogen in this TMDL is based on achieving the existing nitrogen water quality objective of 5 mg/L NO_3-N + NO_2-N. (The numeric target that is used to calculate the waste load allocations includes a 10% margin of safety; thus the numeric target is 4.5 mg/L NO_3-N + NO_2-N) (30 day average). The water quality objective for ammonia in Reach 5 used in the Nitrogen Compounds TMDL were based on temperature and pH for different river segments within the reach:			Concentration-based waste loads are allocated to municipal, industrial and construction stormwater sources regulated under NPDES permits. For stormwater permittees discharging into Reach 5, the following waste load allocations apply: 30-day average nitrate plus nitrite =6.8 mg/L (NO_3-N + NO_2-N) 1-hour average ammonia = 5.2 mg/L (NH_3 as N) 30-day average ammonia = 1.75 mg/l (NH_3 as N)
	Ammonia Water Quality Objective (mg/L as N)[1]			
	Santa Clara River Reach	**1-hour average**	**30-day average**	
	Reach 5 at County Line	3.4	1.2	
	Reach 5 below Valencia	5.5	2.0	
	Reach 5 above Valencia	4.8	2.0	

Source: Geosyntec, 2010.

[1] The numeric targets are 10 percent smaller, to incorporate a margin of safety.

mg/L = milligrams per liter.

The Los Angeles Region 2008 Integrated Report and updated 303(d) list was approved by the Los Angeles Regional Board in July, 2009. The Integrated Report, including the updated 303(d) list, was submitted to the State Water Resources Control Board for approval along with the other Region's reports. The full State Integrated Report will then be submitted to the U.S. EPA for approval and will then be final. The Santa Clara River impairments in the draft 2008 303(d) list are summarized in Table 3-4 below. Table 3-5 lists the 2008 Section 303(d) List of Water Quality Limited Segments Being Addressed by EPA Approved TMDLs. There are no changes in the listed impairments for Reach 1. New impairments are listed for nitrate in the estuary, toxicity in the estuary and Reach 3, iron in Reach 5 and Reach 6, benthic-macroinvertebrate bioassessment in Reach 6, and copper in Reach 6. Ammonia, nitrate and nitrite are proposed for delisting in Reach 5 and ammonia is proposed for delisting in Reach 6.

(2) California Toxics Rule

The CTR is a federal regulation issued by the U.S. EPA providing water quality criteria for potentially toxic constituents in receiving waters with human health or aquatic life designated uses in the State of California. CTR criteria are applicable to the receiving water body and therefore must be calculated based upon the probable hardness values of the receiving waters for evaluation of acute (and chronic) toxicity criteria. At higher hardness values for the receiving water, copper, lead, and zinc are more likely to be complexed (bound with) components in the water column. This in turn reduces the bioavailability and resulting potential toxicity of these metals.

Due to the intermittent nature of stormwater runoff (especially in Southern California), the acute criteria are considered to be more applicable to stormwater conditions than chronic criteria and therefore are used in assessing Project impacts. For example, the average storm duration for storms greater than 0.1 inch in the 40-year Newhall rain gauge record is 1211.4 hours. Acute criteria represent the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time (one hour) without deleterious effects; chronic criteria equal the highest concentration to which aquatic life can be exposed for an extended period of time (four days) without deleterious effects.

The minimum wet-weather hardness value of 250 mg/L as $CaCO_3$ from USGS station 11108500 was used to approximate CTR criteria for metals. This value is likely to be more representative of conditions in the Santa Clara River within the Project area than the SCR Station 29 based on the water quality data summarized above. As per requirements of their discharge permit, the Valencia Water Reclamation Plant has a monitoring station just upstream of the Project area. Monthly hardness values for the Santa Clara River at this station ranged from 326 to 360 mg/L as $CaCO_3$ in 2004. Other water quality comparisons to this station were not made due to lack of wet weather monitoring. The hardness value of 250 mg/L is a conservative estimate of wet-weather hardness values that should occur in the Project area, although higher values are likely to occur.

In this document, the CTR criteria are used as one type of benchmark to evaluate the potential ecological impacts of Project runoff on the receiving waters.

(3) California Porter-Cologne Act

The federal CWA places the primary responsibility for the control of water pollution and for planning the development and use of water resources with the states, although it does establish certain guidelines for the states to follow in developing their programs.

California's primary statute governing water quality and water pollution issues is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the federal CWA. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to: adopt plans and policies; regulate discharges of waste to surface and groundwater; regulate waste disposal sites; and, require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region. The Basin Plan must conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its state water policy. To implement state and federal law, the Basin Plan establishes beneficial uses for surface and groundwaters in the region, and sets forth narrative and numeric water quality standards to protect those beneficial uses. The Porter-Cologne Act also provides that a RWQCB may include, within its regional plan, water discharge prohibitions applicable to particular conditions, areas, or types of waste.

(4) Basin Plan

The Basin Plan (1994, as amended) for the Los Angeles region provides quantitative and narrative criteria for a range of water quality constituents applicable to certain receiving water bodies. Specific criteria are provided for the larger, designated water bodies within the region, as well as general criteria or guidelines for ocean waters, bays and estuaries, inland surface waters and groundwaters. In general, the narrative criteria require that degradation of water quality does not occur due to increases in pollutant loads that would adversely impact the designated beneficial uses of a water body. For example, the Los Angeles Basin Plan requires that "[i]nland surface waters shall not contain suspended or settleable solids in amounts which cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors." Water quality criteria apply within receiving waters as opposed to applying directly to runoff; therefore, water quality criteria from the Basin Plan are utilized as benchmarks to evaluate the potential ecological impacts of project runoff on the receiving waters of the proposed project.

(5) MS4 Permit

In 2001, the RWQCB issued an NPDES Permit and Waste Discharge Requirements (Order No. 01-182) under the CWA and the Porter-Cologne Act for discharges of urban runoff in public storm drains in Los Angeles County. The permittees are Los Angeles County and the cities in the County (collectively "the co-permittees"). This permit regulates stormwater discharges from MS4s in the project area. The NPDES permit details requirements for new development and significant redevelopment, including specific sizing criteria for treatment BMPs and flow control requirements.

To implement the requirements of the NPDES permit, the co-permittees have established development planning guidance and control measures that regulate and mitigate stormwater quality and quantity impacts to receiving waters as a result of new development and redevelopment. The co-permittees are also required to implement other municipal source detection and elimination programs, as well as maintenance measures.

(a) Stormwater Quality Management Program

The MS4 Permit contains the following provisions for implementation of the SQMP by the co-permittees:

- General Requirements – Each permittee is required to implement the SQMP to comply with applicable storm water program requirements and implement additional controls where necessary to reduce the discharge of pollutants in stormwater to the MEP.

- BMP Implementation – Permittees are required to implement the most effective combination of BMPs for stormwater/urban runoff pollution control. The project would implement BMPs, consistent with the County's Low Impact Development Standards Manual (January 2009), as applicable.

- SQMP Revision – Permittees are required to revise the SQMP to comply with regional, watershed specific requirements and/or waste load allocations for implementation of TMDLs for impaired waterbodies.

- Responsibilities of the Principal Permittee – The responsibilities of the LACDPW (as the Principal Permittee) include, but are not limited to, coordinating activities necessary to comply with the NPDES permit, providing personnel and fiscal resources for SQMP updates and annual reports and summaries of reports required under the SQMP and implementing and evaluating the results of a county-wide monitoring program.

- Responsibilities of Permittees – Each permittee is required to comply with the requirements of the SQMP applicable to the discharges within its boundaries.

- Watershed Management Committees (WMCs) – WMCs are comprised of a voting representative from each permittee within the Watershed Management Areas (WMAs). WMCs are required to facilitate efforts and exchange of information between permittees, establish additional goals for WMAs, prioritize pollution control efforts, monitor implementation of tasks designated for the WMA and assess the effectiveness of and recommend revisions to the SQMP.

- Legal Authority – Permittees are granted the necessary legal authority to prohibit non-stormwater discharges to the storm drain system.

The objective of the SQMP is to reduce pollutants in urban stormwater discharges to the "maximum extent practicable" in order to attain water quality objectives and to protect the beneficial uses of receiving waters in Los Angeles County. Special provisions are provided in the MS4 Permit to facilitate implementation of the SQMP. These provisions include:

- BMP substitution – Substitution of site-specific BMPs is allowed, provided the alternative BMP would meet or exceed pollutant reduction of the original BMP, the fiscal burden of the original BMP is substantially greater than the proposed alternative, and the alternative BMP would be implemented within a similar period.

- Public Information and Participation Program (PIPP) – This requires the permittee to identify how public education needs were determined, who is responsible for developing and implementing the program, and the method used to determine its effectiveness.

- Industrial/Commercial Facilities Control Program – This requires the permittee to develop a plan for managing stormwater runoff from industrial and commercial facilities. This program would track, inspect, and ensure compliance at industrial and commercial facilities that are the sources of pollutants in storm water.

- Development Planning Program – This requires the permittee to implement a development-planning program that requires new development and redevelopment projects to minimize impacts from stormwater and urban runoff.

- Development Construction Program – This requires the permittee to implement a program to control runoff from construction activity to minimize erosion and transportation of sediment and prevent non-stormwater discharges from equipment and vehicle washing.

- Public Agency Activities Program – This requires municipalities to evaluate existing public agency activities that have an impact on stormwater quality (such as vehicle maintenance, landscape maintenance and weed control, and construction and maintenance of streets, roads, and flood control systems) and to develop a program to reduce stormwater impacts with a schedule for implementation.

- Illicit Connections and Illicit Discharges Elimination Program – This requires each permittee to have a plan for finding and preventing illegal connections and discharges and a mechanism for enforcing against illegal connections and discharges.

(b) Standard Urban Stormwater Mitigation Plan

On March 8, 2000, the development planning program requirements, including the SUSMP requirements (collectively, SUSMP requirements), were approved by the RWQCB as part of the MS4 program to address stormwater pollution from new construction and redevelopment. The SUSMP contains a list of minimum BMPs that must be employed to infiltrate or treat stormwater runoff, control peak flow discharge, and reduce the post-project discharge of pollutants from stormwater conveyance systems. The SUSMP defines, based upon land use type, the types of practices that must be included and issues that

must be addressed as appropriate to the development type and size. Compliance with SUSMP requirements is used as one method to evaluate significance of project development impacts on surface water runoff.

Finalized in May 2000, the County of Los Angeles' *Manual for the Standard Urban Stormwater Mitigation Plan* (Manual) details the requirements for new development and significant redevelopment BMPs. The Manual is a model guidance document for use by permittees and individual project owners to select post-construction BMPs and otherwise comply with the SUSMP requirements. It addresses water quality and drainage issues by specifying design standards for structural or treatment control BMPs that infiltrate or treat stormwater runoff and control peak flow discharge. BMPs are defined in the Manual and SUSMP requirements as any program, technology, process, sizing criteria, operational methods or measures, or engineered systems, which, when implemented, prevent, control, remove or reduce pollution. Treatment BMP designs criteria and guidance are also contained in the MS4 Permit, the SUSMP Manual, and in the *Stormwater Best Management Practice Design and Maintenance Manual For Publicly Maintained Storm Drain Systems* (LACDPW, 2009).

One of the most important requirements within the SUSMP is the specific sizing criterion for stormwater treatment BMPs for new development and significant redevelopment projects. The SUSMP includes sizing criteria for both volume-based and flow-based BMPs. The sizing criteria options for volume-based BMPs, such as extended detention basins, are as follows:

1. The 85th percentile 24-hour runoff storm event determined as the maximized capture stormwater volume for the area, from the formula recommended in Urban Runoff Quality Management, Water Environment Federation (WEF) Manual of Practice No. 23/American Society of Civil Engineers (ASCE) Manual of Practice No. 87;

2. The volume of annual runoff based on unit basin storage volume, to achieve 80 percent or more volume treatment by the method recommended in the 1993 *California Stormwater Best Management Practices Handbook – Industrial/Commercial*;

3. The volume of runoff produced from a 0.75-inch storm event, prior to its discharge to a stormwater conveyance system; or

4. The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County Area) that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile, 24-hour runoff event.

Flow-based BMPs, such as vegetated swales, must be designed to infiltrate or treat the maximum flow rate generated from one of the following scenarios:

1. The flow of runoff produced from a rain event equal to at least 0.2 inch per hour intensity;

2. The flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County; or

3. The flow of runoff produced from a rain event that would result in treatment of the same portion of runoff as treated using volumetric standards above.

Also, the SUSMP includes general design specifications for individual priority project categories. These include:

- single-family hillside homes;
- 100,000-square-foot commercial developments;
- restaurants;
- retail gasoline outlets;
- automotive repair shops; and
- parking lots.

For example, commercial developments must have properly designed loading and unloading dock areas, repair and maintenance bays, and vehicle equipment wash areas. Restaurants need to have properly designed equipment and accessory wash areas. Parking lots have to be properly designed to limit oil contamination and have regular maintenance of parking lot stormwater treatment systems (e.g., storm drain filters and biofilters).

The RWQCB issued a letter in December 2006 that clarifies the Board's compliance expectations for the development planning requirements in Part 4.D of the MS4 Permit. (LARWQCB, 2006. Letter to Mark Pastrella, Assistant Deputy Director, Department of Public Works, County of Los Angeles, from Jonathan Bishop, P.E., Executive Officer, California Regional Water Quality Control Board, Los Angeles Region. December 15, 2006.) Per the clarification letter, the three provisions in Part 4.D that are essential for compliance are: (1) maximization of the percentage of pervious surfaces to allow percolation of storm water into the ground; (2) minimization o the quantity of storm water directed to impervious surfaces and the MS4; and (3) minimization of the pollution emanating from parking lots through the use of appropriate treatment control BMPs and good housekeeping practices.

The proposed Mission Village project is required to incorporate appropriate SUSMP requirements into its plans as part of the approval process for building and grading permits. This analysis will identify at a project level, and consistent with the framework, conclusions, and requirements of the *Newhall Ranch Specific Plan Sub-Regional Stormwater Mitigation Plan*, the design specifications related to treatment control BMPs and other project features associated with the Mission Village project. (Newhall Ranch Specific

Plan Sub-Regional Stormwater Mitigation Plan. Prepared for Newhall Land by Geosyntec Consultants, April 2008.) Design of these BMPs would be finalized by the project engineer with the hydrology study prior to issuance of grading permits to ensure consistency with this analysis. Geosyntec's *Sub-Regional Plan* is provided in **Appendix 4.22**.

(c) Hydromodification and Peak Flow Control

Part 4, Section D.1. of the MS4 Permit notes that increased volume, velocity, and discharge duration of stormwater runoff from developed areas may potentially accelerate downstream erosion and impair habitat-related beneficial uses in natural drainage systems. As a result, the permit stipulates that permittees shall control post-development peak storm water runoff discharge rates, velocities, and durations in natural drainage systems to prevent accelerated stream erosion and to protect stream habitat. Natural drainage systems are defined by the permit to include the Santa Clara River.

Further, under Part 4, Section D.1. of the MS4 Permit, the County and its co-permittees (the County and all cities within the County, except for the City of Long Beach) were required to develop and implement numeric criteria for peak flow control in accordance with the findings of the Peak Discharge Impact Study analyzing the potential impacts on natural streams due to impervious development by February 1, 2005. The LACDPW and the Southern California Storm Water Monitoring Coalition did not complete the Peak Discharge Impact Study in time to meet this deadline. Therefore, on January 31, 2005, the County adopted and submitted to the RWQCB an Interim Peak Flow Standard (Interim Standard) to be in effect until such time as a final standard can be adopted based on a completed study.

The adopted Los Angeles County Interim Standard was derived from a similar Interim Peak Flow Standard for Ventura County approved by the RWQCB under the SUSMP requirements provisions of the MS4 Permit. The intent of the Interim Standard, as described by the County, is to provide protection for natural streams to the extent supported by findings from the ongoing study, and consistent with practical construction practices.

The Interim Standard adopted by the County requires all post development runoff from a 2-year, 24-hour storm not to exceed the predevelopment peak flow rate, burned, from a 2-year, 24-hour storm when the predevelopment peak flow rate equals or exceeds 5 cubic feet per second. Discharge flow rates shall be calculated using the County of Los Angeles Modified Rational Method. The Peak Flow Standard also

requires that post development runoff from the 50-year capital storm not exceed the predevelopment peak flow rate, burned and bulked, from the 50-year capital storm.[19]

As this is an Interim Standard, the County is aware that upon completion of the Peak Discharge Impact Study, new peak flow standards may be determined to be appropriate. Therefore, following final approval of the Peak Flow Interim Standard (PFIS), the County's peak flow requirements may be different.

Per Section 4.D(9) of the MS4 Permit, the *Newhall Ranch Specific Plan Sub-Regional Stormwater Mitigation Plan* provides an alternative performance standard for Specific Plan projects, including Mission Village, to the Interim Peak Flow Standard. The Mission Village project would be conditioned to require, as a project design feature, sizing and design of hydraulic features as necessary to control hydromodification impacts in accordance with performance standards designed to protect channel integrity of the Santa Clara River. The proposed project would incorporate hydromodification control facilities in accordance with this analysis, and the *Newhall Ranch Specific Plan Sub-Regional Stormwater Mitigation Plan*. As part of the hydrology study, and prior to issuance of a grading permit, the project engineer must analyze and design the drainage facilities to meet the performance standards set forth in this analysis and the *Newhall Ranch Specific Plan Sub-Regional Stormwater Mitigation Plan*.

(6) Los Angeles County Low Impact (LID) Development Ordinance

Chapter 12.84 of the Los Angeles County Municipal Code requires the use of LID standards in development projects. Chapter 12.84 requires that applicable development projects:

- Mimic undeveloped stormwater and urban runoff rates and volumes in any storm event up to and including the "50-year capital design storm event," as defined by LACDPW;
- Prevent pollutants of concern from leaving the development site in stormwater as the result of storms, up to and including a water quality design storm event; and
- Minimize hydromodification impacts to natural drainage systems.

To meet these standards, development projects that consist of five or more residential units, or nonresidential development, shall comply with the following:

- The excess volume (defined as the post-developed runoff volume minus the pre-developed runoff volume for the 85th percentile storm event) from each lot upon which such development is occurring shall be infiltrated at the lot level, or in the alternative, the excess volume from the entire development site, including streets and public right-of-way, shall be infiltrated in sub-regional facilities. The tributary area of a sub-regional facility shall be limited to 5 acres, but may be exceeded

19 See, January 31, 2005, letter, signed by Donald L. Wolfe, transmitting the Interim Standard to Jonathan Bishop of the LARWQCB. A copy of this letter is included in the Geosyntec report (2007).

with approval of the Director of LACDPW. When infiltration of all excess volume is not technically feasible, on-site storage, reuse, or other water conservation uses of the excess volume is required and shall be implemented as authorized by the Director of LACDPW.

LACDPW has developed a LID Standards Manual that outlines stormwater runoff quantity and quality control development principles, technologies, and design standards for achieving the LID Standards of Chapter 12.84. The LID Standards Manual requires that large scale residential and nonresidential development projects prioritize the selection of BMPs to treat stormwater pollutants, reduce stormwater runoff volume, and promote groundwater infiltration and stormwater reuse in an integrated approach to protecting water quality and managing water resources. The Manual states that BMPs should be implemented in the following order of preference:

1. BMPs that promote infiltration.
2. BMPs that store and beneficially use stormwater runoff.
3. BMPs that utilize the runoff for other water conservation uses including, but not limited to, BMPs that incorporate vegetation to promote pollutant removal and runoff volume reduction and integrate multiple uses, and BMPs that percolate runoff through engineered soil and allow it to discharge downstream slowly.

If compliance with the above LID requirements is technically infeasible, in whole or in part, the project must incorporate design features demonstrating compliance with the LID requirements to the maximum extent practicable. The LID goals of increasing groundwater recharge, enhancing water quality, and preventing degradation to downstream natural drainage courses would be considered by LACDPW in the determination of infeasibility.

The LID Standards Manual outlines site conditions where infiltration may not be possible:

- Locations where seasonal high groundwater is within 10 feet of the surface.
- Within 100 feet of a groundwater well used for drinking water.
- Brownfield development sites or other locations where pollutant mobilization is a documented concern.
- Locations with potential geotechnical hazards as outlined in a report prepared and stamped by a licensed geotechnical engineer.
- Locations with natural, undisturbed soil infiltration rates of less than 0.5 inch per hour that do not support infiltration-based BMPs.
- Locations where infiltration could cause adverse impacts to biological resources.

- Development projects in which the use of infiltration BMPs would conflict with local, state, or federal ordinances or building codes.

- Locations where infiltration would cause health and safety concerns.

The LID Standards Manual outlines where storage and reuse of the excess volume may not be possible:

- Projects that would not provide sufficient irrigation or (where permitted) domestic grey water demand for use of stored runoff due to limited landscaping or extensive use of low water use plant palettes in landscaped areas.

- Projects that are required to use reclaimed water for irrigation of landscaping.

- Development projects in which the storage and reuse of stormwater runoff would conflict with local, state, or federal ordinances or building codes.

- Locations where storage facilities would cause potential geotechnical hazards as outlined in a report prepared and stamped by a licensed geotechnical engineer.

- Locations where storage facilities would cause health and safety concerns.

The LID Standards Manual also contains drainage analysis requirements for hydromodification impacts to off-site property. Although project applicants must still demonstrate that the project mitigates for hydromodification impacts to the satisfaction of the Director of Public Works, the LID Standards Manual provides for the following exemptions from conducting a full analysis for hydromodification impacts:

- Projects that disturb less than 1 acre.

- Less than 10,000 square feet of new impervious area.

- Projects that do not increase impervious area or decrease the infiltration capacity of pervious areas compared to pre-project conditions.

- Projects that are replacement, maintenance, or repair of an existing permitted flood control facility.

- Projects within a watershed or subwatershed where a geomorphically based watershed study has been prepared that establishes that the potential for hydromodification impacts is not present based on appropriate assessment and evaluation of relevant factors, including: runoff characteristics, soil conditions, watershed size and conditions, channel conditions, and proposed levels of development within the watershed.

- Projects that discharge directly or via a storm drain into concrete or significantly hardened channels, which in turn discharge into a sump area under tidal influence, or other receiving water that is not susceptible to hydromodification impacts.

- Projects that have hydrologic control measures that include sufficient subregional, regional, in-stream control measures, or a combination thereof such that hydromodification will not occur.

(7) Construction Permits

Pursuant to the CWA Section 402(p), which requires regulations for permitting of certain stormwater discharges, the SWRCB has issued a statewide general NPDES Permit and Waste Discharge Requirements for stormwater discharges from construction sites (NPDES No. CAS000002). (See California Water Resources Control Board Resolution No. 2001-046; Modification of Water Quality Order 99-08-DWQ SWRCB NPDES General Permit for Stormwater Discharges Associated with Construction Activity (adopted by the SWRCB on April 26, 2001).

Under this Construction General Permit, discharges of stormwater from construction sites with a disturbed area of 1 or more acres (effective July 1, 2010) are required to either obtain individual NPDES permits for stormwater discharges or be covered by the Construction General Permit. Coverage under the Construction General Permit is accomplished by completing and filing a Notice of Intent with the SWRCB. Each applicant under the Construction General Permit must ensure that a construction site risk assessment to determine appropriate coverage level; preparing an SWPPP is prepared prior to grading), including site maps, a Construction Site Monitoring Program (CSMP), and sediment basin design calculations; for projects located outside of a Phase I or Phase II permit area, completing a post-construction water balance calculation for hydromodification controls; and implemented during construction. completing a Notice of Intent. All of these documents must be electronically submitted to the SWRCB for General Permit coverage. The primary objective of the SWPPP is to identify, construct, implement, and maintain proper construction, implementation, and maintenance of BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site during construction. The SWPPP also outlines the monitoring and sampling program required for the construction site to verify compliance with the requirements of discharge Numeric Action Levels (NALs) set by the Construction General Permit is used as one method to evaluate project construction-related impacts on surface water quality.

(8) General Waste Discharge Requirements for Dischargers of Groundwater From Construction and Project Dewatering

The Los Angeles RWQCB has issued a General NPDES Permit and General Waste Discharge Requirements (WDRs) (Order No. R4-2008-0032, NPDES No. CAG994004), which superseded the former dewatering permit (Order No. R4 2003-011). This permit governs construction-related dewatering discharges within the project development areas (the "General Dewatering Permit"). This permit addresses discharges from temporary dewatering operations during construction and permanent dewatering operations associated with development. The discharge requirements include provisions mandating notification, sampling and analysis, and reporting of dewatering and testing-related discharges. The General Dewatering Permit authorizes construction-related activities so long as all conditions of the permit are fulfilled. The primary objective of the General Dewatering Permit conditions

is to identify and control pollutants in construction-related dewatering discharges. Compliance with the requirements of the General Dewatering Permit is used as one method to evaluate project construction-related impacts on surface water quality.

(9) Discharge of Fill or Dredge Materials

Hydrologic conditions of concern addressed in this report include in-stream changes in sediment transport, erosion, sedimentation and ultimately channel stability. There is a nexus between these concerns and the stream, habitat, and species protection programs administered by USACE, CDFG, and USFWS.

Section 404 of the CWA is a program that regulates the discharge of dredged and fill material into "waters of the United States," including wetlands. Activities in waters of the United States that are regulated under this program include fills for development (including physical alterations to drainages to accommodate storm drainage, stabilization, and flood control improvements), water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and conversion of wetlands to uplands for farming and forestry. The U.S. EPA and the USACE have issued Section 404(b)(1) Guidelines (40 CFR Section 230) that regulate dredge and fill activities, including water quality aspects of such activities. Subpart C, at Sections 230.20 through 230.25, contains water quality regulations applicable to dredge and fill activities. Among other topics, these guidelines address discharges that alter substrate elevation or contours, suspended particulates, water clarity, nutrients and chemical content, current patterns and water circulation, water fluctuations (including those that alter erosion or sediment rates) and salinity gradients.

Section 401 of the CWA requires that any person applying for a federal permit or license that may result in a discharge of pollutants into waters of the United States obtain a state water quality certification that the activity complies with all applicable water quality standards, limitations, and restrictions. No license or permit may be issued by a federal agency until certification required by Section 401 has been granted. Further, no license or permit may be issued if certification has been denied. CWA Section 404 permits and authorizations are subject to Section 401 certification by the RWQCBs.

The CDFG is responsible for conserving, protecting, and managing California's fish, wildlife, and native plant resources. To meet this responsibility, the law requires the proponent of a project that may impact a river, stream, or lake to notify the CDFG before beginning the project. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life, and watercourses having a surface or subsurface flow that support or have supported riparian vegetation.

Section 1602 of the Fish and Game Code requires any person who proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any

river, stream, or lake or use materials from a streambed to notify the CDFG before beginning the project. Similarly, under Section 1602, before any state or local governmental agency or public utility begins a construction project that will (1) divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake; (2) use materials from a streambed; or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, it must first notify the CDFG of the proposed project. If the CDFG determines that the project may adversely affect existing fish and wildlife resources, a Lake or Streambed Alteration Agreement is required. (The impacts associated with physical alterations to jurisdictional areas are evaluated in **Section 4.4, Biota**, of this EIR.) However, the direct and indirect effects on water quality associated with the proposed project, including physical alterations to jurisdictional areas, are evaluated below. In addition, potential changes in flow characteristics that affect beneficial uses and water quality due to increased erosion, deposition, or changes in channel stability are considered in this section.

b. Physical Setting

(1) Receiving Water Bodies and Beneficial Uses

(a) Santa Clara River

The Mission Village project consists of an approximately 1,261.8-gross-acre tract map site, of which 217 acres are within the Santa Clara River and would not be developed, as well as off-site improvements necessary to support the development. Off-site improvements include a utility corridor, Magic Mountain Parkway roadway extension, off-site grading for Commerce Center Drive and Westridge Parkway extensions, Southern California electrical substation, potable and reclaimed water tank sites, debris basins and a regional water quality basin (Please see Project Description Section 4.1, for more detail). The proposed project also includes construction of the Commerce Center Drive Bridge component of the Specific Plan. As shown in **Figure 4.22-1**, the tract map site abuts Six Flags Magic Mountain Theme Park to the east, the proposed Entrada project (VTTM 53295) lies to the east, with the existing community of Westridge and the proposed Legacy Village (VTTM 61996) project further to the southeast and south, respectively. The proposed Homestead project (VTTM 60678) within Newhall Ranch Specific Plan lies to the west of the project boundaries, and the proposed Landmark Village (VTTM 53108) lies northwest at the confluence of Castaic Creek and the Santa Clara River. The Commerce Center Drive Bridge is on the northeast side of the tract map site, and it would span approximately 1,300 feet over the Santa Clara River, with a width of about 120–129 feet. Support for the bridge would involve construction of concrete piers within the river corridor. Each pier would be spaced about 100 feet apart. Abutments and bank stabilization would be required on both sides of the bridge to protect against erosive forces. The tract map site itself consists of open space, land under agricultural cultivation, and oil and gas extraction wells with associated access roads.

The utility corridor runs parallel to State Route (SR) 126 on the north side of the Santa Clara River, from the approved Newhall Ranch WRP near the Los Angeles County/Ventura County line to Interstate 5 (I-5), and then easterly to the existing Los Angeles County Sanitation District 32 Water Reclamation Plant. The Magic Mountain Parkway extension would proceed southwest from its existing terminus at The Old Road for a distance of approximately 5,000 feet before intersecting with the project site. Two alternative locations for a Southern California Edison substation are located adjacent to the Edison powerlines in the Potrero area of the NRSP and Legacy Village (VTTM 61996), west of the project. The water tanks are located off site just south of the project boundary. Existing conditions of the utility corridor, roadway extension, Edison substation, and potable and reclaimed water tank sites are undeveloped open space or agricultural lands.

The project is located adjacent to Santa Clara River Reach 5,[20] immediately upstream of its confluence with Lion Canyon. The tentative tract map site boundary comprises 1,261.8 gross acres within a 2,650 acre drainage area within the 1,634-square-mile Santa Clara River Watershed.

The Los Angeles Basin Plan lists the beneficial uses of major water bodies within this region and includes Santa Clara River Reach 5 as shown in **Table 4.22-4, Beneficial Uses of Receiving Waters**.

Table 4.22-4
Beneficial Uses of Receiving Waters

Water Body	Beneficial Uses[1]											
	MUN	IND	PROC	AGR	GWR	FRSH	REC1	REC2	WARM	WILD	RARE	WET1
Santa Clara River (Hydrologic Unit 403.51)	P*	E	E	E	E	E	E	E	E	E	E	E

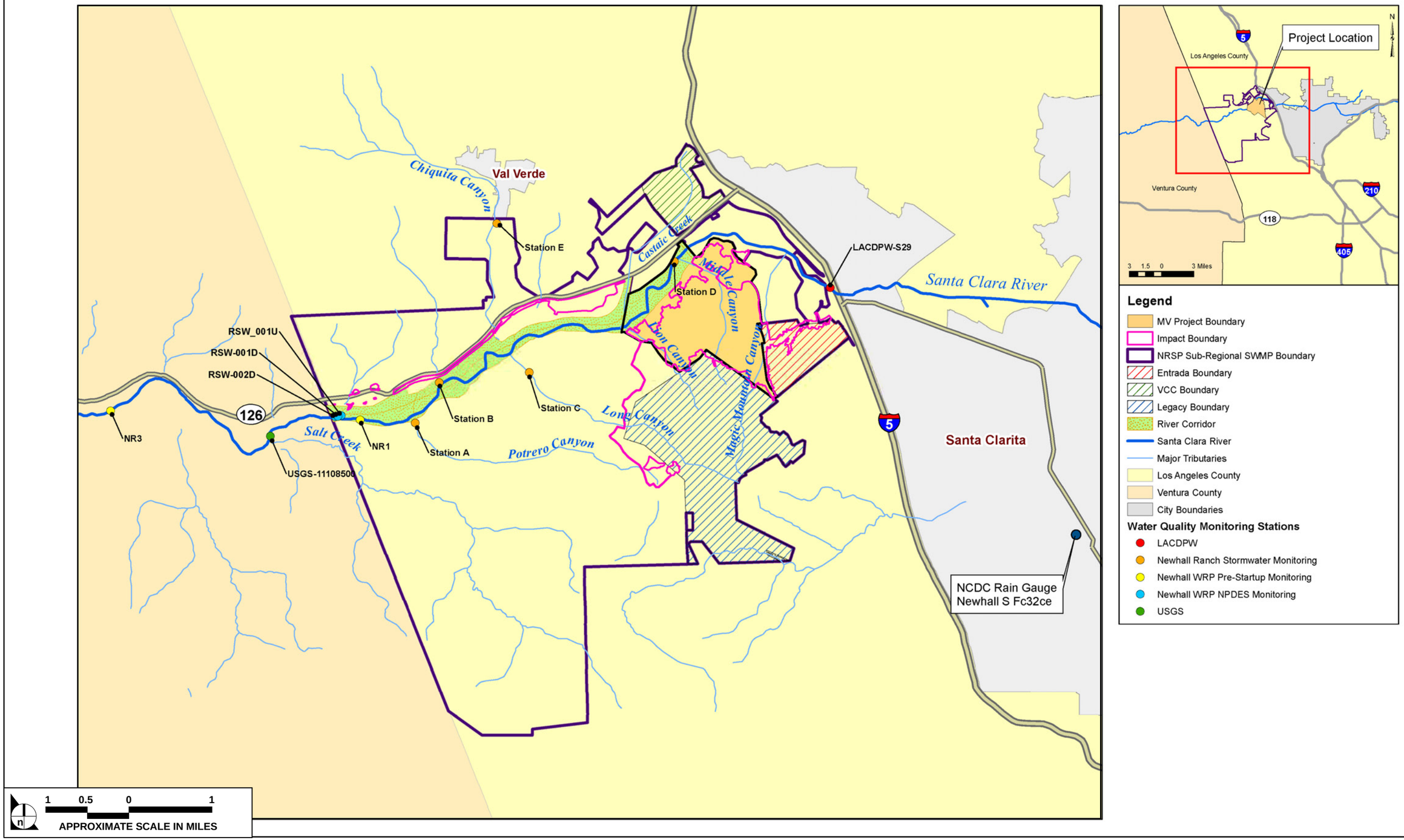
Source: Geosyntec, 2010.

[1] *Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.*

E – Existing beneficial use; P – Potential beneficial use

* *Asterisked MUN designations are designated under SB 88-63 and RB 89-03. Some designations may be considered for exemptions at a later date.*

20 The Santa Clara River is divided into reaches for purposes of establishing beneficial uses and water quality objectives. However, there are two reach classifications, one established by the LARWQCB and one established by the U.S. EPA. Both of these reach classifications are used by the LARWQCB and the EPA in various documents, which at times is a source of confusion. This report will use the LARWQCB reach numbers.



SOURCE: GeoSyntec - March 2010

FIGURE **4.22-1**

Project Location Map

As identified in **Table 4.22-4** above, the existing and potential beneficial uses of Santa Clara River Reach 5 include the following:

MUN: community, military or individual water supply systems including, but not limited to, drinking water supply (a potential beneficial use)

IND: industrial activities that do not depend primarily on water quality

PROC: industrial activities that depend primarily on water quality

AGR: agricultural supply waters used for farming, horticulture or ranching

GWR: groundwater recharge for natural or artificial recharge of groundwater

REC1: water contact recreation involving body contact with water where ingestion is reasonably possible

REC2: non-contact water recreation for activities in proximity to water, but not involving body contact

WARM: warm freshwater habitat to support warm water ecosystems

WILD: wildlife habitat waters that support wildlife habitats

RARE: waters that support rare, threatened or endangered species and associated habitats

WET: wetland ecosystems

The Santa Clara River watershed drains an area of 1,634 square miles in the Transverse mountain range of Southern California. The Santa Clara River flows generally west from its headwaters near Acton to the Pacific Ocean near the City of Ventura, approximately 40 miles downstream of the project location. The River exhibits some perennial flow in its eastern-most stretches within the Angeles National Forest, then flows intermittently westward within Los Angeles County. The principal tributaries of the upper watershed in Los Angeles County are Castaic Creek, Bouquet Canyon Creek, San Francisquito Creek, and the South Fork of the Santa Clara River. Placerita Creek is a large tributary draining the western-most end of the San Gabriel Mountains; it joins the South Fork, which flows directly into the Santa Clara River. Castaic Creek is a south-trending creek that confluences with the Santa Clara River upstream and adjacent to the project. (Castaic Lake is a California Department of Water Resources (DWR) owned reservoir located on Castaic Creek.) San Francisquito Canyon Creek is an intermittent stream in the watershed adjacent to Bouquet Canyon and to the southeast. Elevations within the watershed range from sea level at the River mouth to 8,800 feet at the summit of Mount Pinos in the northwest corner of the watershed.

The principal sources of water contributing to the base flow of the Santa Clara River are (1) groundwater from the Alluvial aquifer basin in Los Angeles County, which seeps into the riverbed near, and downstream of, Round Mountain (located just below the mouth of San Francisquito Creek); (2) tertiary-treated water discharged to the Santa Clara River from two existing Los Angeles County Sanitation District WRPs—the Saugus WRP, located near Bouquet Canyon Road bridge and the Valencia WRP, located immediately downstream of I-5 (for locations, see **Figure 2.0-1**); and (3) in some years, DWR-released flood flows from Castaic Lake into Castaic Creek during winter and spring months. The Saugus WRP, located near Bouquet Canyon Road bridge, has a permitted dry weather average design capacity of 6.5 million gallons per day (mgd), creating surface flows from the outfall to near I-5. The Valencia WRP outfall is located immediately downstream of the I-5 bridge and has a permitted dry weather average design capacity of 21.6 mgd, creating surface flows extending through the project area and into the far eastern portion of Ventura County. The combined average treated discharge from both WRPs between January 2004 and June 2007 was approximately 20 mgd.

The reach of the Santa Clara River within and adjacent to the project has multiple channels (braided). This kind of system is characterized by high sediment loads, high bank erodibility, and intense and intermittent runoff conditions. Combined with the relatively flat gradient of the Santa Clara River at this point (less than one percent), the Santa Clara River has a high potential to aggrade (deposit sediment) at low flow velocities (PACE, 2007).

Physiography. The Santa Clara River flows through a complex, tectonically active trough. Some of the most rapid rates of geologically current uplift in the world are reported from the Ventura anticline and San Gabriel Mountains, just to the northwest and southeast, respectively, of the river. Slopes are very steep, with local relief of 3,000 to 4,000 feet being common. Geologic faults in the area, have brought harder, more resistant sedimentary rocks over softer and younger sedimentary formations, though all formations are fundamentally soft and erodible. On either side of the faults, sandstone and mudstones formations are dominant. The northeastern and southeastern corners of the watershed are underlain by deeply weathered granitic and schistose rocks, which produce sands that are coarser than those of other rock units when they weather and erode. The San Gabriel fault crosses the valley, bringing slightly more resistant rock to the surface and creating a local base level reflected as a slight rise or 'bump' on the river's longitudinal profile.

Most geologic materials in the watershed decompose mainly to silt, clay, and sand, with some coarser materials. Most sediment moved by the Santa Clara River and its main tributaries is fine, with less than 5 percent bedload-sized material (>0.25 millimeters [mm], or about 0.01 inch in diameter). Some gravels and cobbles do occur within the beds of the stream and in their alluvium. Nonetheless, both the bed and the sediment transported by the river tend to be finer than in most Southern California watersheds.

Flows. Downstream of the Valencia WRP, the Santa Clara River is perennial past the Los Angeles/Ventura County line to approximately Rancho Camulos. Flows in the Santa Clara River can also be affected by groundwater dewatering operations or by diversions for agriculture or groundwater recharge. Throughout the Santa Clara River channel, there are complex surface water/groundwater interactions where both gaining and losing river segments are found. Downstream of the County line, however, the Santa Clara River flows through the Piru groundwater basin, which represents a "Dry Gap" where dry-season surface flows are interrupted and streamflow entirely infiltrates to groundwater.

The Santa Clara River is underlain by several distinct alluvial groundwater basins in Ventura County—the Piru, Fillmore, and Santa Paula Basins. These basins are divided longitudinally by sills or ridges of bedrock that support areas of locally high (shallow) groundwater, including the area upstream from the County line (above the Piru Basin), and upstream from the mouth of Sespe Creek (the transition between the Piru and Fillmore Basins). This locally high groundwater sustains summer baseflow and riparian vegetation within the Santa Clara River corridor even through relatively dry climatic cycles.

Flows in the Santa Clara River, as in most Southern California streams, are highly episodic. For the gaged period between 1953 and 1996, annual flow at the Los Angeles/Ventura County line guage ranged between 253,000 acre-feet (1969) and 561 acre-feet (1961). Annual peak flows at the County line between 1953 and 1996 ranged from 68,800 cubic feet per second (cfs) (1969) to 109 cfs (1960). Of note is that the second highest annual peak, 32,000 cfs in 1966, was less than half of the highest peak (68,800 in 1969). These large episodic events have a significant impact on the geomorphic characteristics of the Santa Clara River mainstem.

After studying the response of the river to several different anthropogenic and natural disturbances, Balance Hydrologics concluded that the Santa Clara River, as with many streams in semi-arid Southern California, is highly episodic. Concepts of "normal" or "average" sediment-supply and flow conditions have limited value in this "flashy" environment, where episodic storm and wildfire events have enormous influence on sediment and storm flow conditions. In these streams, a large portion of the sediment movement events can occur in a matter of hours or days. Other perturbations that can potentially affect channel geometry appear to have transitory or minor manifestations. For example, effects on Santa Clara River channel width due to the 1980s levee construction was barely discernible by the first few years of the 21st century, probably mostly due to morphologic compensation associated with the storm events in the mid- to late-1990s. As a result, channel morphology, stability, and character of the Santa Clara River is almost entirely determined by the "reset" events that occur within the watershed.

Vegetation and Habitat Types. Much of the watershed upstream of the Specific Plan area receives rainfall averaging about 18 to 25 inches per year. As throughout Southern California, rainfall in the Santa Clara

River watershed alternates between wet and dry periods, a variation that is central to understanding the geomorphic history of the watershed. Wet cycles tend to persist for several years, sometimes for periods of six or eight years, during which rainfall, although variable, may average about 140 to 150 percent of the long-term average. For the woody riparian vegetation along the banks and on islands in the braided channels, these are crucial periods for establishment and growth. During dry cycles, the roots of the riparian vegetation must grow downward to the water table or perched zones, and where it cannot do so, this band of vegetation will die back.

The existing Santa Clara River channel contains a variety of vegetation types. (Impact Sciences, 2003. Revised Additional Analysis to the Newhall Ranch Specific Plan and WRP Final EIR, Volume VIII. Prepared for Los Angeles County Department of Regional Planning by Impact Sciences Inc., May 2003.). The active Santa Clara River channel is mostly barren due to scouring by seasonal storm flows. However, vegetation types on the adjacent terraces vary based on elevation relative to the active channel bottom and the frequency of flooding. The following series of vegetation types occur along a vertical gradient from the channel bottom to the highest Santa Clara River terrace on the floodplain: emergent herbaceous, woody shrubs, and trees.

The Santa Clara River corridor at the project site supports three general categories of habitat: (1) aquatic habitats, consisting of flowing or ponded water; (2) wetland habitats, consisting of emergent herbs rooted in ponded water or saturated soils along the margins of the active channel; and (3) riparian habitat, consisting of woody vegetation along the margins of the active channel and on the floodplain. (See Impact Sciences, 2003. Revised Additional Analysis to the Newhall Ranch Specific Plan and WRP Final EIR, Volume VIII. Prepared for Los Angeles County Department of Regional Planning by Impact Sciences Inc. May 2003.) Both year-round and seasonal aquatic habitats are provided and are subject to periodic disturbances from winter flood flows. These flows inundate areas that are dry most of the year. They also carry and deposit sediment, seeds, and organic debris; form new sandbars and destroy old ones; and erode stands of vegetation. New stands of vegetation are created where vegetation becomes established by seeds or buried stems. Thus, the aquatic habitats of the river are in a constant state of creation, development, disturbance, and destruction.

(b) Tributaries to the Santa Clara River

Three tributary watersheds to the Santa Clara River lie within the Mission Village project boundary: Middle Canyon, Magic Mountain Canyon, and Lion Canyon. Lion Canyon and Middle Canyon are unimproved in the existing condition. The Magic Mountain Canyon tributary watershed drains to an existing concrete channel that runs through the Six Flags Magic Mountain Theme Park. The tentative tract

map site discharges sheet flows to these tributaries in the existing condition, but would not discharge to the tributaries in the post-developed condition.

The 0.53-square-mile (340-acre) Middle Canyon watershed is a tributary to the southern bank of the Santa Clara River. The total length of the mainstem channel is approximately 7,967 feet, with an average overall slope of 3.7 percent. Approximately 272 acres (80 percent) of the watershed is located within the Specific Plan boundary. Generally, the soils in the watershed are characterized as Castaic-Balcom silty clay loams, and predominately are classified as being in hydrologic soil group "C" (higher runoff potential). This watershed is dominated by California sagebrush scrub, with small pockets of mixed chaparral and California grassland. The stream channel flows through California grassland, agricultural areas, alluvial scrub, and live oak woodland. A freshwater marsh is present at the Santa Clara River confluence.

The 1.32-square-mile (847-acre) Magic Mountain Canyon watershed is a tributary to the southern bank of the Santa Clara River. The total length of the mainstem channel is approximately 4,813 feet, with an average overall slope of 3.4 percent. Approximately 178 acres (27 percent) of the watershed is located within the Specific Plan boundary. Generally, the soils in the watershed are characterized as Castaic and Saugus soils and Castaic-Balcom silty clay loams, and predominately are classified as being in hydrologic soil group "C" (higher runoff potential). The associated vegetative cover within the watershed varies, but primarily consists of California sagebrush scrub and disturbed land.

The 0.84-square-mile (539 acre) Lion Canyon watershed is a tributary to the southern bank of the Santa Clara River. The total length of the mainstem channel is approximately 4,761 feet, with an average overall slope of 4.6 percent. Approximately 280 acres (52 percent) of the watershed area is located within the Specific Plan boundary, the remainder is upstream in the Legacy Village project (see **Figure 4.22-1**). The creek flows in a general east to west direction and joins the Santa Clara River floodplain valley. Generally, the soils in the watershed are characterized as Castaic and Saugus soils with Saugus loam, and predominately are classified as being in hydrologic soil group "B/C" (moderate runoff potential). The associated vegetative cover within the watershed varies, but primarily consists of California sagebrush scrub and chaparral.

(2) Water Quality Leaving Tract Map Site

The tract map site is presently either open space, under agricultural cultivation, or oil and gas extraction wells with associated access roads, and runoff discharges via sheet flow to one of the three tributaries to the Santa Clara River—Middle Canyon, Magic Mountain Canyon, or Lion Canyon. The following tables provide modeling estimates for pollutants of concern presently contained in existing average annual stormwater runoff leaving the tract map site.

Table 4.22-5, Existing Modeled Pollutant Loads and Concentrations, shows predicted concentrations and loads of contaminants for which sufficient flow composite sampling data exists in the Los Angeles County database to conduct modeling predictions under existing conditions. As can be seen, the average annual TSS concentration is predicted to be 233 mg/L, while the average annual TSS load is predicted to be 100,000 pounds (50 tons) per year. The average annual total phosphorus concentration is predicted to be 0.47 mg/L, while the average annual load is predicted to be 198 pounds per year. The average annual nitrate-nitrogen plus nitrite nitrogen concentration is predicted to be 1.5 mg/L, while the average annual load is predicted to be 647 pounds per year. This table also indicates that the average annual ammonia concentrations are estimated at 0.46 mg/L, while the average annual load is estimated to be 179 pounds. Finally, the average annual chloride concentrations are estimated at 12 mg/L, while the average annual load is estimated at 4,000 pounds (2 tons).

Table 4.22-5
Existing Modeled Pollutant Loads and Concentrations

Constituent	Average Annual Concentration (mg/L)	Average Annual Load (lbs/year)
Total Suspended Solids	233	100,000
Total Phosphorus	0.47	198
Nitrate-nitrogen plus nitrite-nitrogen	1.5	647
Ammonia	0.46	179
Chloride	12	4,000

Source: Geosyntec, 2010.

Site runoff is also predicted to contain metals in the existing condition such as aluminum, copper, lead, and zinc. Existing modeled concentrations and loads for these metals in site runoff are contained in **Table 4.22-6, Existing Modeled Metals**. As shown, modeled average annual concentrations of copper are estimated at 10 micrograms per liter (µg/L), lead is estimated at 12 µg/L, zinc is estimated at 282 µg/L, and aluminum is estimated at 1,427 µg/L. Average annual loadings of copper and lead are also similar at 4 and 5 pounds per year, respectively, while zinc and aluminum loadings are much higher at an estimated 105 pounds per year and 568 pounds per year, respectively.

Table 4.22-6
Existing Modeled Metals

Constituent	Average Annual Concentration (µg/l)	Average Annual Load (lbs/year)
Copper*	10	4
Lead	12	5
Zinc*	282	105
Aluminum	1,427	568

Source: Geosyntec, 2010.
** Dissolved Form*

(3) Receiving Water Quality

In the *Mission Village Water Quality Technical Report* (Geosyntec, 2010, **Appendix 4.22**), the existing wet and dry weather surface water quality in the project area was characterized from available water quality monitoring data obtained from the following four sources:

1. **Newhall Ranch Tributary Stormwater Monitoring**. Two storm events were monitored in Potrero Canyon, San Martinez Grande Canyon, Middle Canyon, Chiquito Canyon, and an unnamed tributary in Long Canyon. This data is relevant in terms of characterizing the existing stormwater runoff within the Project area. Although limited, this data is relevant in terms of characterizing the existing stormwater runoff within the Santa Clara River tributaries within the NRSP area as the conditions within these watersheds have not been altered since 2000.

   The stormwater samples were collected at five monitoring locations shown on **Figure 4.22-1**. Three of the five stations were located at the mouths of river tributaries in Potrero (Station A), San Martinez (Station B), and Middle Canyons (Station D). The other two monitoring stations were located on tributaries upstream from the main stem of the river; one was just downstream of Val Verde in Chiquito Canyon (Station E) and one was on an unnamed tributary in Long Canyon, 0.25 mile upstream of the "Onion Field" (Station C). Aside from Station E, which is downgradient of existing residential uses, the land uses in the areas tributary to Stations A, B, C, and D are predominantly open space with some agricultural, natural gas, and oil extraction operations.

2. **Newhall WRP**. The Newhall Ranch is required to conduct pre-startup water quality monitoring at upstream and downstream locations from the outfall of the approved Newhall WRP. Wet and dry weather monitoring data were collected from two stations in the SCR from the spring of 2004 through 2007: one station is near the downstream boundary of the NRSP area near to the proposed WRP outfall location, and the second is about 2.5 miles further downstream. Additionally, dry weather monitoring has been conducted at three stations (RSW-001U, RSW-001D, RSW-002D) as required by the Newhall WRP NPDES Permit (LARWQCB, 2007). These stations are referred to below as the "Newhall WRP NPDES Stations."

3. **Los Angeles County Monitoring**. The County of Los Angeles conducts in-stream water quality monitoring on the mainstem of the Santa Clara River at a mass emission station located at The Old Road, which is at the upstream boundary of the Specific Plan area. Wet weather monitoring data are available from November 2002 through February 2009. The County monitoring data are the most current and are the only source of wet weather monitoring in the Santa Clara River immediately upstream of the Specific Plan area.

4. **USGS Monitoring**. The US Geological Survey (USGS) has collected stream flow and water quality data in the Santa Clara River near the county line (USGS station 11108500) from 1951 through 1995. These data provide a historical perspective of wet and dry weather water quality in the River immediately downstream from the Specific Plan area.

Table 4.22-7, Average Wet Weather Monitoring Data for 2-Day Precedent Rainfall between 0.1 and 1.0 Inches, and **Table 4.22-8, Average Wet Weather Monitoring Data for 2-Day Precedent Rainfall of >1 Inch**, summarize the average values from wet weather monitoring data for all monitoring locations within the Newhall Ranch area. To facilitate interpretation, the wet weather water quality data were grouped into two categories depending on the depth of two-day antecedent rainfall measured at the Newhall rain gauge:

1. 0.1–1 inch. Rainfall depths that would likely produce runoff volumes characteristic of more frequent, smaller storm events.

2. >1 inch. Rainfall depths that would likely produce runoff volumes characteristic of larger, less frequent storm events.

Table 4.22-7
Average Wet Weather Monitoring Data for 2-Day Precedent Rainfall between 0.1 and 1.0 Inch

Constituent	LACDPW Mass Emission Station	Newhall Ranch Specific Plan Area Tributary Monitoring					Newhall Ranch WRP Startup Monitoring		USGS Wet Weather Monitoring
	S29	*Site A*	*Site B*	*Site C*	*Site D*	*Site E*	*NR1*	*NR3*	*USGS*
TSS (mg/L)	729	835	41,100	36,000	5,650	6,645	58	112	2,291
Hardness (mg/L)	419	7,380	2,825	190	160	205	855	1,076	1,437 [1]
TDS (mg/L)	223	2,225	1,205	147	59	107	387	475	773
Chloride (mg/L)	59.6	870	125	3	3	11	-	-	122
Total P (mg/L)	0.62	-	-	-	-	-	0.4	0.4	1.28
Nitrate-N (mg/L)	0.81	17.5[2]	3.0[2]	1.6[2]	15.3[2]	2.8[2]	3.2	3.0	2.1[2]
Nitrite-N (mg/L)	0.12	-	-	-	-	-	<0.005	<0.005	-
Ammonia-N (mg/L)	0.17	-	-	-	-	-	0.2	0.1	0.16
TKN (mg/L)	2.61	-	-	-	-	-	0.3	0.4	0.64
Dissolved copper (µg/L)	6.4	-	-	-	-	-	4.6	3.6	-
Total copper (µg/L)	29.8	15	175	170	10	70	4.9	5.9	30
Dissolved lead (µg/L)	0.5	-	-	-	-	-	<0.07	<0.07	7.8
Total lead (µg/L)	8.6	6.1	53.5	95.2	7.6	36.8	1	0.8	-
Dissolved zinc (µg/L)	14	-	-	-	-	-	12	8.7	10
Total zinc (µg/L)	71	40	330	330	30	225	17.5	15	150
Dissolved aluminum (µg/L)	264	-	-	-	-	-	27	19	-
Total aluminum (µg/L)	5,770	-	-	-	-	-	740	770	-
Fecal Coliform MPN/100mL	101,000	3,300	590	4,200	>19,600	19,600	87	258	300
Total Coliform MPN/100mL	7,000	38,700	>160,000	120,000	>89,400	>19,600	284	549	-

Source: Geosyntec, 2010.

[1] Derived from Specific Conductance, [2] Nitrate + Nitrite-N, ND = non detected, -= no or insufficient data

Table 4.22-8
Average Wet Weather Monitoring Data for 2-Day Precedent Rainfall of > 1 Inch

Constituent	USGS Wet Weather Monitoring *11108500*	LACDPW Santa Clara River Mass Emission Station *S29*	Newhall WRP Startup Monitoring *NR3*
General and Conventional Parameters			
TSS (mg/L)	10,711	1,482	43,360
TDS (mg/L)	838[1]	101	2,100
Hardness (mg/L)	546	197	832
Chloride (mg/L)	61	22	-
Nutrients			
Total P (mg/L)	1.02	0.54	13.4
Nitrate-N (mg/L)	1.7[2]	0.74	1.4
Nitrite-N (mg/L)		0.13	ND
Ammonia-N (mg/L)	-	0.23	0.5
TKN (mg/L)	0.69	4.32	46.0
Metals			
Dissolved copper (µg/L)	-	8.4	-
Total copper (µg/L)	-	31.1	-
Dissolved lead (µg/L)	ND	2.4	-
Total lead (µg/L)	ND	29.9	-
Dissolved zinc (µg/L)	-	24	-
Total zinc (µg/L)	-	126	-
Dissolved aluminum (µg/L)	-	420	-
Total aluminum (µg/L)	-	5,161	-
Coliform Bacteria			
Fecal Coliform (MPN/100 mL)	2,700	36,000	>1,600
Total Coliform (MPN/100 mL)	-	198,000	>1,600

Source: Geosyntec, 2010.

[1] *Derived from Specific Conductance,* [2] *Nitrate + Nitrite-N, ND = Not Detected in Sample, - = no or insufficient data*

The wet weather monitoring data indicate the following existing water quality conditions:

Total Suspended Solids (TSS). The total solids in a liquid sample consist of total dissolved solids and total suspended solids. Total dissolved solids (TDS, discussed below) are materials in the water, primarily inorganic salts (calcium, magnesium, potassium, sodium, chlorides, and sulfates), that would pass through a filter with a 2.0 micrometer or smaller nominal average pore size; the material retained by the filter is the TSS. (Sawyer et al., 1994. Chemistry for Environmental Engineering, Fourth Edition. Claire Sawyer, Perry McCarty, and Gene Parkin. McGraw-Hill, Inc., 1994.) It is generally expected that TSS

concentrations in alluvial streams can be greatly elevated during storm runoff because of the combination of high sediment supply and a high capacity for in-stream transport and erosion. Average TSS concentrations in the Santa Clara River were sometimes very high due to the highly erodible, easily transportable, sandy alluvial soils and sediments, and average concentrations were much higher for the larger storms than the smaller storms. These results show the capacity of high flows in the Santa Clara River for sediment transport and are consistent with other data showing that large rainfall events result in a "reset" of the main channel. As concluded by Balance Hydrologics (2005), concepts of "normal" or "average" sediment-supply and flow conditions have limited value in this "flashy" environment, where episodic storm and wildfire events have enormous influence on sediment and storm flow conditions. In the Santa Clara River, a large portion of sediment movement events can occur in a matter of hours or days.

Total Dissolved Solids (TDS). Stormwater monitoring data collected in the tributaries showed greatly differing TDS levels among the five monitoring stations. Measured TDS concentrations were very high at Sites A (Potrero Canyon) and B (San Martinez Grande Canyon), while TDS concentrations at the other three sites were low. Elevated TDS levels in runoff at Site A and B are likely a result of the natural soil properties of the marine layers of the Pico formation and the high groundwater table conditions in these two canyons, suggesting that groundwater discharges to the streams contributed to the elevated TDS levels. These greatly differing dissolved solid (TDS) concentrations are also reflected in some of the components that make up the TDS (chloride and hardness), as described below.

Concentrations of TDS in the Santa Clarita River were low to moderate, and maximums did not approach the high values observed in tributaries A and B. Average concentrations of TDS in the Santa Clara River were moderate to high, ranging from 216 mg/L to 2,100 mg/L. Using an estimate of 0.64 times the specific conductance for the USGS data, the TDS concentrations at this station averaged around 1,400 mg/L for storm flows. The Basin Plan objective for TDS in Santa Clara River Reach 5 is 1,000 mg/L.

Much higher average concentrations were observed at the three downstream SCR stations (NR-1, NR-3, USGS) compared with the upstream LACDPW station, and this could be due to their location downstream of the tributaries represented by Sites A and B, with their much higher salt content.

TDS concentrations were generally lower in the larger storms, reflecting a dilution effect.

Hardness. Hardness is a measure of the multivalent metallic cations in water, principally calcium, magnesium, strontium, iron, and manganese. (Sawyer *et al*., 1994. Chemistry for Environmental Engineering, Fourth Edition. Claire Sawyer, Perry McCarty, and Gene Parkin. McGraw-Hill, Inc., 1994.) These cations are capable of reacting with soap to form precipitates, and with certain anions to form scale. The hardness in water is derived largely from contact with soil and rock formations, and hardness affects

the CTR values for certain metals, as discussed above. Waters with a hardness concentration from 150 mg/L to 300 mg/L as $CaCO_3$ are considered hard; waters with a hardness concentration above 300 mg/L as $CaCO_3$ are considered very hard.

The stormwater monitoring data for hardness were analogous to the data for TDS. Hardness concentrations were very high at the tributary Sites A and B, and low to moderate at the other three tributary sites. High hardness at Sites A and B are likely due to natural high levels of calcium and magnesium in the local soils and sedimentary formations (such as lime and gypsum deposits), and the high groundwater table conditions in these two canyons, suggesting again that groundwater discharges contributed to the elevated hardness levels.

In the Santa Clara River, average hardness values were greater downstream (NR3, NR1, USGS sites) than at the upstream LACDPW station, and generally decreased with larger antecedent rainfall depth. This is most likely due to the influence of tributary inflows of high hardness waters (such as measured at Sites A and B), other groundwater inputs, and agricultural return flows that enter the Santa Clara River between these stations.

Chloride. Similar to TDS and hardness, monitoring data collected in the tributaries found very high chloride concentrations at Site A, high levels at Site B. were lower than those measured at the downstream USGS site.

Overall, the average chloride concentrations during recent stormwater monitoring were highly variable and ranged between 3 mg/L and 125 mg/L, with the exception of the very high chloride concentrations detected at the mouth of Potrero Canyon (Site A). Average chloride concentrations at the USGS station were about 61 mg/L for storm flows. The Basin Plan objective for chloride is 100 mg/L.

Phosphorus. Recent wet weather monitoring (LACDPW mass emission station and Newhall Ranch WRP start-up monitoring) showed somewhat consistent total phosphorus levels, averaging about 0.4 to 0.6 mg/L. An exception was the large storm sample (>1.0 inch) collected at station NR-3, which measured 13.4 mg/L. This is likely due to the high concentration of TSS measured during the same storm event, because total phosphorus is predominately found in the particulate-phase in stormwater runoff. Historical average total phosphorus concentrations at the USGS station were somewhat higher than recent results at 1.0 to 1.3 mg/L and appear to be somewhat independent of storm event size. The Basin Plan water quality objective for phosphorus is a narrative standard, which states, "waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance of adversely affects beneficial uses."

Nitrogen. Measured nitrate-nitrogen concentrations in the tributary stormwater monitoring were generally low (less than 3 mg/L) at three of the sites, and were elevated at Sites A and D (17.5 mg/L and 15.3 mg/L, respectively). The numeric target for nitrate plus nitrite-nitrogen in the Santa Clara River nitrogen compounds TMDL is 4.5 mg/L (30-day average), which is based on achieving the Basin Plan water quality objective of 5 mg/L. (Note that nitrate-nitrogen is typically an order of magnitude greater than nitrite-nitrogen in natural waters, as nitrite is converted to nitrate in aerobic conditions.) The Santa Clara River average nitrate-nitrogen concentrations were below this objective (0.8 mg/L to 3.0 mg/L). The average historical nitrate-N + nitrite-N concentrations at the USGS station were roughly similar, varying from 2.1 mg/L for lower storm flows to 1.7 mg/L for higher storm flows.

Average ammonia concentrations are low and range from 0.1 to 0.5 mg/L. The ammonia water quality objectives in the Santa Clara River nitrogen compounds TMDL range from 3.4 mg/L to 5.5 mg/L (1-hour average) and 1.2 mg/L to 2.0 mg/L (30-day average).

Average Total Kjeldahl nitrogen (TKN) concentrations, which is the measure of ammonia plus the organic forms of nitrogen, generally ranged from 0.4 mg/L to 4.3 mg/L. One exception was concentration found in the large storm at NR-3, which measured 46 mg/L. As with total phosphorus, the organic forms of nitrogen in stormwater runoff are generally in the particulate-phase, and this result correlated with the high levels of total phosphorus and suspended solids measured during this same event described above.

Metals. Total copper, lead, and zinc concentration measured at Sites B and C were much higher than the concentrations measured at Sites A and D. Concentrations at Site E fell in the middle of the measured range. Elevated total metal concentrations are often associated with elevated TSS levels; however, this trend is not evident in the tributary monitoring data. The average total copper concentrations at Sites B, C, and E were greater than the CTR acute copper criterion. The average total copper concentrations ranged from 10 micrograms per liter (μg/L) to 175 μg/L; the CTR acute total copper criterion for a hardness concentration of greater than 400 mg/L is 52 μg/L. The average total lead and total zinc concentrations in all the tributaries were below the CTR acute criteria. The average total lead concentrations ranged from 6.1 μg/L to 95 μg/L; the CTR acute total lead criterion for a hardness concentration of greater than 400 mg/L is 480 μg/L. The average total zinc concentrations ranged from 30 μg/L to 330 μg/L; the CTR acute total zinc criterion for a hardness concentration of greater than 400 mg/L is 390 μg/L.

Average concentrations of dissolved and total copper measured in the Santa Clara River (3.6 μg/L to 8.4 μg/L, dissolved copper; 4.6 to 91 μg/L, total copper) were below the respective CTR acute criteria for the average hardness of 250 mg/L (32 μg/L, dissolved copper; 33 μg/L, total copper). Average concentrations of dissolved and total lead measured in the Santa Clara River (<0.07 μg/L to 23 μg/L,

dissolved lead; 0.8 to 110 μg/L, total lead) were well below the respective CTR acute criteria for the average hardness of 250 mg/L (170 μg/L, dissolved lead; 260 μg/L, total lead). Average concentrations of dissolved and total zinc measured in the Santa Clara River (8.7 μg/L to 37 μg/L, dissolved zinc; 11 to 353 μg/L, total zinc) were all well below the respective CTR acute criteria for the average hardness of 250 mg/L (250 μg/L, dissolved zinc; 260 μg/L, total zinc).

Pesticides. Data for pesticides are very limited. Chlorpyrifos was not detected at LACDPW station and diazinon was detected in 8 of the 25 wet-weather samples. Diazinon and chlorpyrifos were not detected further downstream in the Santa Clara River during Newhall WRP wet weather sampling and only detected in the one wet weather sample taken in the historical data.

Cyanide. Cyanide was detected in 7 of the 25 wet weather samples taken at the County's mass emission station. Concentrations of cyanide were very low, exceeding the CTR criterion for freshwater acute aquatic life protection of 22 μg/L in only one instance.

Coliform Bacteria. Consistent with other stormwater data for the region, concentrations of total and fecal coliform bacteria in wet weather flows at all tributary monitoring stations and the LACDPW mass emission station were highly variable and sometimes very high, ranging from <1 Most Probable Number per 100 milliliters (MPN/100 mL) to 300,000 MPN/100 mL. Average bacteria concentrations at the lower stations were significantly lower, but still elevated, and more so during larger storms. In waters designated for water contact recreation (REC-1), the Basin Plan objective for fecal coliform is a log mean of 200 MPN/100 mL (based on a minimum of not less than 10 percent of total samples during any 30-day period), nor shall more than 10 percent of the total number of samples during any 30-day period exceed 400 MPN/100 mL.

Dry Weather Monitoring Data Summary. Dry season base flows in the Santa Clara River through the proposed project area are perennial. Dry season base flows may include contributions from natural groundwater flows; however, discharges from the upstream Saugus and Valencia WRPs contribute the majority of base flow. Discharges from the WRPs during dry weather conditions are a source of impairing pollutants in downstream reaches, including chloride, TDS, and nitrogen compounds. Dry weather water quality monitoring data in the Santa Clara River are available from LACDPW sampling at the Santa Clara River mass emission station, Newhall Ranch WRP pre-startup monitoring, and USGS water quality monitoring. **Table 4.22-9, Average Dry Weather Monitoring Data in the Santa Clara River**, summarizes the average values from dry weather monitoring data for these monitoring locations.

Table 4.22-9
Average Dry Weather Monitoring Data in the Santa Clara River

Constituent	SCR Mass Emission Station	USGS Dry Weather Monitoring	Newhall Ranch WRP Pre-Startup Monitoring	
	S29	*11108500*	*NR1*	*NR3*
TSS (mg/L)	135	349	42	76
Hardness (mg/L)	411	881	323	380
TDS (mg/L)	806	1541[1]	853	930
Chloride (mg/L)	114	140	116	122
Total P (mg/L)	0.18	1.13	0.6	0.5
Nitrate-N (mg/L)	0.23	4[2]	2.4	2.4
Nitrite-N (mg/L)	1.16	-	<0.005	<0.005
Ammonia-N (mg/L)	0.08	0.18	0.1	0.1
TKN (mg/L)	0.08	0.83	0.7	0.7
Dissolved Copper (µg/L)	2.4	1.8	3.6	3.6
Total Copper (µg/L)	13	20	4.4	5.2
Dissolved Lead(µg/L)	<0.17	7.8	<0.05	<0.05
Total Lead (µg/L)	1.3	ND	0.6	0.9
Dissolved Zinc (µg/L)	7.9	15.8	14.1	11.8
Total Zinc (µg/L)	21	45	16	17
Dissolved Aluminum (µg/L)	36	-	36	54
Total Aluminum (µg/L)	566	-	325	530

Source: Geosyntec, 2010.
[1] CFU/100 mL, - = no or insufficient data, ND = none detected

The dry weather monitoring data indicate the following:

TSS. Relatively high average TSS concentrations were observed, particularly in the historical data from USGS station, which may have included samples taken during times of higher erosion or larger dry weather flows. Average dry weather flow TSS concentrations observed by the Newhall Ranch WRP pre-startup monitoring were similar to those observed for small storms in wet weather monitoring. Average concentrations of TSS appeared higher at the upstream LACDPW mass emission station than at the downstream Newhall Ranch WRP pre-startup sites. Differences may be due to physical factors such as channel substrate material, local flow regime, and tributary influences.

Hardness, TDS and Chloride. The average concentrations of hardness, TDS, and chloride were more similar between the LACDPW mass emission station and Newhall Ranch WRP monitoring locations. However, the USGS county line station historically recorded higher averages (approximately double) than the baseline data observed at the LACDPW mass emission station and Newhall Ranch WRP monitoring locations. The baseline data suggests that the water flowing in the Santa Clara River in the proposed

project area during dry weather is very hard and turbid with moderate levels of other dissolved salts, including chloride.

Phosphorus and Nitrogen. The average concentrations for total phosphorus and nitrate in dry weather flows increased downstream, while ammonia and total kjeldahl nitrogen concentrations were relatively consistent from upstream to downstream. All average nutrient concentrations were higher in the historical dataset. Nutrient concentrations measured in dry weather flows reflect the influence of the Saugus and Valencia WRPs. Lower average concentrations in the Newhall WRP startup monitoring, compared with the data at the USGS gauge, could be due to historically greater WRP nutrient discharge concentrations and/or less responsible use of fertilizers. Higher historic total kjeldahl nitrogen concentrations also could be attributed to the higher TSS concentrations, and hence particulate nutrients, observed at this site.

Metals. Concentrations of heavy metals in dry weather flows were generally low and, for the most part, reasonably similar. Total metal concentrations are related to TSS concentrations, and this is reflected in the difference between the historical data collected at the USGS site with higher TSS and the more recent data with lower TSS. Average dissolved copper concentrations were fairly similar and ranged from 1.8 to 4.2 µg/L. Average dissolved zinc concentrations also were fairly similar and ranged from 11 to 24 µg/L. Higher copper and zinc concentrations were observed at the upper SCR site, which may reflect its proximity to urban land uses; however, the data are too few to confidently assert a reason for these differences. Dissolved lead showed some large differences between the historical and more recent datasets, and this is likely due to difficulties in analyzing trace metals in the earlier dataset, and widespread use of leaded gasoline prior to 1995.

Aluminum concentrations only were measured at the Newhall Ranch WRP pre-startup monitoring stations. Average dissolved aluminum concentrations in the dry weather flows ranged from 170 µg/L to 289 µg/L. Total aluminum ranged from 1,018 µg/L to 1,685 µg/L. The NAWQC acute criterion for acid soluble aluminum is 750 µg/L for a pH range of 6.5 to 9.0. The CTR does not include an aluminum criterion.

Pesticides. Diazinon was detected at the upstream LACDPW site and historically at the USGS site in dry weather flows. The more extensive data set collected at NR1 and NR3 did not detect diazinon and this may be due to its recent phase-out by the U.S. EPA for residential uses.

Cyanide. Cyanide was measured but not detected in dry weather flows at the LACDPW mass emission station.

Coliform Bacteria. The concentrations of indicator bacteria indicated highly variable but generally elevated fecal indicator bacteria concentrations in dry weather flows. The observed data were above the REC-1 Basin Plan objective for fecal coliform (i.e., log mean of 200/100 mL (based on a minimum of not less than 10 percent of total samples during any 30-day period), nor shall more than 10 percent of the total number of samples during any 30-day period exceed 400/100 mL).

(4) Existing Groundwater Quality and Beneficial Uses

The project site is within the Basin Plan's Castaic Valley and Saugus Aquifer subbasin of the Santa Clarita Valley Groundwater Basin, East Subbasin. Beneficial uses for groundwaters for this subbasin are shown in **Table 4.22-10, Beneficial Uses of Groundwater**.

Table 4.22-10
Beneficial Uses of Groundwaters

Groundwater Basin	MUN
DWR 4.07 - Eastern Santa Clara Sub-basin: Castaic Valley and Saugus Aquifer	E

Source: Geosyntec 2010.
E=Existing Beneficial Use
MUN: Community, military, or individual water supply systems including, but not limited to, drinking water supply.

The project area lies at the western end of the upper Santa Clara River hydrologic area, as defined by the DWR. The Santa Clara River Valley East Groundwater Subbasin lies within this hydrologic area and is the source of essentially all local groundwater used for water supply in the Santa Clarita Valley. The local groundwater supplies are obtained from relatively young surficial alluvial deposits and from an older geologic unit (the Saugus Formation) that underlies the alluvium and adjoining areas. The alluvium and the Saugus Formation are underlain by bedrock units consisting of the Pico Formation in the project area and other geologic units in the eastern and northern portions of the Santa Clarita Valley. These deep bedrock units yield little water and are not considered viable for groundwater development.

The alluvial sediments lie within the portion of the Santa Clarita Valley occupied by the Santa Clara River and also are present in side canyons that contain tributaries to the River. The alluvium consists of extensively interlayered and interfingered mixtures of gravel and sand, with variable amounts of cobbles and boulders and minor amounts of silt and clay. Due to the unconsolidated to poorly consolidated condition of the alluvium, and its lack of cementation, the alluvium has relatively high permeability and porosity. The groundwater flow direction in the Alluvial aquifer follows the topography of the Valley and its tributaries. Groundwater recharge occurs in the eastern, northern, and southern portions of the Valley. Natural mechanisms for groundwater discharge occur at the west end of the Valley and consist of

discharge to the Santa Clara River, subsurface outflow beneath the River, and evapotranspiration by deep-rooted vegetation.

The Saugus Formation is present beneath the project site and most of the Santa Clarita Valley area east of the Specific Plan area. The upper subunits of the Saugus Formation consist of terrestrial sediments deposited by ancestral drainage systems in stream channels, floodplains, and alluvial fans. The upper subunits are a source of groundwater supply in the Santa Clarita Valley because of their productive nature and their good water quality. Deeper subunits of the Saugus Formation were deposited in a marine environment and are subsequently not used for water supplies because of their brackish water quality and fine-grained, low-permeability nature.

Faulting and folding of the Saugus Formation and the underlying bedrock units have created a bowl-shaped structure beneath the Santa Clarita Valley. The Saugus Formation and underlying bedrock generally dip downwards from the periphery of the Santa Clarita Valley towards the deepest portion of the "bowl" beneath the central portion of the Santa Clarita Valley. The thickness of the Saugus Formation also is controlled by the San Gabriel fault, which is present in the eastern and northern portions of the Santa Clarita Valley. Because of its structure and its connection with the overlying Alluvial aquifer, groundwater flow in the Saugus Formation generally is towards the center of the bowl and also towards the western portion of the Santa Clara River. Like the Alluvial aquifer, the Saugus Formation is recharged in the eastern and other peripheral portions of the Santa Clarita Valley. Groundwater discharge from the Saugus Formation occurs at the west end of the Santa Clarita Valley in the form of groundwater discharge into the overlying Alluvial aquifer, which in turn discharges to the River in the western end of the Santa Clarita Valley.

Alluvium. In terms of the aquifer system, there is no convenient long-term record of water quality (i.e., water quality data in one or more single wells that spans several decades and continues to the present). Thus, in order to examine a long-term record of water quality in the alluvium, individual records have been integrated from several wells completed in the same aquifer materials and in close proximity to each other to examine historical trends in general mineral groundwater quality throughout the basin. (Luhdorff & Scalmanini Consulting Engineers, 2008. Santa Clarita Valley Water Report 2007.) Based on these records of groundwater quality, wells within the alluvium have experienced historical fluctuations in general mineral content, as indicated by electrical conductivity (EC), which correlates with fluctuations of individual constituents that contribute to EC. However, the historic water quality data indicates that, on a long-term basis, there has not been a notable trend and, specifically, there has not been a decline in water quality within the alluvium.

Specific conductance within the alluvium exhibits a westward gradient, corresponding with the direction of groundwater flow in the alluvium. EC is lowest in the easternmost portion of the basin, and highest in the west, and generally exhibits an inverse correlation with precipitation and streamflow, with a stronger correlation in the easternmost portion of the basin where groundwater levels fluctuate the most. Wet periods have produced substantial recharge of higher quality (low EC) water, and dry periods have resulted in declines in groundwater levels, with a corresponding increase in EC (and individual contributing constituents) in the deeper parts of the alluvium.

The most notable groundwater quality issue in the alluvium is perchlorate contamination in a localized area situated about 3 miles east of the project area. In 2002, one well (the Santa Clarita Water Division's Stadium Well), located near the former Whittaker-Bermite facility, was inactivated for municipal water supply due to detection of perchlorate slightly below the notification level. In early 2005, perchlorate was detected in a second well, the Valencia Water Company's Well Q2. In October 2005, Well Q2 was returned to service with wellhead perchlorate treatment under a permit from the California Department of Health and Safety (DHS). Ongoing monitoring in the alluvium north of the Whittaker-Bermite site (an ammunition manufacturing site) has shown no detections of perchlorate in any other Alluvial municipal water supply wells in this area.

Table 4.22-11, Groundwater Monitoring Data, summarizes average metals, general chemistry, and organic compounds data for three Alluvial aquifer wells located in and near the project area (see **Figure 4.22-1**). One well is a municipal water supply well that belongs to the Valencia Water Company (E-15) and is located in the Valencia Commerce Center area, northeast of the project boundary. Two Newhall Ranch agricultural alluvial aquifer wells (C and B6) were monitored twice (once each in 2000 and 2001).

Laboratory testing indicates that all constituents tested were at acceptable levels for drinking water, for all tested wells, with the exception of sulfate and iron in the agricultural supply Well B6. Specifically, the average sulfate concentration (360 mg/L) exceeded the Basin Plan objective of 350 mg/L and the average iron concentration (0.4 mg/L) exceeded the secondary drinking water standard of 0.3 mg/L in Alluvial Well B6.

Tests conducted for perchlorate at the Alluvial aquifer wells listed in **Table 4.22-11, Groundwater Monitoring Data,** indicated "non-detect," meaning no perchlorate was detected. Furthermore, no organic contaminants have been detected in any alluvial aquifer wells.

Saugus Formation. Similar to the alluvial aquifer, groundwater quality in the Saugus Formation is a key factor in assessing that aquifer as a municipal and agricultural water supply. As with the alluvial aquifer, long-term Saugus groundwater quality data is not sufficiently extensive (few wells) to permit any

basin-wide analysis or assessment of pumping-related impacts on quality. Accordingly, EC has been chosen as an indicator of overall water quality, and records have been combined to produce a long-term depiction of water quality. Water quality in the Saugus Formation historically has not exhibited the precipitation-related fluctuations seen in the alluvial aquifer, and based on the historical record over the last 50 years; groundwater quality in the Saugus Formation has exhibited a slight overall increase in EC.

Table 4.22-11, Groundwater Monitoring Data, summarizes average metals, general chemistry, and organic compounds data for one Saugus aquifer well located near the project location (see **Figure 4.22-1**). Saugus Well 206 is a municipal water supply well that belongs to the Valencia Water Company. Laboratory testing indicates that all constituents tested were at acceptable levels for drinking water in Saugus Well 206.

As with the alluvial aquifer, the most notable groundwater quality issue in the Saugus Formation is perchlorate contamination. Since 1997, four Saugus wells located near the former Whittaker-Bermite facility (about 2 miles east of the project location) have been inactivated for water supply service due to the presence of perchlorate. A fifth well in that same location showed a detection of perchlorate below the DHS reporting level of 4 µg/L. To date, in the Saugus Formation, there have been no perchlorate detections in other active municipal-supply wells located down gradient (west) of the impacted wells. The development and implementation of a cleanup plan for the former Whittaker-Bermite facility and the impacted groundwater resources is being coordinated among the Castaic Lake Water Agency (CLWA), impacted purveyors, the California Department of Toxic Substances Control (DTSC), and the USACE. For the impacted groundwater, a Final Interim Remedial Action Plan for containment and extraction of perchlorate was completed and approved by DTSC in January 2006. Design of the treatment facilities and related pipelines also was completed in 2006. Construction of these facilities to implement the pump-and-treat program and to restore inactivated well capacity began in November 2007, with the facilities operational by 2009. (Luhdorff and Scalmanini Consulting Engineers, 2007. Santa Clarita Valley Water Report 2008.)

Table 4.22-11
Groundwater Monitoring Data

Parameter	Units	Basin Plan Objective /Maximum Contaminant Level	Average Concentration			
			Alluvial Well E-15	Alluvial Well C	Alluvial Well B6	Saugus Well 206
Aluminum	µg/L	1,000[2]	ND	ND	ND	ND
Arsenic	µg/L	50[2]	n/a	ND	ND	n/a
Barium	mg/L	1[2]	ND	0.02	0.03	ND
Beryllium	µg/L	4[2]	ND	n/a	n/a	ND
Cadmium	µg/L	5[2]	ND	ND	ND	ND
Chromium	µg/L	50[2]	ND	ND	ND	ND
Copper	µg/L	1,000[3]	ND	ND	ND	ND
Iron	mg/L	0.3[3]	ND	0.1	**0.4**	ND
Manganese	µg/L	50[3]	ND	ND	ND	ND
Mercury, Total	µg/L	2[2]	n/a	ND	ND	n/a
Nickel	µg/L	100[2]	ND	ND	ND	ND
Selenium	µg/L	50[2]	n/a	ND	ND	n/a
Silver	µg/L	100[3]	NA	ND	ND	n/a
Thallium	µg/L	2[2]	NA	ND	ND	n/a
Zinc	µg/L	5,000[3]	ND	ND	ND	ND
Alkalinity as CaCO3	mg/L	--	226	255	295	221
Boron	mg/L	1.0[1]	0.48	0.39	0.48	n/a
Chloride	mg/L	150[1]	90	57	82	45
Color	Color unit	15[3]	ND	ND	5	ND
Cyanide, total	mg/L	0.15[2]	n/a	ND	ND	n/a
Fluoride	mg/L	2.0[2]	0.8	0.7	0.8	0.2
Hardness as CaCO3	mg/L	--	499	410	510	464
MBAS	mg/L	0.5[3]	n/a	ND	ND	n/a
Nitrate as NO3	mg/L	45[1]	18.5	9.5	10.6	20.9
Nitrite as N	mg/L	1[1]	ND	ND	ND	ND
Nitrate+Nitrite as N	mg/L	10[1]	3.6	2.1	2.4	4.7
Odor	TON	3[3]	1.1	ND	ND	1
Specific Conductance	umhos/cm	900-1600[3]	1317	1150	1400	1158
Sulfate	mg/L	350[1]	314	285	**360**	293
TDS	mg/L	1,000[1]	969	760	950	861
Turbidity	NTU	5[3]	0.4	0.35	1.4	0.2
Volatile Organic Chemicals (VOCs)	µg/L	variable	ND	ND	ND	ND
Synthetic Organic Chemicals (SVOCs)	µg/L	variable	ND	ND	ND	ND
Key: **Bold = Exceeds Standard**						

Source: Geosyntec 2010.

-- = no applicable Basin Plan objective or MCL

n/a = not analyzed; ND = none detected

[1] *Los Angeles Basin Plan Regional Objectives for Groundwater.*

[2] *California Department of Public Health Primary Drinking Water MCL (Title 22 CCR Table 64431-A and Table 64444-A).*

[3] *California Department of Public Health Secondary Drinking Water MCL (Title 22 CCR Table 64449-A and Table 64449-B).*

5. POLLUTANTS AND CONDITIONS CONSIDERED

a. Surface Water Pollutants of Concern

Pollutants of concern, as defined in the Los Angeles County SUSMP Manual, consist of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water; elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein; or detectable inputs of the pollutant are at concentrations or loads considered potentially toxic to humans and/or flora and fauna. The pollutants of concern for the water quality analysis are those that are anticipated or potentially could be generated by the project at concentrations, based on water quality data collected in Los Angeles County from land uses that are the same as those proposed by the project, that exhibit these characteristics. Identification of the pollutants of concern also considered Basin Plan beneficial uses and water quality objectives, CTR criteria, and current Section 303(d) listings and TMDLs in the Santa Clara River, as well as pollutants that have the potential to cause toxicity or bioaccumulate in the project's receiving waters.

The pollutants described below were chosen as pollutants of concern for purposes of evaluating water quality based upon the above considerations.

Sediments (TSS and Turbidity). Excessive erosion, transport, and deposition of sediment in surface waters are a significant form of pollution resulting in major water quality problems. Sediment imbalances impair designated uses of water. Excessive sediment can impair aquatic life by filling interstitial spaces of spawning gravels, impairing fish food sources, filling rearing pools, and reducing beneficial habitat structure in stream channels. In addition, excessive sediment can cause taste and odor problems in drinking water supplies and block water intake structures. Turbidity is associated with project development primarily during the construction phase.

Nutrients (Phosphorus and Nitrogen (Nitrate+Nitrite-N, and Ammonia-N). Nutrients of concern include the inorganic forms of nitrogen (nitrate, nitrite, and ammonia) and phosphorus. Organic forms of nitrogen are associated with vegetative matter such as particulates from sticks and leaves. Inorganic forms of nitrogen include nitrate, nitrite, and ammonia. Phosphorus can be measured as total phosphorus (TP) or as dissolved phosphorus. Dissolved phosphorus is the more bioavailable form of phosphorus. TP is often composed mostly of soil-related particulate phosphorus. There are several sources of nutrients in urban areas, mainly fertilizers in runoff from lawns, pet wastes, failing septic systems, and atmospheric deposition from industry and automobile emissions, and soil erosion. Nutrient over-enrichment is especially prevalent in agricultural areas where manure and fertilizer inputs to crops significantly contribute to nitrogen and phosphorus levels in streams and other receiving waters. Eutrophication due to excessive nutrient input can lead to changes in algae, benthic, and fish communities; extreme

eutrophication can cause hypoxia or anoxia, resulting in fish kills. Surface algal scum, water discoloration, and the release of toxins from sediment can also occur.

Various downstream reaches of the Santa Clara River are identified as impaired by ammonia and nitrate-plus nitrite-nitrogen. Evidence of impairment includes low diversity of benthic macroinvertebrates and observations of excessive algae growth. A source analysis found that the majority of ammonia and nitrate/nitrite loads are from point sources; primarily WRPs. (LARWQCB, 2003. Santa Clara River Total Maximum Daily Loads for Nitrogen Compounds Staff Report. California Regional Water Quality Control Board Los Angeles Region. June 16 2003.) Sources from municipal storm sewers are considered a minor source, but have a potential to cause significant local effects on water quality (LARWQCB, 2003. Santa Clara River Total Maximum Daily Loads for Nitrogen Compounds Staff Report. California Regional Water Quality Control Board Los Angeles Region. June 16 2003.) TMDLs have been developed and adopted into the Basin Plan for nitrogen compounds, including nitrate/nitrite and ammonia.

Trace Metals (Copper, Lead, and Zinc). The primary sources of trace metals in stormwater are typically commercially available metals used in transportation (e.g., automobiles), buildings, and infrastructure. Metals are also found in fuels, adhesives, paints, and other coatings. Copper, lead, and zinc are the most prevalent metals typically found in urban runoff. Other trace metals, such as cadmium, chromium, and mercury, are typically not detected in urban runoff or are detected at very low levels. (LACDPW, 2000. Los Angeles County 1994–2000 Integrated Receiving Water Impacts Report.) Metals are of concern because of the potential for toxic effects on aquatic life and the potential for ground water contamination. High metal concentrations can lead to bioaccumulation in fish and shellfish and affect beneficial uses of receiving waters.

Aluminum. Aluminum has been identified by the LACDPW as a constituent of concern for the Santa Clara River based on monitoring conducted at mass emission Station S29 (see **Existing Water Quality, Table 4.22-8**, above). In stormwater, the majority of aluminum is in the particulate phase. Its presence in stormwater is mainly due to aluminosilicate minerals found in soils, because stormwater particles are largely composed of eroded soils. Aluminum is a large component of soils and is the third most common element in the earth's crust. The average aluminum soil content is about 8 percent (or 80,000 mg/kg) and suspended sediments in rivers have total aluminum contents of a similar order of magnitude. Aluminosilicates include a wide range of minerals with varying properties; some are formed during the laying down of the earth's crust and some by weathering processes. In urban areas, aluminum building materials are a minor source of aluminum, as the metal is coated in unreactive aluminum oxide.

Pathogens (Bacteria, Viruses, and Protozoa). Elevated pathogens are typically caused by the transport of domestic animal, wildlife, or human fecal wastes from the watershed. Runoff that flows over land such as urban runoff can mobilize pathogens, including bacteria and viruses. Even runoff from natural areas can contain pathogens (e.g., from wildlife). Other sources of pathogens in urban areas include pets, septic

systems, and leaky sanitary sewer pipes. The presence of pathogens in runoff can impair receiving waters and contaminate drinking water sources.

Historically an indicator organism such as fecal coliform has been used for pathogens due to the difficulty of monitoring for pathogens directly. More recently, the scientific community has questioned the use of certain indicator organisms, as there are various confounding factors that affect the reliability of some FIB as pathogen indicators in stormwater runoff. Santa Clara River Reaches 5, 6, and 7 and the Santa Clara River Estuary area both identified as impaired by high fecal coliform counts from point and non-point sources. An Indicator Bacteria TMDL was approved by the LARWQCB for these river reachesthe Santa Clara River Estuary and Reaches 3, 5, 6, and 7 on July 8, 2010.

Petroleum Hydrocarbons (Oil and Grease and PAHs). The sources of oil, grease, and other petroleum hydrocarbons in urban areas include spillage fuels and lubricants, discharge of domestic and industrial wastes, atmospheric deposition, and runoff. Runoff can be contaminated by leachate from asphalt roads, wearing of tires, and deposition from automobile exhaust. Also, do-it-yourself auto mechanics may dump used oil and other automobile-related fluids directly into storm drains. Petroleum hydrocarbons, such as PAHs, can bioaccumulate in aquatic organisms from contaminated water, sediments, and food and are toxic to aquatic life at low concentrations. Hydrocarbons can persist in sediments for long periods of time and result in adverse impacts on the diversity and abundance of benthic communities. Hydrocarbons can be measured as total petroleum hydrocarbons (TPH), oil and grease, or as individual groups of hydrocarbons, such as PAHs.

Pesticides. Pesticides (including herbicides, insecticides, and fungicides) are chemical compounds commonly used to control insects, rodents, plant diseases, and weeds. Excessive application of a pesticide in connection with agriculture cultivation or urban landscaping may result in runoff containing toxic levels of its active component. Pesticides may be classified as organochlorine pesticides or organophosphorus pesticides, the former being associated with persistent bioaccumulative pesticides (e.g., dichlorodiphenyltrichloroethane [DDT] and other legacy pesticides), which have been banned. Organophosphorus pesticides include diazinon and chlorpyrifos, the residential use of which is restricted by the U.S. EPA. The Santa Clara River estuary is listed as impaired for legacy pesticides including chlorinated pesticides. Santa Clara River Reaches 3, 1 and the estuary are proposed for or are also listed for toxicity, which can be a byproduct of pesticides. Toxic organophosphorous pesticides include diazinon and chlorpyrifos whose uses also are being banned of restricted by U.S. EPA. The current pesticides of concern for water quality are pyrethrums; parathyroid's (bifenthrin, cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, and permethrin); carbaryl; malathion; and imidacloprid.

Trash and Debris. Trash (such as paper, plastic, polystyrene packing foam, and aluminum materials) and biodegradable organic debris (such as leaves, grass cuttings, and food waste) are general waste products

on the landscape that can be entrained in urban runoff. The presence of trash and debris may have a significant impact on the recreational value of a water body and aquatic habitat. Excess organic matter can create a high biochemical oxygen demand in a water body and, thereby, lower its water quality. Also, in areas where stagnant water exists, the presence of excess organic matter can promote septic conditions resulting in the growth of undesirable organisms and the release of odorous and hazardous compounds such as hydrogen sulfide.

Chloride. High levels of chloride in Santa Clara River Reaches 3, 5, and 6 are causing impairment of listed beneficial uses for agricultural irrigation. Irrigation of salt sensitive crops such as avocados and strawberries with water containing elevated levels of chloride can result in reduced crop yields. Chloride levels in some areas exceed water quality standards associated with groundwater recharge. Chloride TMDLs are included in the Basin Plan. The major sources of elevated chloride are dry-weather discharges from WRPs, contributing about 70 percent of the chloride load. Minor point sources are dewatering operations which may discharge chloride occurring naturally in groundwater, and uncontrolled swimming pool and water ride discharges.

Methylene Blue Activated Substances (MBAS). MBAS are related to the presence of detergents in water. Positive results may indicate the presence of wastewater or be associated with urban runoff due to commercial and/or residential vehicle washing or other outdoor washing activities. Surfactants disturb the surface tension, which affects insects and can affect gills in aquatic life.

Cyanide. Cyanide has been identified by the LACDPW as a constituent of concern for the Santa Clara River based on monitoring conducted at mass emission station S29. (LACDPW, 2005. Los Angeles County 1994–2005 Integrated Receiving Water Impacts Report Final Report - August 2005.) Cyanide is used in electroplating, metallurgy, and mining. It is also used to make synthetic fibers, plastics, dyes, pharmaceuticals, and pesticides, including fumigants. In addition, cyanide serves as a chemical intermediate in various production processes. Natural cyanides are produced by certain bacteria, fungi, and algae, and they are present in a number of plants and foods as cyanogenic glycosides. Man-made cyanides typically enter the environment from metal finishing and organic chemical industries. Other sources include iron and steel works, municipal waste burning, cyanide-containing pesticides, road deicers, and vehicle exhaust.

Bioaccumulation. Certain pollutants, such as pesticides, selenium and mercury, have a tendency to bioaccumulate. The Basin Plan and the CTR criteria set forth toxicity objectives for receiving water levels of substances that bioaccumulate in aquatic resources to prohibit concentrations of toxic substances that are harmful to human health and adversely affect beneficial uses.

b. Other Constituents in Surface Water

This section discusses other constituents that are listed in the Basin Plan, but for reasons explained below, are not pollutants of concern for the Mission Village project.

BOD (Biochemical Oxygen Demand) and Dissolved Oxygen. Adequate levels of dissolved oxygen are necessary to support aquatic life. High levels of oxygen demanding substances discharged to receiving waters can depress oxygen levels and contribute to algal growth. Oxygen demanding substances are compounds that can be biologically degraded through aerobic processes. Nutrients in fertilizers and food wastes in trash are examples of likely oxygen demanding compounds that would be present on the project site. Other biodegradable organic materials include human and animal waste and vegetative matter. Biodegradable pollutants are largely subsumed by the nutrients and trash and debris categories above; therefore, these pollutants would not be discussed as a separate constituent category.

Chemical Constituents. Chemical constituents in excessive amounts in drinking water are harmful to human health. The Basin Plan objectives for chemical constituents states: "Surface waters shall not contain concentrations of chemical constituents in amounts that adversely affect any designated beneficial use." As Santa Clara River Reach 5 is not designated with a municipal water supply designated use, chemical constituents are not a pollutant of concern for the project.

Iron. Iron was included in the 2008 Los Angeles Region Integrated Report Clean Water Act Section 305(b) and proposed Section 303(d) List for Santa Clara River Reach 5. The listing referenced exceedances from Saugus and Valencia Water Reclamation Plant receiving water quality monitoring, based on U.S. EPA National Recommended Water Quality Criteria (1976) iron criterion of 1.0 mg/L for freshwater aquatic life. The U.S. EPA criterion is based on three studies that were conducted between 1948 and 1967 which observed fish toxicity effects at iron levels of 1–2 mg/L at low and unknown pH levels.

The presence of iron in the Santa Clara River is due to the fact that it is an abundant element in the earth's crust (the fourth most abundant element by weight); iron silicate minerals are a component of most rocks, including basalt. Iron is an important component in soil adhesion, and is additionally important biologically. Vertebrate animals utilize iron's oxidation-reduction mechanisms to transport oxygen in the bloodstream. Iron pollution sources include industrial wastewater, mine leachate, and groundwaters with high iron content. At low pH levels (below 5.5), iron from these sources complexes with hydroxide, and forms precipitates which can coat gills of fish and cement streambeds, making them unsuitable for spawning.

The Basin Plan and the CTR do not include a water quality criterion for iron. In-stream monitoring data in the Santa Clara River from 2002–2009 show concentrations of iron ranging from 400 to 44,400 µg/L, with no resultant toxicity. Iron concentrations from developed condition land uses typically range from 1,000 to 3,000 µg/L (LACDPW, 2000). Runoff from the project is unlikely to affect concentrations in the Santa Clara River.

Additionally, wet weather water quality monitoring data in the Santa Clara River gathered by LA County from 2002 to 2009 (station S29) show no correlation between toxicity and iron. Toxicity tests in two storm events from 2008-2009 showed no exceedances even with measured in-stream total iron levels as high as 31,000 µg/L and 39,600 µg/L, respectively. Therefore, iron is not anticipated to be a pollutant of concern for the project.

Temperature. Increase in temperature can result in lower dissolved oxygen levels, impairing habitat, and other beneficial uses of receiving waters. Discharges of wastewater can also cause unnatural and/or rapid changes in temperature of receiving waters, which can adversely affect aquatic life. Elevated temperatures are typically associated with discharges of process wastewaters or non-contact cooling waters. As the beneficial uses in the receiving waters for the project include warm freshwater habitat to support warm water ecosystems, temperatures of stormwater runoff from the project are not of concern.

Total Residual Chlorine. Total residual chlorine can be present in WRP discharges, or may be present in dry weather urban runoff from the emptying of swimming pools that have not been de-chlorinated. Chlorine is a strong oxidant and is therefore toxic to aquatic life. Municipal pools and private pools in areas served by a municipal sanitary system are required to be discharged into the sanitary system, and therefore, total residual chlorine would not be present in runoff from the project.

Color, Taste, and Odor. The Basin Plan contains narrative objectives for color, taste, or odor that causes a nuisance or adversely affects beneficial uses. Undesirable tastes and odors in water may be a nuisance and may indicate the presence of a pollutant(s). Odor associated with water can result from decomposition of organic matter or the reduction of inorganic compounds, such as sulfate. Other potential sources of odor causing substances, such as industrial processes, would not occur as part of the project. Color in water may arise naturally, such as from minerals, plant matter, or algae, or may be caused by industrial pollutants. Project land uses would not include industrial land uses. Therefore, color-, taste-, or odor-producing substances are not pollutants of concern for the project.

Exotic Vegetation. Non-native (exotic) vegetation typically provides little habitat value and can out-compete native vegetation that is more suitable habitat for aquatic and terrestrial organisms. The Basin Plan objective for exotic vegetation states: "Exotic vegetation shall not be introduced around stream courses to the extent that such growth causes nuisance or adversely affects designated beneficial uses."

The potential for non-native plant species to impact natural drainages is analyzed in **Section 4.3, Biota**, of this Draft EIR.

Mineral Quality: TDS, Sulfate, Boron, and Sodium Absorption Rate (SAR). Mineral quality in natural waters is largely determined by the mineral assemblage of soils and rocks near the land surface. Elevated mineral concentrations could impact beneficial uses; however, the minerals listed in the Basin Plan, except chloride and nitrogen, are not believed to be constituents of concern due to the absence of river impairments and/or because, as with TDS, anticipated post-development runoff concentrations are well below the Basin Plan objectives (**Table 4.22-12, Comparison of Mineral Basin Plan Objectives with Mean Measured Values in Los Angeles County**). Therefore, these constituents are not considered pollutants of concern for the project.

Table 4.22-12
Comparison of Mineral Basin Plan Objectives with Mean Measured Values in Los Angeles County

Mineral	Los Angeles Basin Plan Water Quality Objective for Santa Clara River Reach 5 (mg/L)	Range of Mean Concentration in Urban Runoff[1] (mg/L)
Total Dissolved Solids	1,000	53–226
Sulfate	400	7–35
Boron	1.5	0.16–0.25
Sodium Absorption Ratio[2]	10	0.4–1.9

Source: Geosyntec, 2010.

[1] *Los Angeles County, 2000. Land uses include SFR, MFR, commercial, education, transportation, light industrial, and mixed residential.*

[2] *Sodium absorption ratio (SAR) predicts the degree to which irrigation water tends to enter into cation-exchange reactions in soil.*

pH. The hydrogen ion activity of water (pH) is measured on a logarithmic scale, ranging from 0 to 14. While the pH of "pure" water at 25°C is 7.0, the pH of natural waters is usually slightly basic due to the solubility of carbon dioxide from the atmosphere. Aquatic organisms can be highly sensitive to pH. The Basin Plan objective for pH states:

> *the pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharges. Ambient pH levels shall not be changed more than 0.5 units from natural conditions as a result of waste discharge.*

Mean runoff concentrations in the Los Angeles County stormwater monitoring data ranged from 6.5 for mixed- and single-family residential land uses to 7.0 for commercial land use. Therefore, it is not expected that pH in the Santa Clara River would be affected by runoff discharges from the project.

PCBs. Polychlorinated Biphenyls (PCBs) are highly toxic persistent chemicals that have been historically released into the environment from industrial uses, such as transformers, but are no longer produced in the United States. Due to their persistence, PCBs can still be detected in urban runoff due to historic industrial sources of these chemicals. The project area did not historically include PCB-producing land uses. Therefore, PCBs are not a pollutant of concern for the project.

Radioactive Substances. Radioactive substances typically occur at very low concentrations in natural waters. Some activities such as mining or certain industrial activities (e.g., energy production, fuel reprocessing) can increase the amount of radioactive substances impairing beneficial uses. The project would not have industrial or other activities that would be a source of any radioactive substances, and development would stabilize any naturally radioactive soils, though unlikely to be present in the project area. Therefore, radioactive substances are not a pollutant of concern for the project.

Toxicity. Certain pollutants in stormwater runoff have the potential to be highly toxic to aquatic organisms resulting in effects such as impaired reproduction or mortality. The Basin Plan water quality objective for toxicity is that "[a]ll surface waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life." Toxicity in urban runoff could be caused by ammonia, trace metals, PAHs, or pesticides. These constituents are subsumed by the pollutant of concern categories above.

c. Groundwater Pollutants

The project may require dewatering of shallow groundwater during the construction phase. The potential for dewatering discharges to affect surface water quality is addressed by considering surface water pollutants of concern. The project would allow for incidental infiltration of urban runoff to groundwater after receiving treatment in the project PDFs, as well as incidental infiltration of irrigation water. Research conducted on the effects on groundwater from stormwater infiltration by Pitt et al. (1994) indicate that the potential for contamination due to infiltration is dependent on a number of factors, including the local hydrogeology and the chemical characteristics of the pollutants of concern.

Pollutant characteristics that influence the potential for groundwater impacts from infiltration include high mobility (low absorption potential), high solubility fractions, and abundance in runoff, including dry weather flows. As a class of constituents, trace metals tend to adsorb onto soil particles and are filtered out by the soils. This has been confirmed by extensive data collected beneath stormwater detention/retention ponds in Fresno (conducted as part of the Nationwide Urban Runoff Program), which showed that trace metals tended to be adsorbed in the upper few feet in the bottom sediments. (Brown & Caldwell, 1984. Fresno Nationwide Urban Runoff Program Project. Report for the Fresno Metropolitan Flood Control Board, May 1984.) Bacteria are also filtered out by soils. More mobile and soluble

pollutants, such as chloride and nitrate, have a greater potential for impacting groundwater through infiltration.

(1) Groundwater Pollutants of Concern

The pollutants of concern for the groundwater quality analysis are those that are anticipated or potentially could be generated by the project at concentrations, based on water quality data collected in Los Angeles County from land uses that are the same as those included in the project, that exhibit these characteristics. Identification of the pollutants of concern for the project considered proposed land uses, as well as pollutants that have the potential to impair beneficial uses of the groundwaters below the project based on applicable water quality standards. The Los Angeles Basin Plan contains numerical objectives for bacteria, mineral quality, nitrogen, and various toxic chemical compounds, and contains qualitative objectives for taste and odor.

Nitrate+nitrite-N was chosen as the pollutant of concern for purposes of evaluating groundwater quality impacts based upon the above considerations. High nitrate levels in drinking water can cause health problems in humans. Infants can develop methemoglobinemia (blue-baby syndrome). Human activities and land use practices can influence nitrogen concentrations in groundwaters. For example, irrigation water containing fertilizers can increase levels of nitrogen in groundwater.

(2) Other Groundwater Constituents

Other constituents typically associated with groundwater include the following:

Bacteria. The Basin Plan contains numeric criteria for bacteria in drinking water sources. As bacteria are removed through straining in soils (for example, as with septic tank discharges), incidental infiltration of runoff in the project treatment PDFs is not expected to affect bacteria levels in groundwater. The WRP would include a disinfection process to reduce bacteria below levels of concern, and therefore bacteria in irrigation water are not expected to impact groundwater.

Chemical Constituents and Radioactivity. Drinking water limits for inorganic and organic chemicals that can be toxic to human health in excessive amounts and radionuclides are contained in Title 22 of the California Code of Regulations. These chemicals and radionuclides are not expected to occur in the project's runoff, because the project does not include industrial uses. Title 22 specifies California's Wastewater Reclamation Criteria (WRC) and the Newhall Ranch WRP's reclaimed water must meet or exceed these criteria. These criteria apply to the treatment processes; treatment performance standards, such as removal efficiencies and effluent water quality; process monitoring programs, including type and frequency of monitoring; facility operation plans; and necessary reliability features. Due to compliance

with these criteria, chemical constituents and radionuclides are not expected to occur in irrigation water in amounts that would impact groundwater.

Taste and Odor. The Basin Plan contains a narrative objective for taste and odor that cause a nuisance or adversely affect beneficial uses. Undesirable tastes and odors in groundwater may be a nuisance and may indicate the presence of a pollutant(s). Odor associated with water can result from natural processes, such as the decomposition of organic matter or the reduction of inorganic compounds, such as sulfate. Pollutants causing taste and odor issues are not expected to occur in stormwater or irrigation water in amounts that would impact groundwater. Other potential sources of odor causing substances, such as industrial processes, would not occur as part of the project. Therefore, taste and odor-producing substances are not pollutants of concern for the project.

Mineral Quality: TDS, Sulfate, Chloride, and Boron. Mineral quality in groundwaters is largely influenced by the mineral assemblage of soils and rocks that it comes into contact with. Elevated mineral concentrations could impact beneficial uses; however, the minerals listed in the Basin Plan are not believed to be pollutants of concern due to the anticipated runoff concentrations and the expected mineral concentrations in Newhall Ranch WRP irrigation water, which are below the Basin Plan groundwater objectives for minerals. (**Table 4.22-13, Comparison of Basin Plan Mineral Groundwater Objectives with Mean Measured Values in Los Angeles County and Anticipated Irrigation Water Quality**). As required by the CWA, the Newhall Ranch WRP discharge permit would include effluent limitations that would require irrigation water to be sufficiently protective of receiving water quality and designated beneficial uses. Effluent limits in the WDR would be developed based on the most stringent of applicable technology-based and water quality-based standards, including Basin Plan surface and groundwater objectives, CTR criteria, and applicable TMDL waste load allocations. Therefore, these constituents are not considered pollutants of concern for the project.

Table 4.22-13
Comparison of Basin Plan Mineral Groundwater Objectives with Mean Measured Values in Los Angeles County and Anticipated Irrigation Water Quality

Mineral	Los Angeles Basin Plan Groundwater Quality Objective1 (mg/L)	Range of Mean Concentrations in Urban Runoff2 (mg/L)	Anticipated Average Concentration in Effluent from the NRSP WRP3(mg/L)
Total Dissolved Solids	1,000	53–237	790
Sulfate	350	7–35	165
Chloride	150	4–50	<150
Boron	1.0	0.2–0.3	0.69

Source: Geosyntec, 2010.
[1] *Eastern Santa Clara-Castaic Valley*
[2] *Source: LACDPW, 2000. Includes all monitored land uses.*
[3] *Source: CH2M Hill, 2006.*

d. Hydrologic Conditions of Concern (Hydromodification)

Urbanization modifies natural watershed and stream hydrologic and geomorphic processes by introducing increased volumes and duration of flow via increased runoff from impervious surfaces and drainage infrastructure. Several studies have evaluated effects of increased runoff associated with the introduction of impervious surfaces and drainage facilities on geomorphic processes (Southern California Coastal Water Research Project [SCCWRP], 2005; Geosyntec, 2002; Bledsoe & Watson, 2001; Booth, 1990; Hollis, 1975; Hammer, 1972). Potential changes to the hydrologic regime may include increased runoff volumes, frequency of runoff events, long-term cumulative duration, as well as increased peak flows. Urbanization may also introduce dry weather flows where only wet weather flows existed prior to development. These changes are referred to as "hydromodification."[21]

Hydromodification intensifies sediment transport and often leads to stream channel enlargement and loss of habitat and associated riparian species (SCCWRP, 2005; Geosyntec, 2002; Bledsoe & Watson, 2001; MacRae, 1992; Booth, 1990). Under certain circumstances, development can also cause a reduction in the amount of sediment supplied to the stream system, which can lead to stream channel incision and widening. These changes also have the potential to impact downstream channels and habitat integrity. A project that increases runoff due to impervious surfaces and traps sediment from upland watershed sources creates potential compounding effects.

A change to the project site's hydrologic regime would be considered a condition of concern if the change could have a significant impact on downstream natural channels and habitat integrity, alone or in conjunction with impacts of other projects.

6. POST DEVELOPMENT PROJECT DESIGN FEATURES

PDFs incorporated into the Mission Village tract map project and off-site improvements to address surface water quality and hydromodification impacts include low impact/site design, source control, treatment control, and hydromodification control BMPs. Effective management of wet and dry weather runoff water quality begins with limiting increases in runoff pollutants and flows at the source. Low impact/site design and source control BMPs are practices designed to minimize runoff and the introduction of pollutants into runoff. Treatment control BMPs are designed to remove pollutants once they have been mobilized by rainfall and runoff. Hydromodification control BMPs are designed to control increases in post-development runoff flows, volumes, and/or durations.

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21 Hydromodification can also refer to physical alterations to drainage beds and banks. The impacts and affects resulting from these types of physical alterations, rather than the effects associated with changes in flows, are addressed in **Section 4.21, Floodplain Modification**.

a. Low Impact/Site Design BMPs

The purpose of low impact/site design BMPs, to the extent feasible, is to mimic the pre-developed hydrologic regime. This low-impact/site design philosophy is often referred to as LID. (See County of Los Angeles Low Impact Development Standards Manual, January 2009.) The primary goals of low impact/site design BMPs are to maintain a landscape functionally equivalent to pre-development hydrologic conditions and to minimize the generation of pollutants of concern.

Low impact/site design principles include:

Minimize Impervious Area/Maximize Permeability. Principles include preserving natural open space; reducing impervious surfaces (such as roads); using more permeable paving materials; reducing street widths; using minimal disturbance techniques during development to avoid soil compaction; reducing the land coverage of buildings by building taller and narrower footprints; minimizing the use of impervious materials, such as decorative concrete in landscape design; and incorporating detention or infiltration into landscape design.

Minimize Directly Connected Impervious Areas (DCIAs). Minimizing DCIA can be achieved by directing runoff from impervious areas to vegetated areas (e.g., landscaped areas or vegetated treatment control BMPs) or to infiltration BMPs.

Conserve Natural Areas. Conserving and protecting native soils, vegetation, and stream corridors helps to mimic the site's pre-development hydrologic regime. This may be accomplished by clustering development within portions of the site to conserve as much natural open space as possible, planting additional vegetation, using native and/or non-native/non-invasive vegetation in parking lot islands and other landscape areas, and preserving and/or restoring riparian areas and wetlands.

Select Appropriate Building Materials. Use of appropriate building materials reduces the generation and discharge of pollutants of concern in runoff (and is, therefore, also a source control BMP). For example, restricting the use of architectural copper on the outside of buildings and reducing the use of galvanized materials would reduce the impact of copper and zinc to stormwater runoff.

Protect Slopes and Channels. Protecting slopes and channels reduces the potential for erosion and preserves natural sediment supply.

Implementation of these measures is required by the County Low Impact Development Manual. PDFs which meet the requirements in the Manual are listed in **Table 4.22-14, Mission Village Low Impact/Site Design BMPs**. Volume reductions provided by the PDFs meet Low Impact Development Manual volume reduction requirements.

Low-impact/site design implementation for the project occurs at different spatial scales of development. These spatial scales are listed below, from larger to smaller scale:

- Ranch scale – the Newhall Ranch Specific Plan subregion;
- Village scale – the Mission Village project;
- Land use scale – single family residential, multi-family residential, commercial, education, parks, and roadways within the Mission Village project, and
- Lot or parcel scale – individual lots or parcels within the Mission Village project.

Table 4.22-14
Mission Village Low Impact/Site Design BMPs

Low Impact Development Guidance	Spatial Scale	Corresponding Low Impact/Site Design BMP
Conserve natural areas, soils, and vegetation Site planning, design, and execution, where appropriate, should: • Conform to local watershed, conservation, and open space plans • Preserve sensitive environmental areas • Preserve historically undisturbed vegetated areas • Build upon the least porous soils or limit construction to areas with previously disturbed soils • Preserve the maximum surface area of undisturbed grades • Preserve native trees and restrict disturbance of soils beneath tree canopies • Avoid disturbing vegetation and soil on slopes and near surface waters • Leave an undisturbed buffer along both sides of natural streams • Avoid adding materials to the soil that decrease cation exchange capacity (CEC), such as sand, except where required for special water treatment needs.	Ranch Scale	The Newhall Ranch Specific Plan clusters development into villages. Approximately 70% (8,335 acres) of the Specific Plan subregion would remain undeveloped Open Areas.
		A system of Open Areas would weave through the Specific Plan area. The Open Areas include community parks, prominent ridges, bluffs, slopes, creek beds, and utility and trail system easements, and would often function as a transition between development areas and the Special Management Areas (SMAs), which include the Santa Clara River Corridor and the Newhall Ranch High Country. The Open Areas are designed to protect significant landforms and natural resources.
		The Newhall Ranch Specific Plan Land Use Plan designates a total of 5,161 acres for the SMAs. These SMAs are designed to protect the existing natural resources within Los Angeles County's Significant Ecological Areas (SEA) 20 and 23.
		The 976-acre Santa Clara River Corridor SMA is designed to protect the sensitive biological resources in SEA 23. The River Corridor SMA would be dedicated to the Center for Natural Lands Management, and the Center would assume responsibility for management of this area.
		The largest land use designation of the Specific Plan Land Use Plan is the 4,185-acre High Country SMA/SEA 20. The High Country SMA/SEA 20 is located in the southern portion of the subregion and includes oak savannahs, high ridgelines, and various canyon drainages, including Salt Creek, a regionally significant wildlife corridor that provides an important habitat link to the Santa Clara River. The High Country SMA/SEA 20 would be dedicated in fee to the Newhall Ranch Joint Powers Authority (JPA), consisting of the County of Los Angeles, the City of Santa Clarita, and the Santa Monica Mountains Conservancy; this JPA would assume responsibility for management of this area.
		As a result of approval of the Newhall Ranch Specific Plan, the 1,500-acre portion of the Salt Creek watershed situated in Ventura County, which is under the ownership of Newhall Land, would be dedicated to the JPA. This dedication area is west of Newhall Ranch, and would be managed in the same manner as the High Country SMA, discussed above.
		To minimize potential biological impacts to lands in Ventura County as a result of the proposed project, the 1,517-acre portion of the Salt Creek watershed situated in Ventura County, which is under the ownership of Newhall Land, would be dedicated to the public. This dedication area is west of Newhall Ranch, and would be managed in the same manner as the High Country SMA.
		Two conservation easements have been granted to CDFG for the purpose of conserving populations of spineflower that occur on the Specific Plan area.

Low Impact Development Guidance	Spatial Scale	Corresponding Low Impact/Site Design BMP
	Village Scale	Natural slopes and native vegetation on slopes adjacent to the Santa Clara River would be preserved and/or restored and enhanced.
		The 20.3 acre spineflower conservation easement within Mission Village would be included in the 65.7 acre spineflower preserve increasing the natural open space by 45.4 acres.
	Land Use Scale	Native and/or non-native/non-invasive, climate-appropriate vegetation that requires less watering and chemical application would be utilized within the common area landscaping in commercial areas and multi-family residential areas.
Minimize disturbances to natural drainage patterns Site planning, design, and execution, where appropriate, should: • Maintain surface flow patterns of undeveloped sites • Maintain existing water body alignments, sizes, and shapes • Protect seasonal flooding patterns of wetlands • Restore streams and drainage corridors to achieve the same characteristics of timing, flow, and habitat as the original drainage courses in the event that preservation of natural drainage patterns cannot be maintained	Village Scale	Riparian buffers would be provided along the Santa Clara River Corridor and major tributaries by clustering development upland and away from the River and tributary drainages.
		In order to stabilize and restore the Lion Canyon drainage, a geomorphic channel design is proposed. This design would utilize boulder step-pool structures, biotechnical stabilization, soil cement, turf reinforcement mat and limited grading to enhance and restore the Lion Canyon drainage. The Lion Canyon restoration would also include plantings of upland and riparian vegetation to enhance the habitat-related beneficial uses.
	Land Use Scale	Landscape watering in common areas, commercial areas, multi-family residential areas, and in parks would use efficient recycled water irrigation technologies with centralized irrigation controls.

Low Impact Development Guidance	Spatial Scale	Corresponding Low Impact/Site Design BMP
Minimize and disconnect impervious surfaces Site planning, design, and execution, where appropriate, should: • Reduce overall impervious areas by maximizing landscaping and using pervious pavements • Reduce the amount of impervious areas that are hydraulically connected to impervious conveyances, such as driveways, walkways, culverts, swales, streets, or storm drains.	Ranch Scale	A system of Open Areas would weave through the central portion of the Specific Plan subregion. The Open Areas include community parks, prominent ridges, bluffs, slopes, creek beds, and utility and trail system easements, and would often function as a transition between development areas. The Open Areas are designed to protect significant landforms and natural resources, and to provide an opportunity to integrate the proposed development within its natural context.
	Village Scale	Impervious areas would be minimized by incorporating landscaped areas into each village, including Mission Village. Approximately 627 acres of the 1,261.8 acre Mission Village Project area would be natural river corridor, open space, or parks.
		Project PDFs, including bioretention areas and water quality basins (hydrologic source controls), would disconnect impervious areas and reduce flows to natural channels through infiltration and evapotranspiration.
	Land Use Scale	Streets, sidewalks, and parking lot aisles would be constructed to the minimum widths specified in the Specific Plan and in compliance with regulations for the Americans with Disabilities Act and safety requirements for fire and emergency vehicle access.
		Trails in Open Areas would incorporate open-jointed paving materials, granular materials, or other pervious materials.
		Impervious surfaces would be minimized in common area landscape design for commercial areas and multi-family residential areas.
	Lot Scale	Runoff from most sidewalks, walkways, trails, and patios would be directed into adjacent landscaping or to vegetated swales.
		Landscaped areas would be integrated into each site.

Low Impact Development Guidance	Spatial Scale	Corresponding Low Impact/Site Design BMP
Minimize soil compaction Site planning, design, and execution, where appropriate, should: • Restrict grading and compaction to those areas that will support structures • Protect soils, especially porous soils, against compaction and rutting in areas where traffic is unavoidable • Minimize the size of construction easements and material storage areas • Site stockpiles within the development envelope during the construction phase of a project • Prohibit working on wet soils with heavy equipment • Restore compacted open space areas with tilling and soil amendments	Village Scale	In areas not subject to mass grading, the smallest site disturbance area possible would be delineated and flagged; temporary storage of construction equipment would be restricted in these areas to minimize soil compaction on site. Site clearing and grading would be limited to the footprint necessary to allow development, access, and provide fire protection. Natural slopes and native vegetation on slopes adjacent to the Santa Clara River would be preserved and/or restored and enhanced.

Low Impact Development Guidance	Spatial Scale	Corresponding Low Impact/Site Design BMP
Direct runoff from impervious areas to infiltration areas Site planning, design, and execution, where appropriate, should: • Grade surfaces to drain toward open space, swales, or bioretention cells with infiltration capability • Grade surfaces to drain through suitable pretreatment trains toward porous pavements with infiltration capability • Use grassed or vegetated swales with infiltration capability to convey runoff rather than using conduit and lined conveyances	Village Scale	The Mission Village stormwater treatment system would provide treatment control for approximately 96 percent of the Project area via the use of vegetated treatment BMPs that provide for volume reduction through infiltration and evapotranspiration, including one or more of the following volume reduction BMPs: bioretention, vegetated swales, and dry extended detention basins.
		The Village-level stormwater treatment system would include the use of vegetated treatment BMPs, including bioretention, vegetated swales, and/or extended detention basins.
	Lot Scale	Bioretention areas or vegetated swales would collect and treat runoff from some of the commercial and multi-family residential areas. These bioretention areas would be located in parking lot islands and other on-site landscaped areas. Runoff from most sidewalks, walkways, trails, and patios would be directed into adjacent landscaping or to vegetated swales.
		Home builders would be encouraged to direct rooftop runoff through landscaped areas.
		Porous pavement would be used in some parking and low traffic areas.

Source: Geosyntec, 2008.

b. Treatment BMPs

As currently planned, stormwater runoff from all urban areas within the project site would be routed to bioretention areas, vegetated swales, and/or extended detention basin treatment control BMPs (**Figure 4.22-2**, **Project Design Features**). Catch basin inserts would also be used in high use parking lots. Collectively, the water quality treatment control PDFs would treat the pollutants of concern in runoff from the project's developed area (approximately 829 acres) and approximately 140 acres of off-site project components. The utility corridor maintenance access road and potential future trail, as well as the Edison substation, would drain to biofiltration (vegetated swale or filter strip) or bioretention treatments. Runoff from the easterly extension of Magic Mountain Parkway to the Old Road, the Commerce Center Drive Bridge, and a section of Commerce Center Drive would be treated with media filtration or equivalent treatment method. These extended detention basin, vegetated swales, and bioretention areas would be designed to operate offline, receiving dry weather flows, small storm flows and the initial portion of large storm flows from a low-flow diversion structure in the storm drain. The proposed treatment control PDFs are illustrated in **Figure 4.22-3**, **Examples of Bioretention Facilities**; **Figure 4.22-4**, **Conceptual Illustration of a Vegetated Swale**; and **Figure 4.22-5**, **Conceptual Illustration of a Water Waste Basin**.

In addition to site design and source control BMPs, the water quality treatment control PDFs for the tract map site and off-site project features are described below. Treatment control PDFs for the tract map site are summarized in **Table 4.22-15, Project Drainage Areas and Treatment Control BMPs**. Treatment control PDFs for the off-site project components are summarized in **Table 4.22-16, Off-Site Project Component Drainage Areas and Treatment Control BMPs**.

- ***Bioretention:*** Bioretention areas are vegetated (i.e., landscaped) shallow depressions that provide storage, infiltration, and evapotranspiration, and also provide for pollutant removal (e.g., filtration, adsorption, nutrient uptake) by filtering stormwater through the vegetation and soils. In bioretention areas, as well as in vegetated swales, pore spaces and organic material in the soils help to retain water in the form of soil moisture and to promote the adsorption of pollutants (e.g., dissolved metals and petroleum hydrocarbons) into the soil matrix. Plants utilize soil moisture and promote the drying of the soil through transpiration.

- ***Vegetated Swales*:** Vegetated swales are engineered, vegetation-lined channels that provide water quality treatment in addition to conveying stormwater runoff. Swales provide pollutant removal through settling and filtration in the vegetation (often grasses) lining the channels and also provide the opportunity for volume reduction through infiltration and evapotranspiration. Swales are most effective where longitudinal slopes are small (2 percent to 6 percent), thereby increasing the residence time for treatment, and where water depths are less than the vegetation height. The project would incorporate vegetated swales with check dams wherever velocities or slopes are too high for vegetated swales alone.

- ***Cartridge Media Filtration:*** Cartridge media filtration is typically comprised of a vault (or catch basin for small drainage catchments) that houses rechargeable, media-filled cartridges that trap particulates and remove pollutants such as dissolved metals, nutrients, and hydrocarbons. During the filtering process, the treatment system also removes surface scum and floating oil and grease.

- ***Extended Detention Basins*:** Extended detention basins (EDBs) store stormwater runoff for sufficient periods of time to promote the removal of pollutants primarily through settling and sedimentation. Dry extended detention basins are designed with outlets that detain the runoff volume from the water quality design storm for some minimum time (in this case 48 hours) to allow particles and associated pollutants (phosphorus, trace metals, some pesticides, and other pollutants) to settle out. These basins are not designed or anticipated to contain standing water for periods in excess of 48 hours. The EDBs would also incorporate a series of gravel-filled subsurface flow trenches that would provide water quality treatment and facilitate evapotranspiration (ET) and percolation of dry weather flows and small storm events within the basin footprint. As runoff flows through the trench gravel, pollutant removal is achieved through settling and biological uptake of nutrients and dissolved pollutants within the wetland plants that would grow within the trenches, filtration within the trench gravel, and percolation into underlying soils. In addition, a specially constructed dry well that would support deep subsurface percolation of dry weather flows that may exceed the capacity of the gravel trenches would be provided. It is anticipated that the dry well would receive water primarily during the winter months, when ET rates are lower.

In addition, a planned extension of Magic Mountain Parkway from the western Project boundary was included in the water quality model as it would be tributary to Extended Detention Basin A, although it is not an off-site project component as it would be constructed as part of another Newhall Ranch Specific Plan project.

c. Hydromodification Control BMPs

Post-development flows would be directed to the Santa Clara River after treatment; no flows would be directed to the on site restored tributary Lion Canyon. A series of progressive hydromodification control measures would be used to prevent and control hydromodification impacts to the Santa Clara River:

- Avoid, to the maximum extent practicable, the need to mitigate for hydromodification impacts by preserving natural hydrologic conditions and protecting sensitive hydrologic features, sediment sources, and sensitive habitats.

- Minimize the effects of development through low impact/site design practices (e.g., reducing connected impervious surfaces) and implementation of stormwater volume-reducing BMPs (project-based hydrologic source control).

- Mitigate hydromodification impacts in-stream using geomorphically based channel design.

Table 4.22-15
Project Drainage Areas and Treatment Control BMPs

Drainage Area	Area (acres)	Treatment BMP(s)
A	171	Extended Detention Basin A, some Bioretention (in Commercial and/or Multi-Family Residential Areas)
B	145	Extended Detention Basin B, some Bioretention (in Commercial and/or Multi-Family Residential Areas)
C	303	Extended Detention Basin C, some Bioretention (in Commercial and/or Multi-Family Residential Areas)
D[1]	164	Extended Detention Basin D, some Bioretention (in Commercial and/or Multi-Family Residential Areas)
O	40	Extended Detention Basin O, some Bioretention and catch basin inserts (in Commercial Areas)
Commerce Center Drive and Bridge	6	Cartridge Media Filtration (treatment BMP for the bridge would be provided by the SR126 interchange project)
Total	**829**	

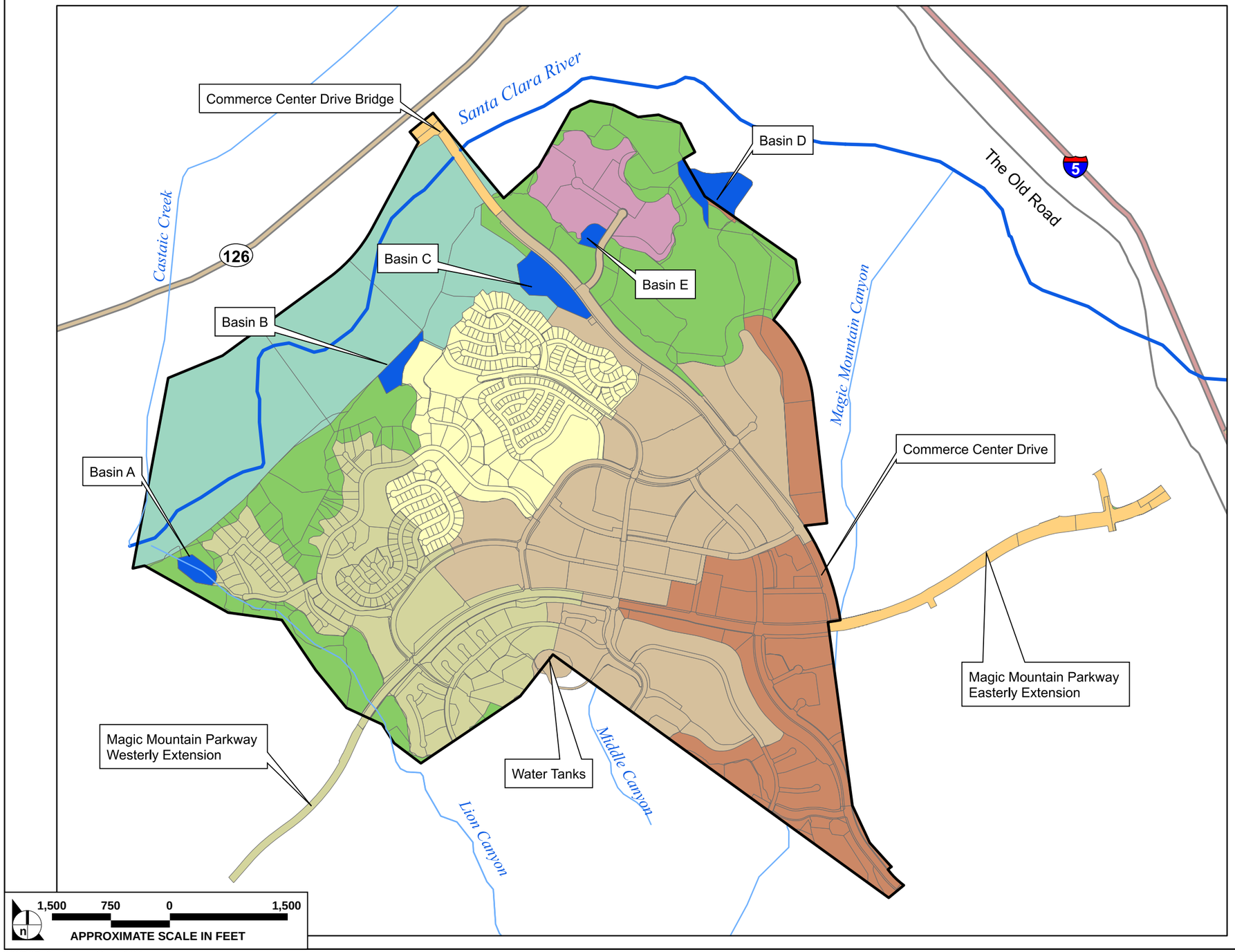
Source: Geosyntec, 2010.

[1] *Does not include off-site natural areas that are tributary to the water quality basins. Includes all open space within the project bounds that drain to the water quality basins.*

Table 4.22-16
Off-Site Project Component Drainage Areas and Treatment Control BMPs

Drainage Area	Area (acres)	Treatment BMP(s)
Magic Mountain Parkway extension to The Old Road	19	Media Filtration
Water Tank plus access road	2.1	Dry Extended Detention Basin C
Utility Corridor	110	Vegetated Swale or Bioretention
Edison Substation	3.0	Vegetated Swale or Bioretention
Basin D and Associated Drainage Improvements	6.1	Dry Extended Detention Basin D
Total	**140.2**	

Source: Geosyntec, 2010.



Legend

- Mission Village Boundary
- Water Quality Basins

Drains to:

- Basin A
- Basin B
- Basin C
- Basin D
- Basin E
- Media Filter
- Natural/Off-site
- River Corridor

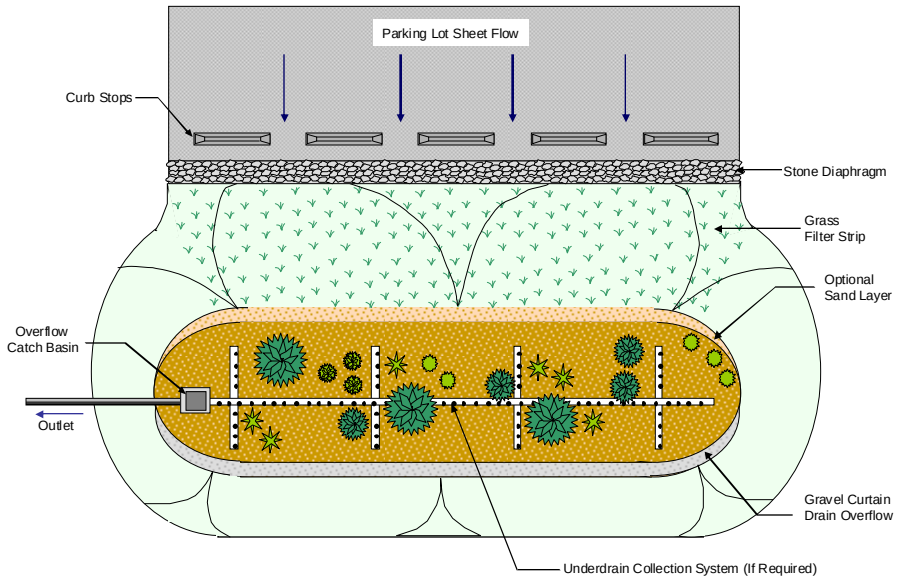
SOURCE: GeoSyntec - March 2010

FIGURE **4.22-2**

Project Design Features

32-99•04/10

Plan View



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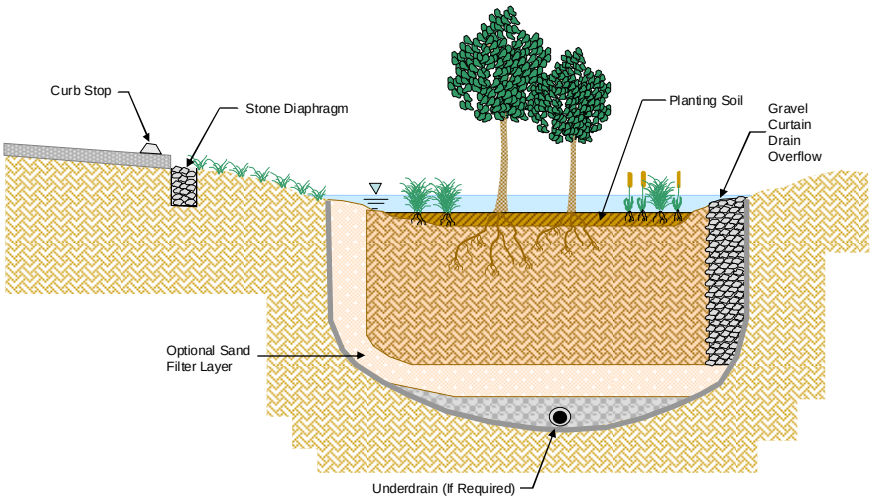
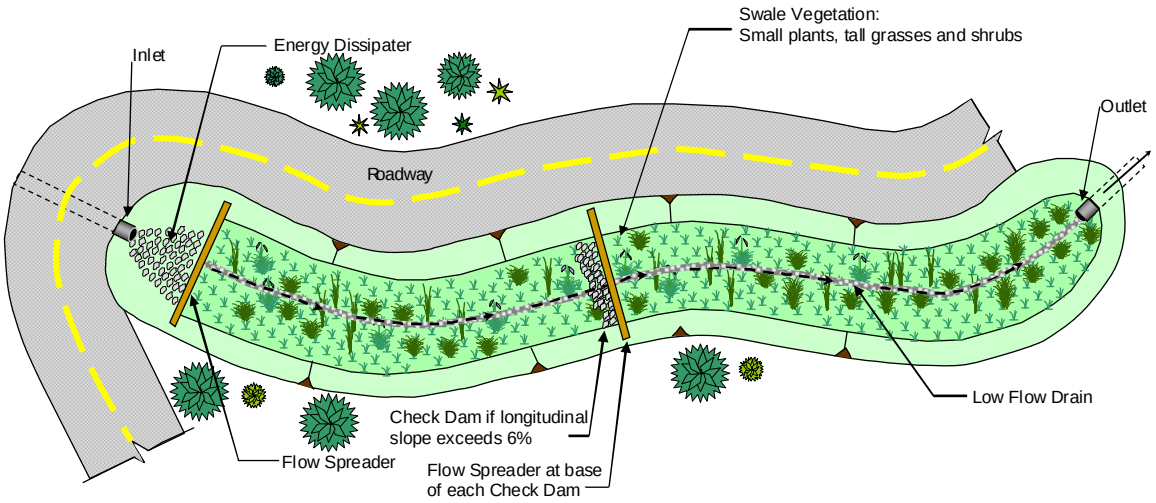


SOURCE: GeoSyntec - 2007, Impact Sciences, Inc. – March 2007

FIGURE **4.22-3**

Examples of Bioretention Facilities

Plan View



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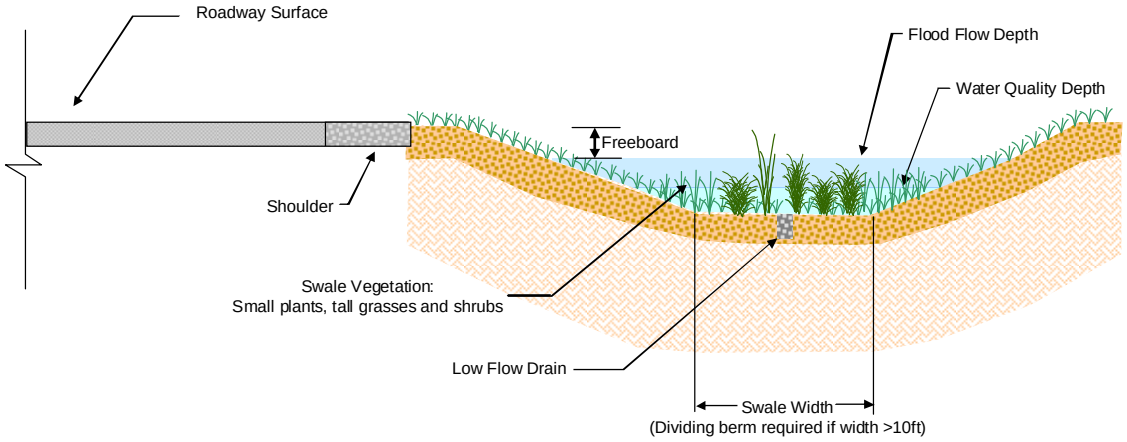
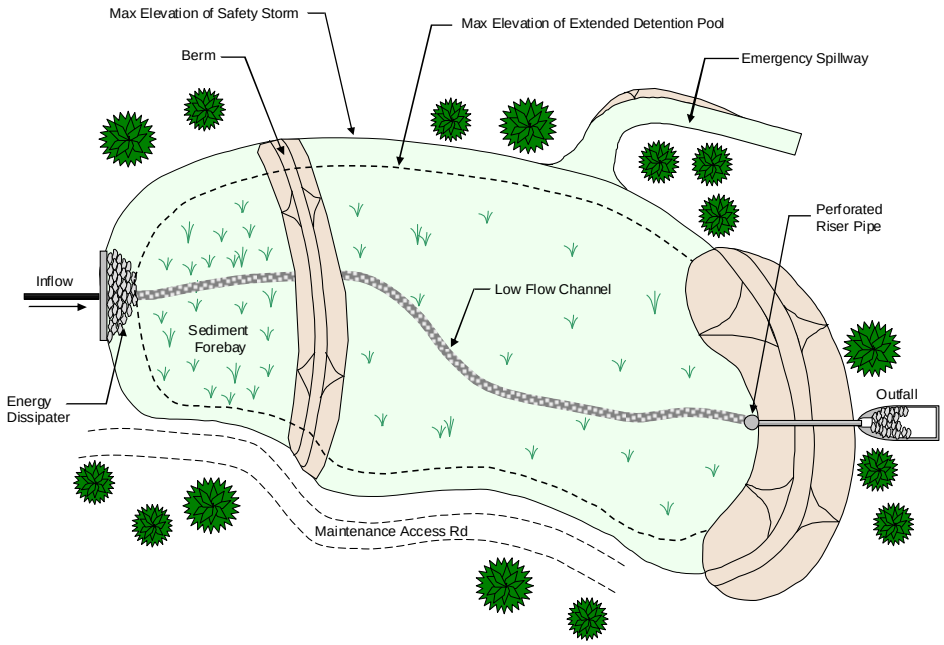


SOURCE: GeoSyntec - 2007, Impact Sciences, Inc. – March 2007

FIGURE **4.22-4**

Conceptual Illustration of a Vegetated Swale

Plan View



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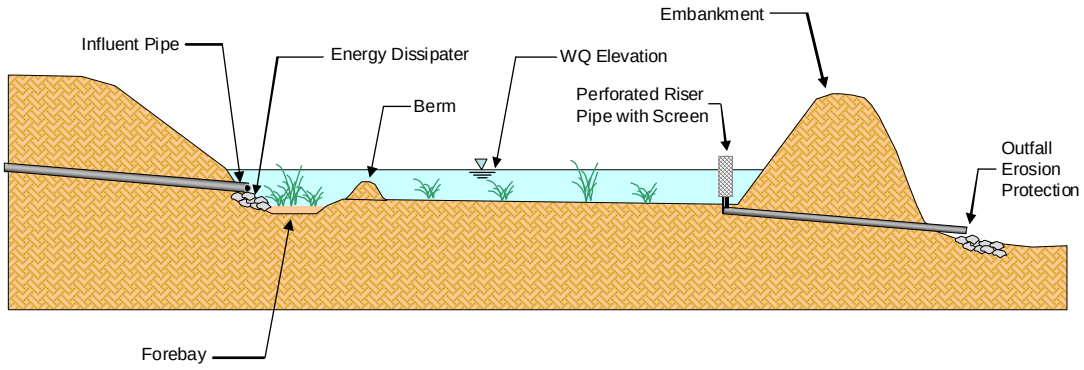

SOURCE: GeoSyntec - 2007, Impact Sciences, Inc. – March 2007

FIGURE **4.22-5**

Conceptual Illustration of a Water Waste Basin

The hydromodification control measures are summarized below.

- **Low Impact/Site Design.** Low Impact/site design PDFs that help to reduce the increase in runoff volume include the clustering of development into village areas, leaving large amounts of undeveloped open space within the Specific Plan subregion (of which Mission Village is a part); routing of stormwater runoff to vegetated areas and/or vegetated BMPs; use of native or non-native/non-invasive plants in landscaped areas; and the use of efficient irrigation systems in common area landscaped areas.

- **Volume Reduction BMPs.** The project's treatment control PDFs would also serve as hydromodification source control BMPs. Vegetated swales, bioretention areas, and extended detention basins can provide volume reduction on the order of 20 to 30 percent through infiltration and evaporation. In addition these facilities would also receive and eliminate dry weather flows.

- **Geomorphically Based Channel Design.** The hydromodification management approach for the Santa Clara River would also incorporate "geomorphically referenced" channel design as described in SCCWRP Technical Report 450 (SCCWRP, 2005a). The goal of this approach is to preserve the natural stream channel function to the maximum extent practicable while limiting instability in stream channel morphology. This approach would also be used to restore Lion Canyon to enhance habitat-related beneficial uses (see Appendix F (Basis of Design, Lion Canyon) of **Appendix 4.22**).

The engineered structural elements that would be implemented where needed for the Santa Clara River stability include energy dissipation and geomorphically referenced bank stabilization.

- **Energy Dissipation.** Energy dissipation at storm drain outfalls provides erosion protection in areas where discharges have the potential to cause localized stream erosion. Erosion protection would be provided at all storm drain outlets to the Santa Clara River.

- **Bank Stabilization.** The project would include buried soil cement along the Santa Clara River adjacent to and downstream of the project site. In total, approximately 2,900 linear feet of bank stabilization would be constructed as part of the project. This would include approximately 1,700 linear feet on the south bank fronting the tract map site with an additional 300 linear feet at Lion Canyon and 1,200 linear feet downstream of the tract map location on the north bank, east of the WRP.

Most of the proposed bank protection would primarily consist of buried soil cement to provide scour and freeboard flood control protection. Soil cement is a modern flood control technique used to protect against erosion while maintaining natural vegetation and soft banks. Soil cement would be buried below the existing banks of the Santa Clara River. Disturbed areas would then be re-vegetated with native plant species, maintaining the natural habitat presently found along the River.

Approximately 16,000 linear feet of Turf Reinforcement Mat (TRM) or similar bank stability protection would be provided along the southern edge of the utility corridor. TRMs are designed to reinforce vegetation at the root and stem allowing vegetation to be used as erosion control in areas where flow

conditions exceed the ability of natural vegetation to remain rooted. This includes applications with high slopes or stream banks where grouted riprap and concrete channels are aesthetically undesirable.

In summary, the Mission Village PDFs for water quality and hydrologic impacts have been created to address SUSMP requirements and include site design, source control, treatment control, and hydromodification control BMPs.

7. PROJECT IMPACTS

The analysis of potential impacts to water quality associated with construction and operation of the proposed project, including the significance criteria applicable to assessing such impacts, is presented below.

a. Significance Threshold Criteria

Based on the guidance offered by the *California Environmental Quality Act (CEQA) Guidelines*, applicable water quality standards, and potential project impacts, the following thresholds of significance are utilized:

(1) Surface Water Quality

Thresholds of significance for water quality impacts have been developed based on a review of the MS4 Permit, Construction General Permit, Dewatering General Permit, applicable receiving water quality standards, and the *State CEQA Guidelines*, Appendix G. Significant adverse water quality impacts are presumed to occur if the proposed project would:

(a) create sizeable additional sources of polluted runoff that would be discharged to receiving waters, which would result in exceedances of receiving water quality or substantially degrade water quality in receiving waters;

(b) create sizeable additional sources of polluted runoff that would violate any water quality standards or waste discharge requirements for surface water runoff; or

(c) create sizeable additional sources of polluted construction site runoff (including polluted discharges associated with construction activities such as materials delivery, staging or storage, vehicle or equipment fueling, vehicle or equipment maintenance, waste handling, or hazardous materials handling or storage) that would violate any water quality standards or waste discharge requirements for surface water runoff or groundwater discharge.

This section analyzes whether sizeable additional sources of polluted runoff may result from the project based on the results of water quality modeling, qualitative assessments, and comparison with discharge requirements that take into account water quality controls or BMPs that are considered PDFs. Any deviation from or failure to comply with discharge requirements is considered a potentially significant

adverse water quality effect. Further, increases in pollutant concentrations or loads in runoff resulting from the development of the project site are considered an indication of a potentially significant adverse water quality impact. If loads and concentrations resulting from development are predicted to stay the same or to be reduced when compared with existing conditions, it is concluded that the project would not cause a significant adverse impact to the ambient water quality of the receiving waters for that pollutant.

If pollutant loads or concentrations are expected to increase, then, for both the post-development and construction phases, potential impacts are assessed by evaluating compliance of the project, including PDFs, with applicable regulatory requirements of the MS4 Permit, including SQMP and SUSMP requirements, the Construction General Permit, and the General Dewatering Permit. Further, post-development increases in pollutant loads and concentrations are evaluated by comparing the magnitude of the increase to relevant benchmarks, including receiving water TMDLs and receiving water quality objectives from the Basin Plan and CTR.

(2) Hydromodification

Thresholds of significance for evaluating hydrologic impacts and conditions of concern have been developed based on a review of the MS4 Permit and the *State CEQA Guidelines*, Appendix G. Significant adverse impacts to natural drainage systems created by altered hydrologic conditions of concern are presumed to occur if the proposed project would:

- Substantially alter the existing drainage pattern of a natural drainage, stream, or river causing substantial erosion, siltation, or channel instability in a manner that substantially adversely affects beneficial uses; or
- Substantially increase the rates, velocities, frequencies, duration, and/or seasonality of flows causing channel instability and harming sensitive habitats or species in natural drainages in a manner that substantially adversely affects beneficial uses.

(3) Groundwater

Thresholds of significance for evaluating the hydrologic and water quality impacts of the project on groundwater have been developed based on *State CEQA Guidelines* Appendix G. Significant adverse impacts to groundwater are presumed to occur if the proposed project would:

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge so as to cause a net deficit in aquifer volume or a lowering of the local groundwater table; or
- Through changes in surface water runoff quality and quantity (including project treatment PDFs), and changes in groundwater recharge, result in a violation of any groundwater quality standards or waste discharge requirements or otherwise substantially degrade water quality.

Groundwater quality benchmarks were compared with post-development runoff water quality to establish the likelihood that runoff would result in a degradation of groundwater quality. The hydrologic effects of the project on groundwater were examined by comparison of historical and present levels of the underlying aquifer to determine the impact of development on aquifer volume.

b. Methodology for Evaluating Post Development and Surface Water Quality Effects

(1) Computer Modeling

A water quality model was used to estimate pollutant loads and concentrations in project stormwater runoff for certain pollutants of concern for pre-development conditions and post-development conditions with PDFs for the tentative map portion of the project. The water quality model is one of the few models that accounts for observed variability in stormwater hydrology and water quality. This is accomplished by characterizing the probability distribution of observed rainfall event depths, the probability distribution of event mean concentrations and the probability distribution of the number of storm events per year. These distributions are then sampled randomly using a "Monte Carlo Approach" to develop estimates of mean annual loads and concentrations. A detailed description of the water quality model is presented in **Appendix 4.22.** The following summarizes major features of the water quality model:

- **Rainfall Data**: The water quality model estimates the volume of runoff from storm events. The storm events were determined from 40 years (1969–2008) of hourly rainfall data measured at the National Climatic Data Center (NCDC) Newhall rain gage that incorporates a wide range of storm events. The rainfall analysis that is incorporated in the water quality model requires rainfall measurements at 1-hour intervals and a long period of record that is at least 20 to 30 years in length.

- **Land Use Runoff Water Quality**: The water quality model estimates the concentration of pollutants in runoff from storm events based on existing and proposed land uses. The pollutant concentrations for various land uses, in the form of Event Mean Concentrations (EMCs), were estimated from data collected in Los Angeles County. The Los Angeles County database was chosen for use in the model because (1) it is an extensive database that is quite comprehensive; (2) it contains monitoring data from land use specific drainage areas; and (3) the data is representative of the semi-arid conditions in Southern California.

- **Pollutant Load:** The pollutant load associated with each storm is estimated as the product of the storm event runoff times the EMC. For each year in the simulation, the individual storm event loads are summed to estimate the annual load. The mean annual load is then the average of all the annual loads.

- **PDFs Modeled:** The modeling only considers the structural treatment PDFs (e.g., biofiltration, media filters, and dry extended detention basin) and does not take into account low impact/site design and source control PDFs (e.g., street sweeping and catch basin inserts) that also would improve water quality. In this respect, the modeling results are conservative and tend to overestimate pollutant loads and concentrations.

- **Treatment Effectiveness:** The water quality model estimates mean pollutant concentrations and loads in stormwater following treatment. The amount of stormwater runoff that is captured by the treatment BMPs was calculated for each storm event, taking into consideration the intensity of rainfall, duration of the storm, and duration between storm events. The mean effluent water quality for treatment BMPs was based on the International Stormwater BMP Database. (ASCE, 2001. User's Guide National Stormwater Best Management Practices (BMP) Database Version 1.2. Prepared by Urban Water Resources Research Council of ASCE and Wright Water Engineers, Inc., Urban Drainage and Flood Control District, URS Greine Woodward Clyde, in cooperation with Office of Water U.S. EPA, Washington, DC. March 2001/U.S. EPA, 2003. Ecological Soil Screening Level for Aluminum. EPA OSWER directive 9285.7-60, November 2003. County of Los Angeles Low Impact Development Standards Manual, January 2009) The International Stormwater BMP Database was used because it is a robust, peer reviewed database that contains a wide range of BMP effectiveness studies that are reflective of diverse land uses. An analysis of the monitored inflow and outflow data contained in the International Stormwater BMP Database showed a volume reduction on the order of 38 percent for biofilters and 30 percent for extended detention basins. (Strecker, E. et al., 2004. Analyses of the Expanded EPA/ASCE International BMP Database and Potential Implications for BMP Design, World Water and Envt. Cong. Proc. (June 27–July 1, 2004).) Based on this analysis, a conservative estimate of 25 percent of the inflow to the vegetated swales and bioretention areas, and 20 percent of the inflow to extended detention basins was assumed to infiltrate and/or evapotranspire in the water quality model. These assumptions regarding volumetric losses also were used to assess the quantity of dry weather flows that would be captured in the treatment BMPs. (See Section 7.8.2 of the Water Quality Technical Report in EIR **Appendix 4.22**.)

  BMP effectiveness studies in the International Stormwater BMP database infrequently monitor aluminum; therefore, insufficient effluent data were available to model the removal effectiveness of treatment control BMPs for this water quality constituent. The total aluminum content of a water sample would be directly related to the concentrations of the suspended particulate matter. The aluminum content of the suspended solids is likely to directly reflect the composition of the source materials (e.g., the catchment soils). Therefore, it would be expected and is assumed that total aluminum concentrations and loads would be reduced proportionally to removal of suspended solids by project BMPs. In order to estimate the reduction in total aluminum load and concentration (dissolved aluminum was assumed to pass through BMPs without removal), TSS removal was used as a surrogate.

- **Bypass Flows:** The water quality model takes into account conditions when the treatment facility is full and flows are bypassed.

- **Representativeness to Local Conditions**: The water quality model utilizes runoff water quality data obtained from tributary areas that have a predominant land use, and as measured prior to discharge into a receiving water body. Currently such data are available from stormwater programs in Los Angeles County, San Diego County, and Ventura County, although the amount of data available from San Diego County and Ventura County is small in comparison with the Los Angeles County database. Such data is often referred to as "end-of-pipe" data to distinguish it from data obtained in urban streams, for example.

- **Infiltration:** Existing conditions infiltration parameters were assumed based on soil hydrologic group, soil texture class, and the Natural Resources Conversation Service (NRCS) Soil Survey of the project area. The majority of the site would be impacted by cut and fill operations; therefore, post-development soil compaction impacts were modeled for post-development open and landscaped

areas assuming a 25 percent reduction in saturated hydraulic conductivity, or infiltration rate, from the pre-developed to post-developed condition. Impervious surfaces were modeled assuming no infiltration.

(a) Pollutants of Concern

(1) Pollutants Modeled

The appropriate form of data used to address water quality are flow composite storm event samples, which are a measure of the average water quality during the event. To obtain such data usually requires automatic samplers that collect data at a frequency that is proportionate to flow rate. The pollutants of concern for which there are sufficient flow composite sampling data in the Los Angeles County database are:

- Total Suspended Solids (sediment)
- Total Phosphorus
- Nitrate-Nitrogen, Nitrite-Nitrogen, Ammonia-Nitrogen,
- Total Aluminum
- Dissolved Copper
- Total Lead
- Dissolved Zinc
- Chloride

(2) Qualitative Impact Analysis

The other pollutants of concern, such as pathogens, hydrocarbons, pesticides, and trash and debris, are not amenable to this type of sampling either because of short holding times (e.g., pathogens), difficulties in obtaining a representative sample (e.g., hydrocarbons) or low detection levels (e.g., pesticides).These pollutants were addressed qualitatively using literature information and best professional judgment due to the lack of statistically reliable monitoring data for these pollutants. These pollutants include:

- Turbidity
- Pathogens (Bacteria, Viruses and Protozoa)
- Hydrocarbons (Oil and Grease, Polycyclic Aromatic Hydrocarbons)
- Pesticides

- Trash and Debris
- Methylene Blue Activated Substances (MBAS)
- Cyanide

Human pathogens are usually not directly measured in stormwater monitoring programs because of the difficulty and expense involved; rather, indicator bacteria such as fecal coliform or certain strains of *E. coli* are measured. Because maximum holding times for bacterial samples are necessarily short, most stormwater programs do not collect flow-weighted composite samples that potentially could produce more reliable statistical estimates of concentrations. Fecal coliform or *E. coli* are typically measured with grab samples, making it difficult to develop reliable EMCs. Total coliform and fecal bacteria (fecal coliform, fecal streptococcus and fecal enterococcus) were detected in stormwater samples tested in Los Angeles County at highly variable densities (or most probable number [MPN]) ranging between several hundred to several million cells per 100 ml. (LACDPW, 2000. Los Angeles County 1994–2000 Integrated Receiving Water Impacts Report.)

Hydrocarbons are difficult to measure because of laboratory interference effects and sample collection issues (hydrocarbons tend to coat sample bottles). Hydrocarbons are typically measured with single grab samples, making it difficult to develop reliable EMCs.

Pesticides in urban runoff are often at concentrations that are below detection limits for most commercial laboratories and, therefore, there is limited statistically reliable data available on pesticides in urban runoff. Pesticides were not detected in Los Angeles County monitoring data for land use-based samples, except for diazinon and glyphosate, which were detected in less than 15 percent and 7 percent of samples, respectively. (LACDPW, 2000. Los Angeles County 1994–2000 Integrated Receiving Water Impacts Report.)

Turbidity, trash and debris, MBAS, and cyanide are not typically included in routine urban stormwater monitoring programs, and turbidity typically is not included in post-construction treatment control BMP effectiveness studies. Several studies conducted in the Los Angeles River basin have attempted to quantify trash generated from discrete areas, but the data represent relatively small areas or relatively short periods, or both. MBAS was included in the land use-based monitoring data, but not enough data is available for modeling purposes. Cyanide was not included in the Los Angeles County land use-based monitoring program.

Also addressed qualitatively are potential water quality impacts from runoff and dewatering discharges during construction, potential water quality impacts due to pollutant bioaccumulation, and dry weather runoff water quality impacts.

(3) LID Equivalency Analysis

Los Angeles County's LID Standards Manual outlines stormwater runoff quantity and quality control development principles, technologies, and design standards for achieving the LID Standards of the Los Angeles County LID Ordinance. An analysis was performed to demonstrate that the LID and treatment control PDFs that would provide equivalent or greater volume reductions to that which would be achieved by BMPs designed per the specific requirements of the Los Angeles County LID Manual.

Infiltration may not be possible if the following criteria apply:

- Locations where seasonal high groundwater is within 10 feet of the surface.
- Within 100 feet of a groundwater well used for drinking water.
- Brownfield development sites or other locations where pollutant mobilization is a documented concern.
- Locations with potential geotechnical hazards as outlined in a report prepared and stamped by a licensed geotechnical engineer.
- Locations with natural, undisturbed soil infiltration rates of less than 0.5 inch per hour that do not support infiltration-based BMPs.
- Locations where infiltration could cause adverse impacts to biological resources.
- Development projects in which the use of infiltration BMPs would conflict with local, State or Federal ordinances or building codes.
- Locations where infiltration would cause health and safety concerns.

The Project is required to use reclaimed water for irrigation of landscaping. Therefore, storage and reuse are considered infeasible for the Project.

To demonstrate equivalency, a two tiered analysis was conducted. The first tier of analysis divided the Project area into analysis regions using spatial data processing of the proposed developed condition and the infiltration infeasibility criteria listed above. The second tier calculated the LID Manual volumetric mitigation requirements for these areas (i.e., the volumetric capture efficiency and volume reduction that would be achieved by well designed BMPs per the specific requirements of the LID Manual), calculating the volumetric performance of Project BMPs, and comparing these values. A brief description of the analysis steps and inputs are included below.

Tier One Analysis Methodology

The tier one analysis utilizes spatial datasets and Geographic Information System (GIS) processing to divide the Project into analysis regions based on infiltration infeasibility criteria. Inputs into the tier one analysis included:

- Proposed Condition Land Use: Undeveloped areas do not require LID BMPs.
- Spatial datasets representing feasibility of infiltration: Spatial datasets representing areas where infiltration is limited by one of the identified screening factors were merged and dissolved. Negative spaces in this merge represent areas where infiltration is potentially feasible within the Project area.

The intersection of proposed land use conditions and areas potentially feasible for infiltration was used to divide the project into three categories: (1) Open Space, (2) Developed Areas Potential Feasible for Infiltration, and (3) Developed Areas Potentially Infeasible for Infiltration.

Tier Two Analysis Methodology

The Tier Two analysis established a performance standard for the Project based on LID Manual requirements, and compared the predicted performance of the Project PDFs to this performance standard. The LID Manual performance standard was established based on the estimated long term performance of LID BMPs designed per the LID Manual requirements, considering the feasibility criteria contained in the manual. The performance of Project PDFs is estimated based on the water quality modeling. Key components of the Tier Two analysis include:

- ΔV Calculation: The volumetric sizing criteria associated with the LID Ordinance is the excess volume (ΔV). The ΔV was calculated in a manner approximately equivalent to the Los Angeles County Hydrology Manual Tc Calculator method by computing the difference in runoff volume in the existing and proposed conditions of the Project for the water quality design storm depth (0.75 inch). Calculations were completed separately for areas where infiltration is potentially feasible and areas where infiltration is potentially infeasible. Calculation methods are described in greater detail in Appendix B.
- Unit performance of BMPs designed per LID Manual Requirements: An estimation of the volumetric performance of BMPs designed per LID Manual requirements was made as an element of the LID performance standard. Volumetric performance is a function of:
  - The average annual capture efficiency of the BMP (i.e., the fraction of average annual runoff that is captured and not immediately bypassed by the BMP), and
  - The average annual fraction of the captured volume that is retained (or lost) in the BMP due to infiltration, evapotranspiration, or direct use.

Capture efficiency was calculated based on a performance analysis of a hypothetical BMP designed to LID Manual requirements (i.e., sized to capture the ΔV, explained above) for a hypothetical catchment using over 40 years of historic hourly precipitation records. The resulting capture efficiency was estimated to be approximately 48 percent. For infiltration BMPs, captured water is expected to be fully retained up to the design storm event, therefore the total average annual reduction of runoff volume would be equal to the capture efficiency (48 percent).

In areas where infiltration is infeasible, vegetated treatment BMPs may still achieve incidental volume reductions through soil soaking and drying processes (i.e., evapotranspiration) and slower infiltration (unless facilities have an impermeable liner). An analysis of the International BMP Database (Strecker et al., 2004) found that detention basins and biofilters (swale and filter strips) achieved average volume reductions of 30 to 38 percent of captured volume, respectively. This analysis likely included studies of BMPs underlain by highly infiltrative soils and/or specifically designed for infiltration. For areas of the project where infiltration is not feasible, it is likely that incidental volume reduction achieved by vegetated BMPs would be significantly less than indicated by the Strecker et al. (2004) study. Therefore, for areas of the project where infiltration is not feasible it was assumed that 20 percent of the volume captured in vegetated BMPs in areas would be retained. The remaining 80 percent of captured volume was assumed to be treated and released.

1. *Applying Unit Volumetric Performance to Spatial Screening to Compute LID Manual Requirements:* Average annual runoff volumes from developed land uses were calculated based on methods approximately equivalent to the Los Angeles County Hydrology Manual T_c Calculator. These volumes were calculated separately for areas where infiltration is potentially feasible and areas where infiltration is potentially infeasible. For areas where infiltration is potentially feasible, the performance standard for volume reduction is equal to 48 percent of the computed average annual runoff volume. For areas where infiltration is potentially infeasible, the performance standard for volume reduction is equal to 9.6 percent (20 percent of 48 percent) of the computed average annual runoff volume. The sum of these two volume reductions forms the LID performance standard for volume reduction. In addition, the LID performance standard includes capture and treatment in a vegetated BMP (including retention) of at least 48 percent of the average annual runoff volume.

- *Performance of PDFs:* Using the water quality modeling approach described in section 6.1 and Appendix B, total project runoff volumes were estimated for the developed condition with PDFs and without PDFs. The difference between the runoff volume generated from the developed condition without PDFs and the volume generated from the developed condition with PDFs represents the volume reduction achieved by the project. This volume reduction is compared to the LID Manual performance standard to determine LID equivalency.

c. Impact Analysis

(1) Construction-Related Impacts

The analysis of potential impact of construction activities, construction materials, and non-stormwater runoff on water quality during the construction phase is focused primarily on sediment (TSS and turbidity) and certain non-sediment related pollutants. Construction-related activities that expose soils to potential mobilization by rainfall/runoff and wind are primarily responsible for sediment releases. Such activities include removal of vegetation from the site, grading of the site and trenching for infrastructure improvements. Environmental factors that affect erosion include topographic, soil and rainfall characteristics. Non sediment-related pollutants that are also of concern during construction caused by construction materials and non-stormwater flows include waste construction materials (e.g., paint, stucco, etc); chemicals, liquid products, and petroleum products used in building construction or the maintenance of heavy equipment; and concrete-related pollutants are also of concern during construction.

Construction impacts due to project development, including the borrow source activities and in-stream construction elements, would be minimized through compliance with the Construction General Permit. This permit requires the discharger to perform a risk assessment for the proposed development (with differing requirements based upon the determined level) and to prepare and implement an SWPPP, which must include erosion and sediment control BMPs that would meet or exceed measures required by the determined risk level of the Construction General Permit, as well as BMPs that control the other potential construction-related pollutants. A Construction Site Monitoring Program that identifies monitoring and sampling requirements during construction is a required component of the SWPPP. Preliminary analysis indicates that the project would most likely be categorized as a Risk Level 2. BMPs required by the Construction General Permit would be incorporated assuming this level of risk; if final design analysis indicates that the project would fall under Risk Level 3, the additional Level 3 permit requirements would be implemented as necessary.

Erosion control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap sediment once it has been mobilized. Waste and construction material control BMPs generally call for management of construction-related materials, such as cement, stucco, paint, hydrocarbons, and similar materials, to avoid discharges of runoff containing these materials.

A Mission Village SWPPP would be developed as required by, and in compliance with, the Construction General Permit and the County of Los Angeles Standard Conditions. Moreover, the SWPPP would include BMPs that meet or exceed the measures recommended to control construction-related pollutants.

The General Permit requires the SWPPP to include a menu of BMPs to be selected and implemented based on the phase of construction and the weather conditions to effectively control erosion and pollutants to the BAT/BCT. The following types of BMPs from the Stormwater Best Management Practice Handbook - Construction (CASQA 2003) would be implemented during construction (CASQA Handbook BMP numbers are indicated in parenthesis):

- **Erosion Control (EC-3 through EC-7 and WE-1):**
  - Physical stabilization through hydraulic mulch, soil binders, straw mulch, bonded fiber matrices, and erosion control blankets (i.e., rolled erosion control products).
  - Limiting the area and duration of exposure of disturbed soils.
  - Soil roughening of graded areas (through track walking, scarifying, sheepsfoot rolling, or imprinting) to slow runoff, enhance infiltration, and reduce erosion.
  - Vegetation stabilization through temporary seeding to establish interim vegetation.
  - Wind erosion (dust) control through the application of water or other dust palliatives as necessary to prevent and alleviate dust nuisance.
- **Sediment Control:**
  - Perimeter protection to prevent discharges through silt fences, fiber rolls, gravel bag berms, sand bag barriers, and straw bale barriers (SE-1, 5, 6, 8 and 9).
  - Storm drain inlet protection (SE-10).
  - Resource (environmentally sensitive area) protection through silt fences, fiber rolls, gravel bag berms, sand bag barriers, and straw bale barriers (SE-1, 5, 6, 8, and 9).
  - Sediment capture and drainage control through sediment traps, storm drain inlet protection, and sediment basins (SE-3, 10, and 2).
  - Velocity reduction through check dams, sediment basins, and outlet protection/velocity dissipation devices (SE-2, 4, and 10).
  - Reduction in off-site sediment tracking through stabilized construction entrance/exit, construction road stabilization, and entrance/exit tire wash (TE-1, 2, and 3).
  - Slope interruption at permit-prescribed intervals (fiber rolls, gravel bag berms, sand bag berms, compost socks, biofilter bags).
- **Waste and Materials Management:**
  - Management of the following types of materials, products, and wastes: solid, liquid, sanitary, concrete, hazardous, and equipment-related wastes (MW-1, 2, and 4 through 10 and NS-8 through 10). Management measures include covered storage and 4 through 10 secondary containment for material storage areas, secondary containment for portable toilets, covered

dumpsters, dedicated and NS-8 through 10 lined concrete washout/waste areas, proper application of chemicals, and proper disposal of all manners of wastes.

- Protection of soil landscaping and construction material stockpiles through covers, the application of water or soil binders, and perimeter control measures (MW-3).

- A spill response and prevention program would be incorporated as part of the SWPPP and spill response materials would be available and conspicuously located at all times on site.

- **Non-Stormwater Management:**

  - BMPs or good housekeeping practices to reduce or limit pollutants at their source before they are exposed to stormwater, including such measures as: water conservation practices, vehicle and equipment cleaning and fueling practices (NS-1 through 16).
  - If construction dewatering or discharges from other specific construction activities such as water line testing, and sprinkler system testing are required, comply with the requirements of the Los Angeles RWQCB's General Waste Discharge Requirements (WDRs) under Order No. R4-2008-0032 (NPDES No. CAG994004) governing construction-related dewatering discharges.

- **Training and Education:**

  - Inclusion of General Permit defined "Qualified SWPPP Developers" (QSD) and "Qualified SWPPP Practitioners" (QSP). QSDs and QSPs shall have required certifications and shall attend State Board sponsored training.

  - Training of individuals responsible for SWPPP preparation, implementation, and permit compliance, including contractors and subcontractors.

  - Signage (bilingual, if appropriate) to address SWPPP-related issues (such as site clean up policies, BMP protection, washout locations, etc).

- **Inspections, Maintenance, Monitoring and Sampling:**

  - Performing routine site inspections and inspections before, during (for storm events >0.5 inch), and after storm events.

  - Preparing and implementing Rain Event Action Plans (REAPs) prior to any storm event with 50% probability of producing 0.5 inch of rainfall, including performing required preparatory procedures and site inspections.

  - Implementing maintenance and repairs of BMPs as indicated by routine and storm-event inspections and REAP.

  - Implementation of the Construction Site Monitoring Plan for non-visible pollutants, if a leak or spill is detected.

  - These sampling of discharge points for turbidity and pH, at minimum, three times per qualifying storm event and recording and retention of results.

These construction site management BMPs would be implemented for the project during the dry season and wet season as follows:

Dry Season Construction Phase BMPs:

a. Wind erosion BMPs (dust control).

b. Soil roughening of graded areas (track walking, scarifying, sheepsfoot rolling, or imprinting).

c. Sediment control BMPs at the down gradient site perimeter and all operational storm drain inlets internal to the planning area.

d. Off-site tracking BMPs.

e. Appropriate waste management and materials pollution BMPs.

f. Appropriate non-storm water BMPs to prevent or reduce the contamination of stormwater by construction activities and materials.

g. A "weather triggered" action plan to deploy standby erosion and sediment control BMPs to protect exposed portions of the site within 48 hours of a predicted storm event.

h. Sufficient standby BMP materials to implement the above action plan.

i. Deployment of post-construction erosion control BMPs as soon as practicable.

Wet Season Construction Phase BMPs:

In addition to the dry season BMPs noted above:

a. Limiting the area and duration of exposure of disturbed soil areas. This may be accomplished by retention of natural vegetation in areas not scheduled for immediate grading, phasing the grading, and stabilizing disturbed areas quickly.

b. Implementation of an effective combination of erosion and sediment control measures on all disturbed areas.

c. Sufficient standby BMP materials to implement the above weather triggered action plan.

The Construction General Permit does not recognize a wet season by dates; therefore, the wet season requirements would be implemented year round if there is a storm event predicted.

The proposed project would reduce or prevent erosion and sediment transport and transport of other potential pollutants from the project site during the construction phase through implementation of BMPs meeting BAT/BCT standards in order to prevent or minimize environmental impacts and to ensure that discharges during the construction phase of the project would not cause or contribute to any exceedance of water quality standards in the receiving waters. These BMPs would assure effective control of not only sediment discharge, but also of pollutants associated with sediments, such as (but not limited to) nutrients, heavy metals, and certain pesticides, including legacy pesticides. In addition, compliance with BAT/BCT requires that BMPs used to control construction water quality are updated over time as new water quality control technologies are developed and become available for use. Thus, erosion and sediment impacts of the project are considered less than significant.

Hydrocarbons in site runoff could result from construction equipment/vehicle fueling or spills. However, pursuant to the Construction General Permit, the Construction SWPPP would include BMPs that address proper handling of petroleum products on the construction site, such as proper petroleum product storage and spill response practices, and those BMPs must effectively prevent the release of hydrocarbons to runoff per BAT/BCT standards. PAH that are absorbed to sediment during the construction phase would be effectively controlled via the erosion and sediment control BMPs. For these reasons, construction-related impacts related to hydrocarbons on water quality are considered less than significant.

Finally, construction on the project site may require dewatering and non-stormwater related discharges. For example, dewatering may be needed if water has been standing on site and needs to be removed for construction, vector control, or other reasons. Further, dewatering and non-stormwater related discharges may be necessary if groundwater is encountered during grading, or to allow discharges associated with testing of water lines, sprinkler systems, and other facilities.

In general, the Construction General Permit authorizes construction dewatering activities and other construction-related non-stormwater discharges as long as they (a) comply with Section A.9 of the General Permit; (b) do not cause or contribute to a violation of any water quality standards; (c) do not violate any other provisions of the General Permit; (d) do not require a non-stormwater permit as issued by some RWQCBs; and (e) are not prohibited by a Basin Plan provision. Such discharges would occur in compliance with the Los Angeles RWQCB's General Waste Discharge Requirements (WDRs), under Order No. R4-2003-0111, NPDES No. CAG994004, governing construction-related dewatering discharges within the project development areas. Typical BMPs for construction dewatering include infiltration of

clean groundwater; on-site treatment using suitable treatment technologies; on site or transport off site for sanitary sewer discharge with local sewer district approval; or use of a sedimentation bag for small volumes of localized dewatering.

Full compliance with applicable local, state and federal water quality standards and waste discharge requirements of the Construction General Permit and Dewatering General Permit by the applicant would assure that potential impacts from construction runoff and dewatering discharges would not be significant. On this basis, the impact of construction-related runoff from the project is considered less than significant.

(2) Post Development Operational Impacts to Surface Waters

(a) MS4 Permit Requirements for New Development as Defined in the SUSMP

Table 4.22-17, SUSMP Requirements and Corresponding Project Design Features, analyzes compliance of the project, including proposed site design, source control, treatment control, and hydromodification control BMPs, with applicable post-development waste discharge requirements of the MS4 Permit, including SUSMP requirements.

Table 4.22-17
SUSMP Requirements and Corresponding Project Design Features

SUSMP Requirement	Criteria/Description	Corresponding Mission Village PDFs
1. Runoff Flow Control	• Control post-development peak stormwater runoff discharge rates, velocities and duration in Natural Drainage Systems to prevent accelerated downstream erosion and to protect habitat-related beneficial uses. • Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development rate for developments where the increased peak storm water discharge rate will result in increased potential for downstream erosion. • Post-development runoff from the 50-year capital storm shall not exceed the predevelopment peak flow rate, burned and bulked, from the 50-year capital storm.	• Hydromodification source controls include minimizing impervious surfaces through clustering development and using bioretention, extended detention (see Figure 4.22-2), and other vegetated treatment control BMPs to disconnect impervious surfaces and reduce runoff volumes through evapotranspiration and infiltration. • 50-year capital storm peak flow rate analysis is contained in the "Mission Village Tentative Tract Map 61105 Drainage Concept," prepared by Psomas (Psomas, 2009) (see **Appendix 4.2**), and analysis of flood impacts on the Santa Clara River is contained in the "Flood Technical Report" prepared by Pacific Advanced Civil Engineering, Inc. for the Mission Village project (PACE, 2007) (see **Appendix 4.21**).

SUSMP Requirement	Criteria/Description	Corresponding Mission Village PDFs
2. Conserve Natural Areas	• Concentrate or cluster development on portions of a site while leaving the remaining land in a natural undisturbed condition. • Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection. • Maximize trees and other vegetation at each site, planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants. • Promote natural vegetation by using parking lot islands and other landscaped areas. • Preserve riparian areas and wetlands.	• The NRSP clusters development into villages, including Mission Village. Approximately 70% (8,335 acres) of the NRSP subregion would remain undeveloped. • Approximately 627 acres of the 1,261.8 acre Mission Village project area would remain as natural river corridor, open space, or parks. • Native and non-native/non-invasive vegetation would be utilized within the development. • The final project stormwater system would include the use of the vegetated treatment BMPs, including, but not limited to, bioretention (placed in common area landscaping in commercial and multi-family residential areas, roadway median strips, and parking lot islands (where applicable) and dry extended detention basins. • Riparian buffers would be preserved along the Santa Clara River corridor and Lion Canyon by clustering development upland and away from the River and tributary canyon. • Lion Canyon would be stabilized and restored by the project. The restoration would utilize boulder step-pool structures, biotechnical stabilization, soil cement, turf reinforcement mat (TRM) and limited grading to enhance and restore the Lion Canyon drainage. The Lion Canyon restoration would also include plantings of upland and riparian vegetation to enhance the habitat-related beneficial uses.

SUSMP Requirement	Criteria/Description	Corresponding Mission Village PDFs
3. Minimize Stormwater Pollutants of Concern	• Minimize, to the maximum extent practicable, the introduction of pollutants of concern that may result in significant impacts generated from site runoff of directly connected impervious areas (DCIA) to the stormwater conveyance system as approved by the building official.	• Treatment control BMPs would be selected to address the pollutants of concern for the project. These treatment BMPs include detention basins, vegetated swales, bioretention, and catch basin media filtration units. These BMPs are designed to minimize introduction of pollutants to the Maximum Extent Practicable (MEP). • The project would include numerous source controls, including education programs, animal waste bag stations, street sweeping and catch basin cleaning, an Integrated Pest Management (IPM) Program for common area landscaping in commercial areas and multi-family residential areas, use of native and/or non-invasive, climate appropriate vegetation, and installation of a car wash pad in multi-family residential areas. • An education program would be implemented that includes both the education of residents and commercial businesses regarding water quality issues. Topics would include services that could affect water quality, such as carpet cleaners and others that may not properly dispose of cleaning wastes; community car washes; and residential car washing. The education program would emphasize animal waste management, such as the importance of cleaning up after pets and not feeding pigeons, seagulls, ducks, and geese. • Vegetated treatment control BMPs would allow for infiltration of treated stormwater.

SUSMP Requirement	Criteria/Description	Corresponding Mission Village PDFs
4. Protect Slopes and Channels	Project plans must include BMPs consistent with local codes and ordinances and the SUSMP requirements to decrease the potential of slopes and/or channels from eroding and impacting stormwater runoff: • Convey runoff safely from the tops of slopes and stabilize disturbed slopes. • Utilize natural drainage systems to the maximum extent practicable. • Control or reduce or eliminate flow to natural drainage systems to the maximum extent practicable. • Stabilize permanent channel crossings. • Vegetate slopes with native or drought tolerant vegetation. • Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion with the approval of all agencies with jurisdiction, e.g., the U.S. Army Corps of Engineers (USACE) and the California Department of Fish and Game (CDFG).	• Natural slopes and native vegetation on slopes adjacent to the SCR and Lion Canyon would be preserved and/or restored and enhanced. Native and/or non-native/non-invasive vegetation would be used in all plant palettes placed on manufactured/restored slopes. • PDFs, including bioretention areas and water quality basins (hydrologic source controls), would reduce flows to natural channels through infiltration and evapotranspiration. • The banks of the Santa Clara River at portions of this site would be stabilized primarily using buried bank stabilization. After the implementation of these measures and other flow control and volume reduction PDFs, the Santa Clara River would be capable of handling the expected flow regime with little or no erosion. • All outlet points to the Santa Clara River would include energy dissipaters per the Newhall Ranch Resource Development and Management Plan. • In-stream stabilization techniques would be employed in Lion Canyon to protect habitat-related beneficial uses, per the Newhall Ranch Resource Development and Management Plan.
5. Provide Storm Drain System Stenciling and Signage	• All storm drain inlets and catch basins within the project area must be stenciled with prohibitive language and/or graphical icons to discourage illegal dumping. • Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area. • Legibility of stencils and signs must be maintained.	• All storm drain inlets and water quality inlets would be stenciled or labeled. • Signs would be posted in areas where dumping could occur. • The LACDPW and/or The Homeowners Association or LADPW would maintain stencils and signs.
6. Properly Design Outdoor Material Storage Areas	• Where proposed project plans include outdoor areas for storage of materials that may contribute pollutants to the storm water conveyance system measures to mitigate impacts must be included.	• Pesticides, fertilizers, paints, and other hazardous materials used for maintenance of common areas, parks, commercial areas, and multifamily residential common areas would be kept in enclosed storage areas.

SUSMP Requirement	Criteria/Description	Corresponding Mission Village PDFs
7. Properly Design Trash Storage Areas	All trash containers must meet the following structural or treatment control BMP requirements: • Trash container areas must have drainage from adjoining roofs and pavement diverter around the areas. • Trash container areas must be screened or walled to prevent off-site transport of trash.	• All outdoor trash storage areas would be covered and isolated from stormwater runoff.
8. Provide Proof of Ongoing BMP Maintenance	• Applicant required to provide verification of maintenance provisions through such means as may be appropriate, including, but not limited to legal agreements, covenants, and/or Conditional Use Permits.	• The Homeowners Associations or commercial/business owners would be responsible for operation and maintenance of site-based BMPs (such as bioretention placed in common area landscaping in multi-family residential areas and commercial areas). • Los Angeles County Department of Public Works would be responsible for maintenance of village-level and sub-regional BMPs.
9. Design Standards for Structural or Treatment Control BMPs	• Post-construction Structural or Treatment Control BMPs shall be designed to mitigate (infiltrate or treat) stormwater runoff using either volumetric treatment control BMPs or flow-based treatment control BMPs sized per listed criteria.	• Stormwater treatment facilities would be designed to meet or exceed the sizing standards in the Los Angeles County SUSMP requirements. • Volume-based treatment control BMPs for the project would be designed to capture 80 percent or more of the annual runoff volume per Criteria 2 of the MS4 Permit. • Flow-based BMPs would be sized using Criteria 3, which would provide 80 percent capture of annual runoff volume per criteria of the MS4 Permit. • The size of the facilities would be finalized during the design stage by the project engineer with the final hydrology study, which would be prepared and approved to ensure consistency with this analysis prior to issuance of a final grading permit. • Types of treatment control BMPs that would be employed include vegetated swales, bioretention, dry extended detention basins, cartridge media filtration, and a combination thereof.

SUSMP Requirement	Criteria/Description	Corresponding Mission Village PDFs
10B.1. Properly Design Loading/Unloading Dock Areas (100,000 ft^2 Commercial Developments)	• Cover loading dock areas or design drainage to minimize run-on and runoff of stormwater. • Direct connections to storm drains from depressed loading docks (truck wells) are prohibited.	• Loading dock areas would be covered or designed to preclude run-on and runoff. • Direct connections to storm drains from depressed loading docks (truck wells) would be prohibited. • Below grade loading docks for fresh food items would drain through a Treatment Control BMP applicable to the use, such as a catch basin insert. • Loading docks would be kept in a clean and orderly condition through weekly sweeping and litter control, at a minimum, and immediate cleanup of spills and broken containers without the use of water.
10B.2. Properly Design Repair/Maintenance Bays (100,000 ft^2 Commercial Developments)	• Repair/maintenance bays must be indoors or designed in such a way that does not allow stormwater run-on or contact with stormwater runoff. • Design a repair/maintenance bay drainage system to capture all wash water, leaks, and spills. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.	• Commercial areas would not have repair/maintenance bays or the bays would comply with design requirements.
10B.3. Properly Design Vehicle/Equipment Wash Areas (100,000 ft^2 Commercial Developments)	• Self-contained and/or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer.	• Areas for washing/steam cleaning of vehicles would be self-contained or covered with a roof or overhang; would be equipped with wash racks and with the prior approval of the sewering agency; would be equipped with a clarifier or other pretreatment facility; and would be properly connected to a sanitary sewer.

SUSMP Requirement	Criteria/Description	Corresponding Mission Village PDFs
10.C. Properly Design Equipment/Accessory Wash Areas (Restaurants)	• Self-contained, equipped with a grease trap, and properly connected to a sanitary sewer. • If the wash area is to be located outdoors, it must be covered, paved, have secondary containment, and be connected to the sanitary sewer.	• Food preparation areas shall have either contained areas or sinks, each with sanitary sewer connections for disposal of wash waters containing kitchen and food wastes. • If located outside, the containment areas or sinks shall also be structurally covered to prevent entry of storm water. Adequate signs shall be provided and appropriately placed stating the prohibition of discharging washwater to the storm drain system.
10.D. Properly design fueling area (Retail Gasoline Outlets)	• The fuel dispensing area must be covered with an overhanging roof structure or canopy. The cover's minimum dimensions must be equal to or greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area. • The fuel dispensing area must be paved with Portland cement concrete (or equivalent smooth impervious surface). The use of asphalt concrete shall be prohibited. • The fuel dispensing areas must have a 2% to 4% slope to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of urban runoff. • At a minimum, the concrete fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.	• Retail gasoline outlets would comply with design requirements.
10.E.1. Properly design fueling area (Automotive Repair Shops)	• See requirement 10.D. above.	• Automotive repair shop fueling areas would comply with design requirements.

SUSMP Requirement	Criteria/Description	Corresponding Mission Village PDFs
10.E.2. Properly design repair/maintenance bays (Automotive Repair Shops)	• See requirement 10.B.2 above.	• Automotive repair shop repair/maintenance bays would comply with design requirements.
10.E.3. Properly design vehicle/equipment wash areas (Automotive Repair Shops)	• Self-contained and/or covered, equipped with a clarifier, or other pretreatment facility, and properly connected to a sanitary sewer or to a permitted disposal facility.	• Automotive repair shop vehicle/equipment wash areas would comply with design requirements.
10.E.4. Properly design loading/unloading dock areas (Automotive Repair Shops)	• See requirement 10.B.1.	• Automotive repair shop loading/unloading dock areas would comply with design requirements.
10.F.1. Properly Design Parking Area (Parking Lots)	• Reduce impervious land coverage of parking areas. • Infiltrate runoff before it reaches the storm drain system. • Treat runoff before it reaches storm drain system.	• Commercial and multi-family parking lots would incorporate bioretention facilities located in islands to promote filtration and infiltration of runoff. • Stormwater runoff from parking lots would be directed to treatment control BMPs, including swales, water quality basins, and/or bioretention areas, and/or catch basin media filters in compliance with SUSMP requirements.
10.F.2. Properly Design to Limit Oil Contamination and Perform Maintenance (Parking Lots)	• Treat to remove oil and petroleum hydrocarbons at parking lots that are heavily used. • Ensure adequate operation and maintenance of treatment systems particularly sludge and oil removal.	• See above. • Treatment of runoff in detention basins, bioretention areas, or bioswales and catch basin inserts would be used to address oil and petroleum hydrocarbons from high-use parking lots. • The Homeowners Associations or Business Owners would be responsible for operation and maintenance of treatment control BMPs that serve private parking lots.

SUSMP Requirement	Criteria/Description	Corresponding Mission Village PDFs
13. Limitation of Use of Infiltration BMPs	• Infiltration is limited based on design of BMP, pollutant characteristics, land use, soil conditions, and traffic. • Appropriate conditions (groundwater >10 feet from grade) must exist to utilize infiltration to treat and reduce stormwater runoff for the project.	• Per the LARWQCB Clarification Letter (LARWQCB, 2006), generally, the common pollutants in stormwater are filtered or adsorbed by soil, and unlike hydrophobic solvents and salts, do not cause groundwater contamination. In any case, infiltration of 1-2 inches of rainfall in semi-arid areas like Southern California where there is a high rate of evapotranspiration, presents minimal risks. • The proposed treatment control BMPs are not considered infiltration BMPs; they allow for infiltration of fully treated runoff only.

Source: Geosyntec, 2010.

[1] *This requirement is from Part 4, Section D.1 of the MS4 Permit.*

(b) Low Impact Development Equivalency Analysis

The results of the LID equivalency analysis demonstrate that the project exceeds the LID Manual volume reduction requirements (**Table 4.22-18, LID Equivalency Calculations**). Figures 7-1 and Figure 7-2 illustrate the results of the Tier One infiltration screening using information provided by the Project geotechnical engineers R.T. Frankian and Associates (RTFA, 2010; see Appendix G).

Volume reduction estimates reported for the purpose of LID equivalency analysis are based on a detailed representation of Project water quality basins that attempts to account for additional volume reduction processes including soil soaking and drying and the potential installation of gravel drainage layers and amended soil layers in the bottoms of water quality basins.

Based on the comparison of volumetric requirements associated with the LID Manual and volumetric performance achieved by Project Design Features, the Project achieves volume reductions exceeding the intent of the Los Angeles County LID Manual. Because treatment control BMPs are designed to capture and treat 80 percent of average annual runoff, the requirement to capture and treat at least 48 percent of average annual runoff volume is also met.

Table 4.22-18
LID Equivalency Calculations

Feasibility Category	Open Space[1]	Infiltration Feasible	Infiltration Infeasible[2]	Total
Total Area, ac	622	67	606	1,295[3]
Composite Imperviousness[4]	1%	66%	67%	
Average Annual Runoff Volume[5], ac-ft		64	575	
Average Annual Capture Efficiency of BMPs Designed per LID Manual[6]		48%	48%	
Average Annual Volume Reduction of Captured Water in Vegetated BMPs[7]		100%	20%	
LID Manual Performance Standard Volume Reduction, ac-ft/yr		31	55	**86**
Achieved Average Annual Volume Reduction[8], ac-ft/yr		-	-	**97**
Surplus Average Annual Volume Reduction[9], ac-ft/yr				**11**

[1] *Includes water quality basins along with other open space (does not include parks)*
[2] *Per infeasibility criteria.*
[3] *Total Area represents on and off-site areas within the Project Impact boundary (i.e., 1262 ac on site, 33 off site)*
[4] *Composite imperviousness based on distribution of developed land uses within each analysis area.*
[5] *Calculated per rational method using the average annual rainfall at the Project site.*
[6] *Capture efficiency estimated through continuous simulation modeling of 40 years of precipitation, runoff and routing for a hypothetical volume-based BMP sized per the LID manual.*
[7] *Volume reduction in vegetated treat and release BMPs based on Strecker et al., 2004.*
[8] *Achieved Volume Reduction determined from WQ Model outputs.*
[9] *Positive Surplus Volume Reduction indicates exceedance of LID Manual-based performance standard.*

(c) Post Development Modeled Surface Water Pollutants of Concern

Table 4.22-19, Predicted Average Annual Stormwater Runoff Volumes, shows the predicted changes in stormwater runoff mean annual volumes. As shown, mean annual runoff volumes are expected to increase substantially with development. The increase is the result of imperviousness associated with development of the site, as well as by the decrease in infiltration capacity of existing site soils associated with the compaction of site soils during construction. Project PDFs include site design, source control, and treatment control BMPs in compliance with the SUSMP requirements. Most of the low impact/site design PDFs, especially the minimization of impervious area and the conservation of approximately 598 acres of open space areas within the project, reduce the proposed development's increases in stormwater runoff volume. The treatment control BMPs provide some runoff volume reduction and, therefore, provide hydromodification source control, as well as treatment control. Based on BMP monitoring data in the International Stormwater BMP Database, a 38 percent reduction in stormwater runoff volume was conservatively assumed to occur in the vegetated swales and bioretention PDFs.[22]

Table 4.22-19
Predicted Average Annual Stormwater Runoff Volumes

Site Conditions	Average Annual Stormwater Runoff Volume (acre-ft)
Existing	154
Developed with PDFs	634
Change	480

Source: Geosyntec, 2010.

Total Suspended Solids. Table 4.22-20, Predicted Average Annual TSS Concentration and Load, shows the predicted average annual TSS concentration and loads. Conversion from agriculture and open space to urban land-uses (with treatment) would reduce the average TSS concentration and loads in stormwater runoff from the project site.

22 Actual database information suggests that project treatment/hydromodification source control BMPs may provide greater than 30 percent average annual runoff volume reduction, but for purposes of this analysis, only a 20 to 25 percent volume reduction is anticipated.

Table 4.22-20
Predicted Average Annual TSS Concentration and Load

Site Conditions	Average Annual TSS Concentration (mg/L)	Average Annual TSS Load (tons/yr)
Existing	233	49
Developed with PDFs	34	32
Change	-198	-18

Source: Geosyntec, 2010.

The predicted average annual TSS concentration in stormwater runoff from the total modeled area with PDFs is compared to water quality criteria and the range of observed concentrations in the Santa Clara River in **Table 4.22-21, Comparison of Predicted TSS Concentrations with Water Quality Criteria and Observed Concentrations in Santa Clara River Reach 5**. Predicted TSS load and concentration declines with development and is at the low end of the range of observed concentrations in Santa Clara River Reach 5. Based on the comprehensive site design, source control, and treatment control strategy, the predicted decrease in TSS anticipated after development, and the comparison with available in-stream data and Basin Plan benchmark objectives, the TSS in stormwater runoff from the project would not cause a nuisance or adversely affect beneficial uses in the receiving waters and, thus, would not represent a significant impact to water quality.

Table 4.22-21
Comparison of Predicted TSS Concentrations with Water Quality Criteria and Observed Concentrations in Santa Clara River Reach 5

Predicted Average Annual TSS Concentration (mg/L)	Los Angeles Basin Plan Water Quality Objectives	California Toxics Rule Criteria	Range of Observed[1] Concentrations in Santa Clara River Reach 5 (mg/L)
34	Water shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses	N/A	32–51,200

Source: Geosyntec, 2010.
[1] Range of concentrations observed in the Santa Clara River during wet weather.
N/A = not applicable

Phosphorus. Table 4.22-22, Predicted Average Annual Total Phosphorus Concentration and Annual Load, shows the predicted average TP concentration and annual loads. The information presented in this

table indicates that TP concentration and load are predicted to decrease post-development; however, TP loads are predicted to increase. The decrease in TP concentration can be attributed to higher EMCs observed in monitoring data from agricultural and open space land uses compared with urban land uses. The increase in TP load is due to the increase in runoff volume predicted post-development.

Table 4.22-22
Predicted Average Annual Total Phosphorus Concentration and Annual Load

Site Conditions	Average Annual TP Concentration (mg/L)	Average Annual TP Load (lbs/yr)
Existing	0.47	198
Developed with PDFs	0.18	316
Change	-0.29	118

Source: Geosyntec, 2010.

There are no numeric objectives for TP in the Los Angeles Basin Plan. A narrative objective for biostimulatory substances in the Los Angeles Basin Plan states: "waters shall not contain biostimulatory substances in concentrations that promote algal growth to the extent that such growth causes nuisance or adversely affects beneficial uses." The low predicted TP concentrations in project stormwater discharges would not promote (i.e., increase) algae growth, and therefore, comply with the narrative objective for biostimulatory substances in the Los Angeles County Basin Plan. As shown in **Table 4.22-23, Comparison of Predicted Total Phosphorus Concentration with Water Quality Criteria and Observed Concentrations in Santa Clara River Reach 5**, the predicted total phosphorus concentration is at the low end of the range of observed concentrations in Santa Clara River Reach 5. Based on the comprehensive low impact/site design, source control, and treatment control strategy and the comparison with available in-stream monitoring data and Basin Plan benchmark objectives, potential impacts associated with total phosphorus are predicted to be less than significant.

Table 4.22-23
Comparison of Predicted Total Phosphorus Concentration with Water Quality Criteria and Observed Concentrations in Santa Clara River Reach 5

Predicted Average Annual Total Phosphorus Concentration (mg/L)	Los Angeles Basin Plan Water Quality Objectives	California Toxics Rule Criteria	Range of Observed[1] Concentrations in Santa Clara River Reaches 7E (mg/L)
0.18	Waters shall not contain biostimulatory substances in concentrations that promote algal growth to the extent that such growth causes nuisance or adversely affects beneficial uses	N/A	0.18–1.8

Source: Geosyntec, 2010.
[1] *Range of concentrations observed in the Santa Clara River during wet weather*
N/A = not applicable

Nitrate-Nitrogen + Nitrite Nitrogen and Ammonia. The predicted average nitrate-nitrogen plus nitrite-nitrogen and ammonia concentrations and annual loads are summarized in **Table 4.22-24, Predicted Average Annual Nitrate-N + Nitrite-N Concentration and Load** and **Table 4.22-25, Predicted Average Annual Ammonia-N Concentration and Load**, respectively. As shown, nitrate plus nitrite concentrations are predicted to decrease as a result of the project. This decrease can be attributed to higher EMCs observed in monitoring data from agricultural and open space land uses (the existing condition for the site) compared with urban land uses (representative of post-development conditions). Ammonia concentrations are predicted to decrease as a result of the project. This decrease may be attributed to higher EMCs observed in monitoring data from some existing land uses compared to developed land uses and low observed ammonia concentrations in effluent from extended detention basins. Nitrate plus nitrite and ammonia loads are predicted to increase as a result of the project. This can be attributed to the significant increase in runoff volume predicted for the post-development scenario.

Table 4.22-24
Predicted Average Annual Nitrate-N + Nitrite-N Concentration and Load

Site Conditions	Average Annual NO3-N+NO2-N Concentration (mg/L)	Average Annual NO3-N+NO2-N Load (lbs/yr)
Existing	1.5	647
Developed with PDFs	1.0	1,730
Change	-0.5	1,083

Source: Geosyntec, 2010.

Table 4.22-25
Predicted Average Annual Ammonia-N Concentration and Load

Site Conditions	Average Annual NH3 Concentration (mg/L)	Average Annual NH3 Load (lbs/yr)
Existing	0.46	179
Developed with PDFs	0.30	535
Change	-0.16	357

Source: Geosyntec, 2010.

Predicted nitrogen compound concentrations are compared to Basin Plan objectives and observed concentrations in **Table 4.22-26, Comparison of Predicted Nitrogen Compound Concentrations with Water Quality Criteria and Observed Concentrations in Santa Clara River Reach 5**. Average annual stormwater concentration of ammonia is predicted to be considerably less than the waste load allocation for Santa Clara River Reach 5 and the Basin Plan objective, and within the low end of the range of observed concentrations. Likewise, the average annual stormwater concentration of nitrate-N plus nitrite-N is predicted to be considerably less than the TMDL wasteload allocation or the Basin Plan water quality objective, and within the range of observed concentrations for this reach of the Santa Clara River.

Table 4.22-26
Comparison of Predicted Nitrogen Compound Concentrations with Water Quality Criteria and Observed Concentrations in Santa Clara River Reach 5

Nutrient	Predicted Average Annual Concentration (mg/L)	Los Angeles Basin Plan Water Quality Objectives[1] (mg/L)	TMDL Waste Load Allocation for Santa Clara River Reach 5 (mg/L)	Range of Observed[2] Concentrations in Santa Clara River Reach 5 (mg/L)
Nitrate-N + Nitrite-N	1.0	5.0	6.8[3]	0.2–4.0
Ammonia-N	0.30	2.0[4]	1.75[5]	0.02–1.4

Source: Geosyntec, 2010.

[1] *There are no CTR criteria for nitrogen compounds. The biostimulatory substances water quality objective is included because excessive nutrients can contribute to excessive aquatic growth.*

[2] *Range of concentrations observed in the Santa Clara River during wet weather.*

[3] *30-day average concentration.*

[4] *4-day average concentration, ELS present, 90th percentile pH and temperature pairing observed at USGS Monitoring Station 11108500.*

[5] *30-day average in Reach 5 below Valencia.*

Nitrate plus nitrite and ammonia-nitrogen concentrations in post-development runoff from the utility corridor and the power substation are likely to decrease or remain the same compared to open space and agricultural runoff concentrations, although loads are likely to increase due to the increase in runoff

volume. The use of bioretention and/or vegetated swales for treatment control would minimize any potential increases in post-development runoff nitrate plus nitrite or ammonia-nitrogen loads. The average nitrate plus nitrite concentration in runoff treated in biofilters reported in the International Stormwater BMP database is 0.92 mg/L and the average ammonia-nitrogen concentration is 0.06 mg/L, which are considerably less than the TMDL wasteload allocations and Basin Plan water quality objectives, and are within the range of observed concentrations for Santa Clara River Reach 5.

Based on the comprehensive low impact/site design, the source control and treatment control strategy; anticipated reductions in nitrate- plus nitrite-N and ammonia-N concentrations; and the comparison with available in-stream monitoring data and benchmark Basin Plan objectives and waste load allocations, potential impacts associated with nitrogen compounds are predicted to be less than significant.

Metals. Projected loads and concentrations for the trace metals copper, lead, zinc, and total aluminum are presented in **Table 4.22-27** through **Table 4.22-30.** Except for aluminum and lead, the projections are for the dissolved form of the metal, as it is the dissolved form to which the CTR criteria applies. Due to consistently low concentrations of dissolved lead in the available stormwater runoff data, it was not possible to develop reliable EMC parameters for most land uses for modeling the dissolved fraction of lead. This constituent was therefore modeled as the total recoverable metal. Copper, lead, and zinc are the most prevalent metals typically found in urban runoff. Other trace metals, such as cadmium, chromium, and mercury, are typically not detected in urban runoff or are detected at very low levels. (LACDPW, 2000. Los Angeles County 1994–2000 Integrated Receiving Water Impacts Report.)

The data indicates that post-development trace metal loads are predicted to increase compared to pre-development conditions; concentrations of dissolved copper are predicted to increase slightly, and total aluminum, total lead, and dissolved zinc concentrations are predicted to decrease. These results can be explained by the difference in EMC values observed in representative monitoring data from the pre-developed agriculture, oil and gas extraction, and open space condition and the post-developed urban condition. Runoff volumes would increase with development while land use changes would decrease metals concentrations in runoff for most proposed land uses.

Project PDFs include low impact/site design, source control, and treatment control BMPs, in compliance with the SUSMP requirements. Specific low impact/site design PDFs that would be implemented to minimize increases in trace metals include directing drainage from impervious areas to bioretention areas and the selection of building material for roof gutters and downspouts that do not include copper or zinc. Source control PDFs that target metals include education for property owners, BMP maintenance, and street sweeping private streets and parking lots. The treatment control BMPs would also reduce trace

metals in the runoff from the proposed development. Only the effects of the treatment control PDFs are reflected in the model results; effects of site design and treatment control BMPs are not modeled.

Table 4.22-27
Predicted Average Annual Dissolved Copper Concentration and Load

Site Conditions	Average Annual Dis. Cu Concentration (µg/L)	Average Annual Dis. Cu Load (lbs/yr)
Existing	10	4
Developed with PDFs	11	19
Change	1	15

Source: Geosyntec, 2007.

Table 4.22-28
Predicted Average Total Lead Concentration and Annual Load

Site Conditions	Average Annual Total Pb Concentration (µg/L)	Average Annual Total Pb Load (lbs/yr)
Existing	12	5
Developed with PDFs	5	10
Change	-7	5

Source: Geosyntec, 2010.

Table 4.22-29
Predicted Average Annual Dissolved Zinc Concentration and Load

Site Conditions	Average Annual Dis. Zn Concentration (µg/L)	Average Annual Dis. Zn Load (lbs/yr)
Existing	282	105
Developed with PDFs	82	141
Change	-200	37

Source: Geosyntec, 2010.

Table 4.22-30
Predicted Average Annual Total Aluminum Concentration and Load

Site Conditions	Average Annual Total Aluminum Concentration (µg/L)	Average Annual Total Aluminum Load (lbs/yr)
Existing	1,427	568
Developed with PDFs	647	1,122
Change	-780	555

Source: Geosyntec, 2010.

A narrative objective for toxic substances in the Basin Plan states: "all waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life."

The CTR criteria are the applicable water quality objectives for protection of aquatic life. The CTR criteria are expressed for acute and chronic (4-day average) conditions; however, only acute conditions were considered to be applicable for stormwater discharges because the duration of stormwater discharge is consistently less than 4 days. The CTR criteria are calculated on the basis of the hardness of the receiving waters. Lower hardness concentrations result in lower, more stringent CTR criteria. The minimum hardness value (250 mg/L as $CaCO_3$) observed in the Santa Clara River at the USGS Station 11108500 during wet weather was used as a conservative estimate; the mean observed hardness value was 660 mg/L as $CaCO_3$.

Comparison of the predicted runoff metal concentrations and the acute CTR criteria for dissolved copper, total lead, and dissolved zinc and the NAWQC criterion for aluminum are shown in **Table 4.22-31**, along with the range of observed concentrations in Santa Clara River Reach 5. The comparison of the post-developed with PDFs condition to the benchmark CTR and NAWQC values shows that all of the trace metal concentrations are below the benchmark water quality criteria. While dissolved zinc concentrations are predicted to be higher than the concentration observed in the Santa Clara River, dissolved copper, total lead, and aluminum concentrations are predicted to be within the range of observed values. Despite the predicted dissolved zinc concentrations being greater than the range of observed concentrations, project runoff is not expected to affect the concentration of dissolved zinc in the Santa Clara River, as the project area represents a very small portion of the overall watershed.

For aluminum, the NAWQC acute criterion (750 µg/L for a pH range of 6.5 to 9.0) was used as a benchmark, as the CTR does not include aluminum. Although the NAWQC criterion is in the form of acid soluble aluminum (U.S. EPA, 1988), the available monitoring data are for either dissolved aluminum

or total aluminum. (U.S. EPA, 1988. Ambient Water Quality Criteria for Aluminum – 1988. EPA 440/ 5-86-008. August 1988). Acid soluble aluminum, which is operationally defined as the aluminum that passes through a 0.45 μm membrane filter after the sample has been acidified to a pH between 1.5 and 2.0 with nitric acid, represents the forms of aluminum toxic to aquatic life or that can be readily converted to toxic forms under natural conditions. The acid soluble measurement does not measure forms of aluminum, such as aluminum that is occluded in minerals, clays, and or is strongly sorbed to particulate matter, that are not toxic and are not likely to become toxic under natural conditions. Acid soluble aluminum data is not available because this form of aluminum is not typically measured. Nevertheless, total aluminum has been used in this analysis and compared with the NAWQC in order to be conservative.

Table 4.22-31
Comparison of Predicted Trace Metal Concentrations with Water Quality Criteria and Observed Concentrations in Santa Clara River Reach 5

Metal	Predicted Average Annual Concentration (μg/L)	California Toxics Rule Criteria[1] (μg/L)	Range of Observed[2] Concentrations in Santa Clara River Reach 5 (μg/L)
Dissolved Copper (μg/L)	11	32	3.3–22.6
Total Lead (μg/L)	5	260	1.1–95
Dissolved Zinc (μg/L)	82	250	3.0–37
Total Aluminum	647	750	131–19,650

Source: Geosyntec, 2010.

[1] *Hardness = 250 mg/L, based on minimum observed value at USGS Station 11108500. A lead criterion is for total recoverable lead. NAWQC aluminum criteria for pH 6.5–9.0.*

[2] *Range of concentrations observed in the Santa Clara River during wet weather.*

Based on the comprehensive low impact/site design, the source control and treatment strategy, and the comparison with the in-stream water quality monitoring data and benchmark water quality criteria and the available information regarding aluminum toxicology, the project would not have significant impacts resulting from trace metals.

Chloride. Table 4.22-32, Predicted Average Annual Chloride Concentration and Load, shows the predicted average annual chloride concentration and load. The annual average chloride concentration is predicted to slightly increase when compared to the existing conditions. Average annual chloride load is expected to increase as a result of the significant increase in total annual runoff volume predicted for the project.

Table 4.22-32
Predicted Average Annual Chloride Concentration and Load

Site Conditions	Average Annual Cl Concentration (mg/L)	Average Annual Cl Load (lbs/yr)
Existing	12	2
Developed with PDFs	21	17
Change	8	15

Source: Geosyntec, 2010.

The predicted chloride concentration in post-development project runoff is compared to the Los Angeles Basin Plan water quality objective and the range of observed concentrations in Santa Clara River Reach 5 in **Table 4.22-33, Comparison of Predicted Chloride Concentrations with Water Quality Objective, TMDL, and Observed Concentrations in Santa Clara River Reach 5**. This data indicates that the predicted average annual chloride concentration in stormwater runoff from the project area is within the low range of observed concentrations for this pollutant and is well below the Santa Clara River Reach 5 Basin Plan water quality objective and the TMDL site-specific objective for Santa Clara River Reach 5 (150 mg/L).

Chloride concentrations in post-development runoff from the off-site improvements, including the utility corridor and the power substation, are likely to decrease or remain the same in comparison to runoff from open space and agricultural areas, although chloride loads are likely to increase due to increased runoff volumes. Similarly to the modeled areas, the average annual chloride concentration in stormwater runoff from the utility corridor and power substation are likely to be at the low end of the range of observed concentrations for chloride and well below the Santa Clara River Reach 5 Basin Plan water quality objective and the TMDL wasteload allocation for Santa Clara River Reach 5.

Wastewater generated by the Mission Village project would initially be treated by the Valencia WRP, and ultimately, by the Newhall Ranch WRP, with a small portion continuing to be treated at the Valencia plant. Both the Newhall Ranch WRP and Valencia WRP must comply with NPDES wastewater discharge permits that contain chloride effluent limitations that are protective of water quality and beneficial uses in the Santa Clara River and will not result in the impairment of surface or groundwater quality. Additionally, a TMDL implementation plan has been developed that incorporates chloride source reduction actions and chloride load reduction through advanced treatment (i.e., reverse osmosis) of the Valencia WRP effluent, and conditional Site Specific Objectives (SSOs), which mitigate the effect of chloride accumulation in surface and groundwater. Therefore, the project's chloride contribution to treated wastewater discharges would not pose a significant impact to water quality or beneficial uses.

Based on the comprehensive low impact/site design, source control, and treatment control strategy, the predicted decrease in chloride concentration, and the comparison with benchmark receiving water criteria, the project would not have significant water quality impacts resulting from chloride.

Table 4.22-33
Comparison of Predicted Chloride Concentrations with Water Quality Objective, TMDL, and Observed Concentrations in Santa Clara River Reach 5

Pollutant	Predicted Average Annual Concentration (mg/L)	Santa Clara River Reach 5 TMDL Waste Load Allocation and Basin Plan Water Quality Objective[1] (mg/L)	Range of Observed[2] Concentrations in Santa Clara River Reach 5 (mg/L)
Chloride	21	100	2.6–290[3]

Source: Geosyntec, 2010.

[1] *There are no CTR criteria for chloride. This is the Basin Plan objective for Santa Clara River Reach 5.*

[1] *Range of concentrations observed in the Santa Clara River during wet weather).*

[3] *This value was observed in 1965.*

(d) Post Development Surface Water Pollutants Addressed Without Modeling

Turbidity. Turbidity is a measure of suspended matter that interferes with the passage of light through the water or in which visual depth is restricted. (Sawyer *et al.*, 1994. Chemistry for Environmental Engineering, Fourth Edition. Clair Sawyer, Perry McCarty, and Gene Parkin. McGraw-Hill, Inc., 1994.) Turbidity may be caused by a wide variety of suspended materials, which range in size from colloidal to coarse dispersions, depending upon the degree of turbulence. In lakes or other waters existing under relatively quiescent conditions, most of the turbidity would be due to colloidal and extremely fine dispersions. In rivers under flood conditions, most of the turbidity would be due to relatively coarse dispersions. Erosion of clay and silt soils may contribute to in-stream turbidity. Organic materials reaching rivers serve as food for bacteria, and the resulting bacterial growth and other microorganisms that feed upon the bacteria produce additional turbidity. Nutrients in runoff may stimulate the growth of algae, which also contributes to turbidity.

Discharges of turbid runoff are primarily of concern during the construction phase of development. The Construction SWPPP must contain sediment and erosion control BMPs pursuant to the Construction General Permit, and those BMPs must effectively control erosion and discharge of sediment, along with other pollutants, per the BAT/BCT standards. Additionally, fertilizer control, non-visible pollutant monitoring, and trash control BMPs in the SWPPP would combine to help control turbidity during the construction phase. (See **subsection 4.22.7.c,** above.)

In the post-development condition, placement of impervious surfaces would serve to stabilize soils and to reduce the amount of erosion that may occur from the project area during storm events, and would therefore decrease turbidity in the runoff from the project area. Project PDFs, including source controls (such as common area landscape management and common area litter control) and treatment control BMPs in compliance with the SUSMP requirements, would prevent or reduce the release of organic materials and nutrients (which might contribute to algal blooms) to receiving waters. As shown earlier in this section, post-development nutrients in runoff are not expected to cause significant water quality impacts. Based on implementation of the project PDFs and the construction-related controls, runoff discharges from the project would not cause increases in turbidity; therefore, the water quality impacts of the project on turbidity are considered less than significant.

Pesticides. Pesticides can be of concern where past farming practices involved the application of persistent organochlorine pesticides. Legacy pesticides Chlordane, Dieldrin, DDT, and Toxaphene are of particular concern, as TMDLs have been established for some of these pesticides in the Santa Clara River estuary, approximately 40 miles downstream of the project and Reach 5. Historical pesticides should no longer be discharged in the watershed except in association with erosion of sediments to which these pollutants may have adhered in the past. Site development involves remedial grading which would stabilize soils and prevent their transport from the project site, actually reducing the potential for discharge of sediments to which historical pesticides may have adsorbed in pre-development conditions.

In the post-developed condition, pesticides would be applied to common landscaped areas and residential lawns and gardens. Pesticides that have been commonly found in urban streams include the organophosphate pesticides chlorpyrifos and diazinon. (Katznelson, R. and T. Mumley, 1997. Diazinon in Surface Waters in the San Francisco Bay Area: Occurrence and Potential Impact. Prepared for California State Water Resources Control Board, and Alameda County Clean Water Program.) However, only 0 to 13 percent of the samples in the Los Angeles County database had detectable levels of diazinon (depending on the land use), while chlorpyrifos was below detection limits for all land uses in all samples taken between 1994 and 2000. (Los Angeles County Department of Public Works, 2000. Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report.) Other pesticides presented in the database were seldom measured above detection limits. Furthermore, these data represent flows from areas without treatment controls, unlike the proposed project, which does incorporate treatment control PDFs.

Diazinon and chlorpyrifos are two pesticides of concern due to their potential toxicity in receiving waters. The U.S. EPA has banned all indoor uses of diazinon in 2002 and stopped all sales for all outdoor non-

agricultural use in 2003 (U.S. EPA, June, 2002)[23]. (U.S. EPA, 2002. Total Maximum Daily Loads for Toxic Pollutants – San Diego Creek and Newport Bay, California, June 14, 2002.) With no agricultural uses planned for the proposed project, diazinon would not be used at the proposed project site. The U.S. EPA also has phased out most indoor and outdoor residential uses of chlorpyrifos and has stopped all non-residential uses where children may be exposed. Use of chlorpyrifos in the proposed project area is not expected, with the possible exception of emergency fire ant eradications (until such time as reasonable alternative products are available and only with appropriate application practices, in accordance with the landscape pesticide management program).

Diazinon had long been one of the most commonly used pesticides on the market (San Francisco Bay Regional Water Quality Control Board [SFBRWQCB], 2005) before its use was phased out. Although the U.S. EPA's actions eliminated most urban diazinon uses by the end of 2004, phasing out diazinon likely has increased post-2004 reliance on alternative pesticides and encouraged new pesticides to enter the marketplace.

The SFBRWQRB commissioned a study, Insecticide Market Trends and Potential Water Quality Implications, to evaluate pesticide use trends as they relate to water quality. In 2003, on the basis of current and projected pesticide use and possible water quality risks, the report considered the pesticide alternatives of potential concern for water quality to be pyrethrums; parathyroid's (bifenthrin, cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, and permethrin); carbaryl; malathion; and imidacloprid (SFBRWQCB, 2003). A more recent study also identified lambda cyhalothrin (a pyrethroid) and fipronil among pesticides of interest (SFEP, 2005).

The water quality risks posed by a pesticide relate to the quantity of the pesticide used, its breakdown rate or degradable rate, its runoff characteristics, and its relative toxicity in water and sediment. As urban diazinon applications are phased out, the use of some alternatives may inadvertently pose new water

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23 Changes to the use of chlorpyrifos include reductions in the residue tolerances for agricultural use, phase out of nearly all indoor and outdoor residential uses, and prohibition of non-residential uses where children may be exposed. In Orange County, residential use accounts for around 90% of total chlorpyrifos. (U.S. EPA, 2002a. Total Maximum Daily Loads for Toxic Pollutants – San Diego Creek and Newport Bay, California, June 14, 2002.) Retail sales of chlorpyrifos were stopped by December 31, 2001, and structural (*e.g.* construction) uses were phased out by December 31, 2005. Some continued uses are allowed; for example, public health use for fire ant eradication and mosquito control is permitted by professionals.

Permissible uses of diazinon also will be restricted. All indoor uses are prohibited (as of 12/2002) and retailers were required to end sales for indoor use on December, 2002. All outdoor non-agricultural uses were phased out by December 31, 2004. Therefore, it is likely that the U.S. EPA will eliminate most of the use of diazinon within the Specific Plan area. The use of diazinon for many agricultural crops has been eliminated, while some use of this chemical will continue to be permitted for some agricultural activities. (U.S. EPA, 2001. Organophosphate Pesticide; Availability of Revised Risk Assessments. Federal Register: January 31, 2001 (Volume 66, Number 21), Page 8400-8401.)

quality risks. Given what is known about alternative pesticide use trends, pyrethroids may be the alternatives that pose the greatest concerns for water quality. Although pyrethroids tend to be toxic to Ceriodaphnia dubia test organisms at concentrations in water comparable to diazinon, pyrethroids do not dissolve well in water but instead adhere well to surfaces, including particles in the environment. At equilibrium, pyrethroid concentrations in sediment are reported to be about 3,000 times greater than dissolved concentrations in water. Thus, BMPs targeting reductions and removal of sediment loads would be effective to reduce and remove pyrethroids as well.

Source control measures such as education programs for owners, occupants, and employees in the proper application, storage, and disposal of pesticides are the most promising strategies for controlling the pesticides that would be used post-development. Structural treatment controls are less practical because of the variety of pesticides and wide range of chemical properties that affect their ability to treat these compounds. However, most pesticides, including historical pesticides that may be present at the site, are relatively insoluble in water and therefore tend to adsorb to the surfaces of sediment, which would be settled or filtered out of the water column in the water quality treatment PDFs. Thus, treatment in the bioretention, vegetated swales, and extended detention basin should achieve some removal of pesticides from stormwater as TSS is reduced.

For common area landscaping in commercial areas, multi-family residential areas and parks, an IPM Program would be incorporated. The goal of an IPM is to keep pest levels at or below threshold levels, reducing risk and damage from pest presence, while eliminating the risk from the pest control methods used. IPM programs achieve these goals through the use of low risk management options by emphasizing use of natural biological methods and the appropriate use of selective pesticides. IPM programs also incorporate environmental consideration by implementing procedures that minimize intrusion and alteration of biodiversity in ecosystems.

While pesticides are subject to degradation, they vary in how long they maintain their ability to eradicate pests. Some break down almost immediately into nontoxic byproducts, while others can remain active for longer periods of time. While pesticides that degrade rapidly are less likely to adversely affect non-targeted organisms, in some instances it may be more advantageous to apply longer-lasting pesticides if it results in fewer applications or smaller amounts of pesticide use. As part of the IPM program, careful consideration would be made as to the appropriate type of pesticides for use on the project site. While pesticide use is likely to occur due to maintenance of landscaped areas, particularly in the residential portions of the development, careful selection, storage, and application of these chemicals for use in common areas would help prevent adverse water quality impacts from occurring. Additionally, as discussed above, removal of sediments in the PDFs would also remove sediment-adsorbed pesticides.

Based on the incorporation of low impact/site design, and the source control and treatment control BMPs pursuant to SUSMP requirements, potential post-development impacts associated with pesticides are expected to be less than significant.

Pathogens. Pathogens are viruses, bacteria, and protozoa that can cause gastrointestinal and other illnesses in humans through body contact exposure. Identifying pathogens in water is difficult as the number of pathogens is fairly small, requiring sampling and filtering of large volumes of water to obtain a reliable result. Traditionally, regulators have used fecal indicator bacteria (FIB), such as total and fecal coliform, enterococci, and *E. coli*, as indirect measures of the presence of pathogens and by association, human illness risk. Early epidemiological studies (i.e., studies that investigate human illness occurrence versus environmental factors such as water quality) that linked swimming-associated gastrointestinal symptoms to *E. coli* or enterococci in swimming waters for sewage-dominated receiving waters led to the development of the current recreational water quality criteria (EPA, 1986). In contrast to receiving waters subject to sanitary discharges, only a few epidemiological studies have evaluated the health effects of exposure to water bodies subject to discharges from storm drains and these studies focused on the effects of dry weather urban flows on recreational exposure (e.g., Haile et al, 1999 and Colford et al, 2005).

Santa Clara River Bacteria TMDL

The LARWQCB approved a Basin Plan amendment on July 8, 2010, to incorporate a TMDL for Indicator Bacteria for the Santa Clara River Estuary and Reaches 3, 5, 6, and 7 of the Santa Clara River (Resolution #R10-006). The TMDL provides allowable exceedance day-based WLAs for MS4 dischargers for *E. coli* in Reaches 3, 5, 6, and 7, and for Fecal coliform, Enterococcus, and Total Coliform in the Santa Clara River Estuary. These WLAs are anticipated to be incorporated into the Los Angeles County MS4 Permit once the interim and final WLAs become effective, at which point they will become an enforceable permit provision.

The TMDL WLAs applicable to Reach 5 of the Santa Clara River are listed in **Table 4.22-3**. The Indicator Bacteria TMDL MS4 WLAs are applied in the form of allowable exceedance days. The TMDL implementation schedule deadlines applicable to Reach 5 are summarized in **Table 4.22-34**.

The Regional Board indicated in the TMDL implementation schedule that the Regional Board will reconsider the TMDL if, prior to four years after the effective date of the TMDL, one of the following occurs:

(1) Monitoring or any voluntary local reference system studies justify a revision, or

(2) U.S. EPA publishes revised recommended bacteria criteria (expected in December 2012), or

(3) The Regional Board adopts a separate Basin Plan amendment, suspending recreational uses in the Santa Clara River during high flows.

Table 4.22-34
Indicator Bacteria TMDL Implementation Schedule and Tasks

Deadline	Task
1 year after effective date of TMDL	Jurisdictions and agencies responsible for the MS4 WLAs must submit an in-stream bacteria water quality monitoring plan for the SCR watershed. The monitoring plan must be approved by the Executive Officer.
6 months after monitoring plan approval by Executive Officer	Monitoring of SCR Watershed must begin.
3 years after effective date of TMDL	Jurisdictions and agencies must submit a draft Implementation Plan outlining how to achieve compliance with the WLAs.
4 years after effective date of TMDL	Interim MS4 WLAs apply.
6 months after receipt of Regional Board comments on draft Implementation Plan	Jurisdictions and agencies must submit a final Implementation Plan and begin additional outfall monitoring.
11 years after effective date of TMDL	SCR Reaches 3, 5, 6, and 7 must achieve compliance with final WLAs for geometric mean objectives and allowable exceedance days for single sample objectives for dry weather.
17 years after effective date of TMDL	SCR Reaches 3, 5, 6, and 7 must achieve compliance with final WLAs for geometric mean objectives and allowable exceedance days for single sample objectives for wet weather.

There are various confounding factors that affect the reliability of FIB as pathogen indicators. One primary factor is that there are numerous natural or non-anthropogenic (or "zoonotic") sources of FIB in developed watersheds and their receiving water bodies, including birds and other wildlife, soils, and plant matter. Anthropogenic sources may include domesticated animals and pets, poorly functioning septic systems, sewer system overflows or spills, cross-connections between sewer and storm drains, and the utilization of outdoor areas or storm drains for human waste disposal by people without access to indoor sanitary facilities. All of these sources can contribute to the concentrations of FIB, but not all the sources may pose a comparable human health risk (EPA, 2009).

A second confounding factor is that FIB can multiply in the field if the substrate, temperature, moisture, and nutrient conditions are suitable (MEC, 2004). This is one potential reason that FIB concentrations do not always correlate with pathogens. For example, in a field study conducted by Schroeder et al., pathogens (in the form of viruses, bacteria, or protozoa) were found to occur in 12 of 97 soil samples taken, but the samples that contained pathogens did not correlate with the samples containing concentrations of FIB. (Schroeder et al. 2002. Management of Pathogens Associated with Storm Drain Discharge, Center for Environmental and Water Resources Engineering, Dept. of Civil and Environmental Engineering, University of California, Davis prepared for Division of Environmental Analysis, California Department of Transportation, May). Numerous other researchers have reported that bacteria presence and even regrowth was observed in various substrates such as beach sands, wrack line (accumulation of

kelp in the inter-tidal area of beaches), inter/sub-tidal sediments, and material deposited in storm drains (MEC, 2004). FIB monitoring in the Santa Ana River indicate that the ubiquity of sources and potential regrowth far exceed the human sources of fecal bacteria generated by the entire population in the watershed (Surbeck et al, 2008). Regrowth of bacteria downstream of a package treatment plant utilizing ultraviolet (UV) radiation to disinfect dry weather flows in Aliso Creek was considered a prime factor in the rapid rebound of FIB concentrations downstream of the plant (Andersen, 2005). Recent research also implicates storm drain biofilms as another urban source of FIB to receiving waters (Roberts and Kolb, 2009; Skinner et al, 2010)

A third confounding factor is that the persistence of FIB may differ from those of various pathogenic viruses, bacteria, protozoa. Viruses, for instance, are small, low in number, and difficult to inactivate, while protozoa may form protective cysts that are resistant to destruction and render them dormant but capable of reactivating in the future. Therefore, while some indicator bacteria may die off in the water column due to ultraviolet disinfection or other unfavorable environmental conditions (including predation and antagonism), pathogens occasionally may persist longer (Haile et. al., 1999). So while the previously two described factors may result in indicator bacteria resulting in false positive indications of public health risk, there may also be instances when indicator bacteria result in false negative indications.

Given the concern about the adequacy of the current recreational water quality criteria, the U.S. EPA is undergoing a comprehensive evaluation and revision of their current FIB-based recreational water quality criteria, with completion scheduled for December 2012. To help initiate this effort, U.S. EPA gathered 43 experts to identify research priorities needed to refine the existing criteria and transition to new methods (U.S. EPA, 2007b). The experts identified seven topics for research, including "scientifically defensible for applications in a wide variety of geographical locations and water types" and "protective of individuals exposed to recreational waters impacted by all sorts of pathogen sources including animal feces, stormwater, and sewage" (Boehm et al, 2009).

In a similar effort focused on inland waters, the Water Environment Research Federation (WERF) convened an expert panel to recommend a research program that would also support U.S. EPA's intended revision of the water quality criteria (WERF, 2009). These various research efforts are ongoing and the U.S. EPA will consider all submitted data as part of their recreational water quality criteria revision process.

Until recently, few epidemiological studies have tested the health effects of exposure to the receiving waters of direct and recent stormwater runoff, and these studies have found it difficult to link illness with stormwater sources. For instance, the Mission Bay epidemiological study (Colford et al., 2005) found that "only skin rash and diarrhea were consistently elevated in swimmers versus non swimmers, the risk of

illness was uncorrelated with levels of traditional water quality indicators, and state water quality thresholds were not predictive of swimming-related illnesses." Various other researchers, as part of U.S. EPA's pathogen research program, are now conducting epidemiological studies nationwide at fresh and salt water beaches that receive wastewater and/or stormwater discharges. In southern California, the SCCWRP has been conducting a multi-year study of public health risks at marine beaches, with a final report that is scheduled for late 2011. Until these various studies are completed, however, there is no reliable documentation of the health effects caused by exposure to stormwater based on epidemiological studies.

Dry weather, non-storm stream flows from undeveloped watersheds tend to have lower concentrations of FIB than dry weather urban flows, although water quality standard exceedances still occur. For instance, a recent study by SCCWRP which monitored 15 unimpaired natural Southern California streams weekly during dry weather for a year showed that about 18 percent of the samples exceeded daily and monthly bacterial indicator thresholds, although concentrations from these unimpaired streams were one to two orders of magnitude lower than levels found in developed watersheds (Tiefenthaler, et al., 2009). The study reported an average of the geometric means for *E. coli* in dry weather flows in each stream of 41 MPN/100 mL. In comparison, the Basin Plan objective Santa Clara River Bacteria TMDL numeric target is 235 MPN/100 mL for any single sample and 126 MPN/100 mL for the geometric mean *E. coli* density shall not exceed 126 MPN/100 mL. The Santa Clara River bacteria TMDL WLAs are based on this and other SCCWRP reference stream and reference beach datasets, in acknowledgement of natural sources.

During wet weather, stormwater runoff can mobilize indicator bacteria from a number of watershed and in-stream sources, and, therefore, indicator bacteria concentrations tend to increase. For example, median stormwater runoff monitoring results for the open space land use category, as summarized by Stein et. al. (2007), include *E. coli* concentrations of about 5,400 MPN/100 mL from the 2001–2005 Los Angeles River Watershed Wet Weather Study, and 7,200 MPN/100 mL from the National Stormwater Quality Database (Pitt et al., 2003). Similarly, median open space land use stormwater runoff monitoring results *include E. coli* concentrations of 5,400 MPN/100 mL from the Stein et al. (2007) study based on two flow-weighted average results, and 500 MPN/100 mL for fecal coliform from a 1994–2000 Los Angeles County (2000) study based on 21 grab samples. The Santa Clara River Bacteria TMDL has incorporated allowable exceedance days to account for the fact that recreational criteria, strictly applied, are frequently exceeded even at natural, undeveloped streams and beaches. The interim and final allowable exceedance days for Reach 5 of the Santa Clara River for wet and dry weather are listed in **Table 4.22-3**.

Land use type and condition also affect runoff concentrations, and most studies show higher FIB concentrations in urban runoff than in open space runoff. Runoff from residential land uses from the Los Angeles River Watershed Wet Weather Study had a median *E. coli* concentration of about 6,300 MPN/100

mL and about 8,300 MPN/100 mL from the National Stormwater Quality Database (Stein et. al, 2007). The median value of four flow-weighted average results from the Stein et. al. (2007) study was about 6,100 MPN/100mL for *E. coli* for the low density residential land use site. These data represent urban areas that in general do not have source and treatment controls, and therefore are not indicative of runoff from the proposed project.

Runoff from agricultural watersheds involving horticulture and row cropping is known to similarly contain relatively high concentrations of FIB. Data from a stormwater drain serving an agricultural watershed with predominantly row crops in Ventura County showed median fecal coliform levels (approximately 7,000 MPN/100 mL) similar to that found for general urban runoff. Agricultural land and open space areas likely share some of the same wildlife sources, but livestock may be present as well. These data indicate that wildlife, livestock, plants, and/or soils can be a very important source of pathogens and/or FIB such as fecal coliform.

The primary sources of pathogen indicators from Mission Village would likely be sediment, pet wastes, wildlife, and regrowth in the storm drain itself. Other sources of pathogens and pathogen indicators, such as cross connections between sanitary and storm sewers, are unlikely given modern sanitary sewer installation methods and inspection and maintenance practices.

The levels of bacteria in runoff from the proposed project would be reduced by source controls and treatment controls. The most effective means of controlling specific bacteria sources, such as pet wastes and other animal wastes is through source control, specifically education of pet owners, education regarding feeding of waterfowl near water bodies, and providing products and disposal containers that encourage and facilitate cleaning up after pets, and storm drain cleaning practices.

Although, there are limited data on the effectiveness of different types of stormwater treatment to manage pathogen indicators, treatment processes that help reduce pathogen indicators include sunlight (ultraviolet light) degradation, sedimentation, and filtration.

Bioretention, a stormwater treatment BMP which provides filtration through amended soils, is an example of an effective BMP for addressing FIB The City of Austin, Texas conducted a number of studies on the effectiveness of sedimentation/filtration treatment systems for treating stormwater runoff. Most of the structures were designed to treat 0.5 inch of runoff. Data from four sand filters indicated a range of removals from 37 percent to 83 percent for fecal coliform, and 25 percent to 81 percent for fecal streptococci. Research on the use of filtration to remove bacteria also has been conducted in Florida by the Southwest Florida Water Management District. Significant reductions in total and fecal coliform bacteria and the other indicators were observed between inflow and outflow samples for sand filtration. Percent

reductions were measured using flow-weighted sampling techniques. Total coliform bacteria removals were less than 70 percent, and fecal coliform bacteria reduction varied from 65 percent to 100 percent.

Similarly, where soil conditions are conducive to infiltration, LID practices and stormwater treatment facilities that allow for infiltration can reduce runoff volume and treat FIB by infiltration, which in turn reduces FIB loads. In a literature summary, the U.S. EPA reported typical pathogen removal for infiltration basins and trenches as 65 to 100 percent. (U.S. EPA, 1993. Office of Water. Guidance to Specify Management Measures for Sources of Nonpoint Pollution in Coastal Waters. EPA-840-B-920002. Washington, DC.) These types of BMPs are specified for incorporation into the Project where feasible to meet the LID design standards specified in Section 5 of this report, which are based on achieving equivalent pollutant control and hydrologic control as specified the LID Ordinance and Manual and in the MS4 Permit/SUSMP Manual requirements for treatment of volume or flow of stormwater.

In summary, stormwater discharges from the project could potentially exceed the REC-1 Basin Plan standard for FIB; therefore, impacts from FIB may be significant prior to mitigation. However, the FIB concentrations in runoff from the project would be reduced through the implementation of source and treatment control PDFs. The project would incorporate a number of source controls specific to managing FIB, including education of pet owners, education regarding feeding of waterfowl near water bodies, and providing products and disposal containers that encourage and facilitate cleaning up after pets. The project would not include septic systems and the sewer system would be designed to current standards, which minimizes the potential for leaks. The proposed project development, consistent with the MS4 Permit requirements, includes a comprehensive set of source, low impact/site design, and treatment control BMPs selected to manage pollutants of concern, including pathogen indicators. Furthermore, the project will comply with all future MS4 Permit provisions incorporating the TMDL wasteload allocations and implementation plan. With these BMPs, the project would not result in substantial changes in pathogen or FIB concentrations in receiving waters, causing a violation of the water quality standards or waste discharge requirements or otherwise substantially degrade water quality in the receiving waters. Water quality impacts related to pathogens would be reduced to a level less than significant.

Hydrocarbons. Various forms of hydrocarbons (oil and grease) are common constituents associated with urban runoff; however, these constituents are difficult to measure. Typically, measurements are taken by grab samples, making it difficult to develop reliable EMCs for modeling. Based on this consideration, hydrocarbons were not modeled, but instead are addressed qualitatively.

Hydrocarbons are a broad class of compounds, most of which are non-toxic. Hydrocarbons are hydrophobic (low solubility in water), have the potential to volatilize, and most forms are biodegradable. A subset of hydrocarbons, PAHs can be toxic depending on the concentration levels, exposure history,

and sensitivity of the receptor organisms. Of particular concern are those PAH compounds associated with transportation-related sources.

Although the concentration of hydrocarbons in runoff is expected to increase slightly under post-development project conditions, due to the increase in roadways, driveways, parking areas and vehicle use, the project PDFs are expected to prevent appreciable increases in hydrocarbon concentrations from leaving the project site. Source control PDFs that address petroleum hydrocarbons include educational materials on used oil programs; carpooling and public transportation alternatives to driving; BMP maintenance; and street sweeping private streets. Additionally, the parking lot low impact/site design, source controls, treatment BMPs and vegetation and soils within the treatment control PDFs would adsorb the low levels of emulsified oils in stormwater runoff, preventing discharge of hydrocarbons and visible film in the discharge or the coating of objects in the receiving water.

The majority of PAHs in stormwater adsorb to the organic carbon fraction of particulates in the runoff, including soot carbon generated from vehicle exhaust. For example, a stormwater runoff study found that the dissolved-phase PAHs represented less than 11 percent of the total concentration of PAHs. (Marsalek, J., Watt, W.E., Anderson, B.C., and Jaskot, C., 1997. "Physical and Chemical Characteristics of Sediments from a Stormwater Management Pond." Water Quality Research Journal of Canada, 32(1), 89-100.) Consequently, the extended detention basins, bioretention areas, and vegetated swales proposed as PDFs, which are designed to treat pollutants through settling, filtration, and infiltration, would be effective in treating PAHs.

Los Angeles County conducted PAH analyses on 27 stormwater samples from a variety of land uses in the period 1994-2000. (Los Angeles County Department of Public Works, 2000. Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report.) For those land uses where sufficient samples were taken and were above detection levels to estimate statistics, the mean concentrations of individual PAH compounds ranged from 0.04 to 0.83 μg/L. The reported means were less than acute toxicity criteria available from the literature (Suter and Tsao, 1996). Moreover, the Los Angeles County data do not account for any treatment, whereas the treatment in the project's PDFs would result in some reduction in hydrocarbon concentrations, inclusive of PAHs. This makes it very unlikely that impacts would occur to the receiving water due to hydrocarbon loads or concentrations. On this basis, the effect of the project on petroleum hydrocarbon levels in the receiving waters post-development is considered less than significant.

Trash and Debris. Urban development tends to generate significant amounts of trash and debris. Trash refers to any human-derived materials including paper, plastics, metals, glass, and cloth. Debris is defined as any organic material transported by stormwater, including leaves, twigs, and grass clippings

(DLWC, 1996). Debris can be associated with the natural condition. Trash and debris can be characterized as material retained on a 5-mm mesh screen. It contributes to the degradation of receiving waters by imposing an oxygen demand, attracting pests, disturbing physical habitats, clogging storm drains and conveyance culverts, and mobilizing nutrients, pathogens, metals and other pollutants that may be attached to the surface.

Urbanization could significantly increase trash and debris loads if left unchecked. However, the project PDFs, including source control and treatment BMPs, would minimize the adverse impacts of trash and debris. Source controls such as street sweeping, public education, fines for littering and storm drain stenciling can be effective in reducing the amount of trash and debris that is available for mobilization during wet and dry weather events. Common area litter control would include a litter patrol, covered trash receptacles, emptying of trash receptacles in a timely fashion and noting trash violations by tenants/homeowners or businesses and reporting the violations to the owner/HOA for investigation. Catch basin inserts would be provided for commercial parking lots. The project's PDFs would remove or prevent the release of floating materials, including solids, liquids, foam, or scum, from runoff discharges and would prevent impacts on dissolved oxygen in the receiving water due to decomposing debris. Based on these considerations, trash and debris is not expected to significantly impact the receiving waters of the project.

Methylene Blue Activated Substances (MBAS). MBAS, which is related to the presence of detergents in runoff, may be incidentally associated with urban development due to commercial and/or residential vehicle washing or other outdoor washing activities. Surfactants disturb the surface tension, which affects insects and can affect gills in aquatic life.

The presence of soap in runoff from the project would be controlled through source control PDFs, including a public education program on residential and charity car washing, and the provision of a car wash pad connected to sanitary sewer in the multi-family residential areas. Other sources of MBAS, such as cross connections between sanitary and storm sewers, are unlikely given modern sanitary sewer installation methods and inspection and maintenance practices. Therefore, MBAS are not expected to significantly impact the receiving waters of the proposed project.

Cyanide. The information on cyanide levels in urban stormwater is relatively sparse. The incidence of detection of cyanide in urban stormwater is relatively low, except in some special cases. In the Nationwide Urban Runoff Project (NURP), cyanide was detected in runoff from four cities out of a total of 15 cities that participated in the monitoring program (U.S. EPA 1983). Overall, cyanide was detected in 23 percent of the urban runoff samples collected (16 out of a total of 71 samples), at concentrations ranging from 2 to 33 μg/L (Cole et al. 1984). Of the 71 samples, only 3 percent (i.e., 2) exceeded the

freshwater acute guideline of 22 µg/L (U.S. EPA 1983). The predominant sources of cyanides found in urban runoff samples were reported to be products of gasoline combustion and anti-caking ingredients in road salts used in colder climates (Cole et al. 1984), which is not an issue associated with the Project.

The detectable concentrations observed in the Santa Clara River at the mass emission station S29 (average of 10 µg/L) may be in part due to untreated urban stormwater runoff from the City of Santa Clarita. Another potential source is cyanide from burnt catchments. For example, cyanide concentrations in runoff obtained from an area that had been burned in a wildfire that occurred in Tennessee and North Carolina averaged 49 µg/L. (Barber, T.R., Lutes, C.C., Doorn, M.R.J., Fuchsman, P.C., Timmenga, H.J., and R.L. Crouch, 2003. Aquatic Ecological Risks Due to Cyanide Releases from Biomass Burning. Chemosphere 50:33, 343-348, January 2003.) Higher cyanide concentrations were reported in runoff from a wildfire that occurred in New Mexico, with an average value of 80 µg/L.

In addition to the expected relatively low level of cyanide in untreated stormwater, cyanide in runoff from the project would be readily removed by biological uptake, degradation by microorganisms, and by volatilization in the treatment PDFs, especially the dry extended detention basins. Therefore cyanide is not expected to significantly impact the receiving waters of the project.

(e) Summary for Pollutants of Concern

Runoff volumes and pollutant loads for most modeled constituents (with the exception of TSS loads) are predicted to increase for the post-development condition, primarily as a result of increased imperviousness and reduced soil infiltration capacity (a result of construction-related compaction). Concentrations of chloride, ammonia, and dissolved copper are predicted to increase, while concentrations of all other modeled constituents are predicted to decrease under proposed conditions when compared to existing conditions. Furthermore, modeled pollutant concentrations in runoff from developed areas with PDFs are predicted to be below all benchmark water quality objectives and criteria and TMDL wasteload allocations for the Santa Clara River and are addressed by a comprehensive low impact/site design, source control, and treatment control strategy, and compliance with MS4 Permit, Construction General Permit, and General De-Watering Permit requirements.

Concentrations of hydrocarbons are expected to increase, while concentrations of pathogens, pesticides and trash and debris may or may not increase under proposed conditions when compared to existing conditions. However, none of the qualitatively assessed constituents would significantly impact receiving waters due to the implementation of the project PDFs in compliance with the SUSMP requirements.

The project site design, source control, treatment control, and hydromodification control BMPs planned as PDFs meet or exceed the requirements of the MS4 Permit, including SUSMP requirements. Therefore potential impacts from the project on receiving water quality are expected to be less than significant.

(3) Post Development Operational Impacts to Groundwater

Discharge from the project's developed areas to groundwater would occur in three ways: (1) through general infiltration of irrigation water; (2) through incidental infiltration of urban runoff in the proposed treatment control PDFs after treatment; and (3) through infiltration of urban runoff, after treatment in the project PDFs, into the groundwater under the Santa Clara River, which is the primary recharge zone for groundwater in the Santa Clarita Valley. Groundwater quality would be fully protected through implementation of the project's low impact/site design, source control, and treatment control PDFs prior to discharge of project runoff to groundwater.

The pollutant of concern with respect to groundwater is nitrate-N plus nitrite-N. The Basin Plan groundwater quality objective for nitrate-nitrogen plus nitrite-nitrogen is 10 mg/L, which is more stringent than the objective for nitrate-nitrogen alone (10 mg/L) and for nitrite-nitrogen alone (1 mg/L). The predicted nitrate-nitrogen plus nitrite-nitrogen concentration in runoff after treatment in the project PDFs is 0.7 mg/L, which is well below the groundwater quality objective. Therefore, infiltration of post-development stormwater runoff would not cause significant adverse groundwater quality impacts.

Wastewater generated by the Mission Village project would be treated in the Newhall Ranch WRP. Treatment at the Newhall Ranch WRP would consist of screening, activated sludge secondary treatment with membrane bioreactors, nitrification/denitrification, ultraviolet disinfection, and partial reverse osmosis. Discharges from the Newhall Ranch WRP treatment facility are permitted by a NPDES Permit and WDRs issued by the RWQCB in October 2007 (LARWQCB, 2007). Treated effluent from the Newhall Ranch WRP would be used to supply distribution of recycled water throughout the Specific Plan area for irrigation of landscaping and other approved uses. The WRP permit contains effluent limitations that would control the amount of conventional, non-conventional, and toxic pollutants discharged to the receiving waters. These effluent limits are a combination of technology-based limits (per 40 CFR section 122.44(a)) and water quality-based limits (per 40 CFR section 122.44(d)). The effluent limitation contained in the Newhall Ranch WRP permit for nitrate-N plus nitrite-N is 5 mg/L, and the limitation for nitrite-N is 0.9 mg/L (average monthly). As the Basin Plan groundwater quality objective for nitrate-nitrogen plus nitrite-nitrogen is 10 mg/L or 1 mg/L for nitrite-nitrogen, the Newhall Ranch WRP irrigation water supply that would serve Mission Village would be well below the groundwater quality objectives. On this basis, infiltration of irrigation water would not cause significant adverse groundwater quality impacts.

For a discussion of impacts associated with perchlorate-contaminated groundwater, please see this EIR, **Section 4.8**, **Water Service**.

(4) Post Development Operational Impacts Associated with Pollutant Bioaccumulation

Certain pollutants have the potential to accumulate in ponded water, and/or in treatment BMP vegetation and soils, potentially increasing the risk of exposure to wildlife and the food chain. Factors that could affect the extent of potential bioaccumulation include the following:

- The bioavailability of the pollutant;
- Conditions in the soils (e.g., pH, acid-volatile sulfide concentration, organic content) that affect the form and bioavailability of the pollutant;
- The efficiency by which pollutants in the soils enter the plant community, the storage of these pollutants in plant tissues that are edible, and the utilization of the plants as a food source by animals;
- The type of habitats, organisms attracted to these habitats and their feeding habits; and
- BMP system design and maintenance.

The primary pollutants of concern with regard to bioaccumulation are mercury and selenium. However, as indicated by the water quality monitoring conducted by Los Angeles County at the Santa Clara River mass emission station S29 (LACDPW, 2005), selenium and mercury are not naturally present at levels of concern in this watershed. Since these pollutants would not be introduced by the project, bioaccumulation of selenium and mercury is not expected.

The potential for bioaccumulation impacts from the proposed bioretention and vegetated swale, and extended detention basin facilities would be minimal. Since the site is largely impervious, very little coarse solids and associated pollutants would likely be generated. The vegetation in the facilities would trap sediments and pollutants in the soils, which contain bacteria that metabolize and transform trace metals, therefore reducing the potential for these pollutants to enter the food chain. The facilities do not provide open water areas and are not likely to attract waterfowl.

Bioaccumulation of pollutants in the Santa Clara River is not of concern due to the low concentrations of pollutants, below the benchmark Basin Plan objectives and CTR criteria predicted in the treated runoff. Also, sediments in the Santa Clara River are transported downstream in the wet season by storm flows and, therefore, do not accumulate.

On this basis, the potential for bioaccumulation and adverse effects on waterfowl and other species would be less than significant.

(5) Post Development Operational Impacts Associated with Dry Weather Flows

While there are no specific requirements in the MS4 Permit and the SUSMP requirements to treat dry-weather discharges from the project area, pollutants in dry weather flows also could be of concern because dry weather flow conditions occur throughout a large majority of the year, and because some of the TMDLs in downstream reaches of the Santa Clara River are applicable for dry weather conditions (e.g., nutrients and chloride).

Dry weather flows are typically low in sediment because the flows are relatively low, and coarse suspended sediment tends to settle out or is filtered out by vegetation. As a consequence, pollutants that tend to be associated with suspended solids (e.g., phosphorus, some bacteria, some trace metals and some pesticides) are typically found in very low concentrations in dry weather flows. The focus of the following discussion is therefore on constituents that tend to be dissolved, e.g., nitrate and trace metals, or constituents that are so small as to be effectively transported (e.g., pathogens and oil and grease).

In order to minimize the potential generation and transport of dissolved constituents, landscaping in public and common areas would utilize drought tolerant vegetation that requires little watering and chemical application. Landscape watering in common areas, commercial areas, multi-family residential areas, and parks would use efficient irrigation technology with evapotranspiration sensors to minimize excess watering.

In addition, educational programs and distribution of materials (source controls) would emphasize appropriate car washing locations (at commercial car washing facilities or the car pad in the multi-family residential areas) and techniques (minimizing usage of soap and water), encourage low impact landscaping and appropriate watering techniques, appropriate swimming pool dechlorination and discharge procedures, and discourage driveway and sidewalk washing. Illegal dumping would be discouraged by stenciling storm drain inlets and posting signs that illustrate the connection between the storm drain system and the receiving waters and natural systems downstream.

The bioretention areas, vegetated swales, and the extended detention basins would provide treatment for and infiltrate dry weather flows and small storm events. Water cleansing is a natural function of vegetation, offering a range of treatment mechanisms. Sedimentation of particulates is the major removal mechanism. However, the performance is enhanced as plant materials allow pollutants to come in contact with vegetation and soils containing bacteria that metabolize and transform pollutants, especially nutrients and trace metals. Plants also take up nutrients in their root system. Some pathogens would be removed through ultraviolet light degradation. Any oil and grease would be effectively adsorbed by the vegetation and soil within the low flow wetland vegetation. Dry weather flows and small storm flows would infiltrate into the bottom of the basin after receiving treatment in the low flow wetland vegetation.

The treatment control PDFs would infiltrate or evapotranspire all expected dry weather runoff from the project. It is expected that no dry weather discharge would occur to the Santa Clara River from the project. Based on source control PDFs reducing the amount of dry weather runoff and treatment control PDFs capturing and treating the dry weather runoff that does occur, the impact from dry weather flows is considered less than significant.

(6) Post Development Operational Impacts Associated with Hydromodification

Development typically increases impervious surfaces on formerly undeveloped (or less developed) landscapes, reducing the capture and infiltration of rainfall. The result is that, as a watershed develops, a larger percentage of rainfall becomes runoff during any given storm. In addition, runoff reaches the stream channel more efficiently due to the development of storm drain systems, so that, if no controls are implemented, the peak discharge rates for rainfall events and floods are higher for an equivalent event than they were prior to development. Further, the introduction of irrigation and other dry weather flows can change the seasonality of runoff reaching natural receiving waters. These changes, in turn, affect the stability and habitat of natural drainages, including the physical and biological character of these drainages. This process is termed "hydromodification" (SCCWRP, 2005).

All flows from those areas of the project that would be developed with impervious surface with potential for altering drainage patterns would be discharged directly to the Santa Clara River. There would be no post-development stormwater flows delivered to Lion Canyon from the project. Therefore, this analysis addresses the potential for hydromodification impacts to the Santa Clara River as a result of the proposed project.

The physical alteration of natural drainages, such as bank protection, energy dissipaters, and bridge abutments, are not impacts created by changes in runoff volume, duration, or flow associated with development. Instead, these types of alterations are physical alterations to the streambed and bank, with associated effects on stream habitat and species. These types of effects are analyzed in **Section 4.3, Biota**, and **Section 4.21, Floodplain Modification**, of this EIR.

(a) Wet Weather Flows

The project proposes development that would create impervious surface within approximately 50 percent, or 635 acres of the 1,261.8-acre total study area. The size of the project in comparison to both the 1,618 square mile total watershed area and the expected total impervious area in the watershed in the existing condition and at buildout is small. It is estimated, based on the land use data provided by LACDPW, that the proposed project would comprise 1.1 percent of the total impervious area in the watershed encompassing the project location at ultimate buildout for the watershed.

A series of progressive hydromodification control measures would be used throughout the project site to prevent and control hydromodification impacts to the Santa Clara River:

- Avoid, to the extent possible, the need to mitigate for hydromodification impacts by preserving natural hydrologic conditions and protecting sensitive hydrologic features, sediment sources, and sensitive habitats.
- Minimize the effects of development through site design practices (e.g., reducing connected impervious surfaces and provided river buffer areas) and implementation of stormwater volume-reducing BMPs (project-based hydromodification source control).
- Mitigate hydromodification impacts in-stream using geomorphically based channel design measures (e.g., buried soil cement bank stabilization).

Project-based Hydrologic Source Control. Disconnecting impervious areas from the drainage network and adjacent impervious areas is a key approach to protecting channel stability. Several hydrologic source controls would be included in the project that would limit impervious area and disconnect imperviousness:

Low Impact/Site Design. Low impact/site design PDFs would help to reduce the increase in runoff volume. These PDFs include the clustering of Specific Plan development into village areas, including the Mission Village, the preservation of 70 percent of the Specific Plan area in open space, and 627 acres (50 percent) of the project in natural river channel, open space, and parks; use of native and/or non-native/non-invasive and drought tolerant plants in landscaped areas; and the use of efficient irrigation systems in common area landscaped areas. These measures would help to protect the stability of the Santa Clara River, and avoid and minimize direct impacts to the River.

Treatment Controls. The project's treatment control BMPs would also serve as hydromodification source control BMPs. Vegetated swales, bioretention areas, and extended detention basins can provide volume reduction on the order of 20 to 30 percent through infiltration and evaporation. Collectively these vegetated treatment facilities are expected to provide significant reduction in wet weather runoff. In addition, these facilities would also receive and eliminate dry weather flows.

The increase in impervious surface within the project area is predicted to increase the average annual stormwater runoff volume from the project area by approximately 444 acre-feet per year, after accounting for the estimated volume reductions in the proposed treatment control PDFs. Using conservative values for volume reduction, the treatment control PDFs are estimated to reduce the increase in average annual stormwater runoff volume by approximately 97 acre-feet per year, which is a 14 percent reduction of the predicted average post-development stormwater runoff volume without the treatment control PDFs.

Geomorphically Referenced Channel Design. The hydromodification management approach for the Santa Clara River would incorporate "geomorphically referenced river engineering" as described in SCCWRP Technical Report 450 (SCCWRP, 2005a). The goal of this approach is to preserve the appearance of the natural stream channel function to the maximum extent practicable, while maintaining stability in stream channel morphology. The project's development footprint would allow for the greatest freedom possible for "natural stream channel" activity. This includes establishing buffer zones and maintaining setbacks to allow for channel movement and adjustment to changes in energy associated with runoff. The engineered structural elements that would be implemented where needed for the Santa Clara River include energy dissipation and bank stabilization.

Energy Dissipation. Energy dissipation at storm drain outfalls provides erosion protection in areas where discharges have the potential to cause localized stream erosion. Erosion protection would be provided at all storm drain outlets to the Santa Clara River.

Bank Stabilization. The project would include buried soil cement along the Santa Clara River adjacent to and downstream of the project site. In total, approximately 2,900 linear feet of bank stabilization would be constructed as part of the project where necessary to protect against flooding and erosion pursuant to Federal Emergency Management Administration (FEMA) and LACDPW requirements. In total, approximately 1,700 linear feet on the south bank fronting the project site and 1,200 linear feet downstream of the project on the north bank, east of the WRP (PACE, 2007). The alignment was selected so that bank protection along the river would generally be excavated from non-jurisdictional upland areas adjacent to the river. Installing bank protection in non-jurisdictional areas reduces and/or avoids impacts to the river and has the potential to create new riverbed areas, allows for channel movement and adjustment to changes in energy associated with runoff, and increases riparian habitat.

Turf Reinforcement Mat (TRM) or similar bank stability protection would be provided by installing approximately 16,000 linear feet of TRMs along the southern edge of the utility corridor downstream or west of the tract map site. TRMs are designed to reinforce vegetation at the root and stem allowing vegetation to be used as erosion control in areas where flow conditions exceed the ability of natural vegetation to remain rooted. This includes applications with high slopes or stream banks where grouted riprap and concrete channels are aesthetically undesirable.

In summary, although project runoff volumes, flow rates, and durations would increase, potential impacts of hydromodification (i.e., the potential to cause erosion, siltation, or channel instability) would be minimized by the project PDFs. The project's site design PDFs, and volume reductions in treatment controls PDFs would minimize increases in runoff volume from the development area, the preferred method for controlling hydromodification impacts from new development. (SCCWRP, 2005a. Effect of

Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. Technical Report 450. April 2005.)

Potential in-stream impacts of increased volumes, rates, and flow durations would be managed and mitigated with energy dissipaters at the discharge points to the Santa Clara River and the River banks would be protected with vegetated buried bank stabilization primarily in non-jurisdictional upland areas adjacent to the river. This type of stabilization technique is the preferred approach for bank stabilization. (SCCWRP, 2005a. Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. Technical Report 450. April 2005.)

For these reasons, the wet weather hydromodification impacts of the project on the Santa Clara River would be less than significant.

(b) Dry Weather Runoff

In order to quantitatively address dry weather impacts, a dry weather water balance was performed. The quantity of dry weather flows from urban sources is variable and not easily quantified. Information available from the Irvine Ranch Water District suggests an average dry weather flow from urban areas of 2.9×10^{-4} cfs per urbanized acre (Irvine Ranch Water District [IRWD], 2003). Dry weather flow estimates in Santa Monica, used to design a dry weather flow recycling facility, indicate a range of dry weather flows between 8.3×10^{-5} to 1.8×10^{-4} cfs per urbanized acre (Antich et al., 2003).

For purposes of conservatively estimating the impacts of dry weather flows, a dry weather discharge of 3.0×10^{-4} cfs per urbanized acre was used in this report. **Table 4.22-35, Predicted Dry Weather Water Balance**, presents a monthly dry weather flow balance for the proposed project. Water quality basins were assumed to infiltrate at only 0.15 in/hr. Infiltration volume was calculated as the BMP bottom area times the infiltration rate. Evapotranspiration rates were conservatively assumed to be 75 percent of reference rates from CIMIS Zone 14, in which the project is located. Finally, it was assumed that open space in the project area would result in no dry weather runoff.

It is predicted that all dry weather flows would be infiltrated or removed by evapotranspiration in the treatment control PDFs, which also provide hydrologic source control. As a result, no change in seasonality of flows is anticipated to result from development.

Based on comprehensive site planning, source control, and treatment control strategy and the above water balance analysis, the potential for dry weather flows to result in hydromodification or associated habitat or water quality impacts is considered less than significant, as shown in **Table 4.22-34**.

Table 4.22-35
Predicted Dry Weather Water Balance

Month	Dry Weather Flow (acre-feet)[1]	ETo (acre-feet)[2]	Infiltration (acre-feet)[3]	Outflow (acre-feet)
January	18.4	0.8	17.6	0.0
February	16.6	1.2	15.5	0.0
March	18.4	1.9	16.5	0.0
April	17.8	2.7	15.2	0.0
May	18.4	3.6	14.9	0.0
June	17.8	4.1	13.8	0.0
July	18.4	4.5	13.9	0.0
August	18.4	4.0	14.4	0.0
September	17.8	3.0	14.9	0.0
October	18.4	2.1	16.3	0.0
November	17.8	1.1	16.7	0.0
December	18.4	0.8	17.6	0.0

Source: Geosyntec, 2010.

[1] *Based on dry weather flow of 0.0003 cfs/acre from a range of researched values.*

[2] *60% of Reference ETo from CIMIS Zone 14.*

[3] *Equal to dry weather runoff up to maximum of 0.1 in/hr for bioretention and 0.0515 in/hr for water quality basins.*

(7) Groundwater Recharge

In a groundwater basin, the effect of urbanization on recharge to underlying groundwater is dependent on land uses, water uses, vegetative cover, and geologic conditions. Groundwater recharge from undeveloped lands occurs from precipitation alone, whereas areas that are developed for agricultural or urban land uses receive both precipitation and irrigation of vegetative cover. In an urban area, groundwater recharge occurs directly beneath irrigated lands and in drainages whose bottoms are not paved or cemented. A memorandum prepared by CH2MHill entitled, "*Effect of Urbanization on Aquifer Recharge in the Santa Clarita Valley*" discusses the general effects of urbanization on groundwater recharge and the specific effects in the Santa Clarita Valley (see **Appendix 4.3**).

Currently, the site is partially irrigated agricultural land. As a result, in the existing condition, recharge occurs within the project site from irrigation and precipitation. On one hand, development of the site would introduce impervious surface over approximately 48 percent of the project site, which would reduce recharge. In addition, development of agricultural lands would eliminate irrigation as a source of recharge. On the other hand, although most treated water would be reused, development of the site would increase runoff volume discharged after treatment to the Santa Clara River, whose channel is predominantly natural and consists of vegetation and coarse-grained sediments (rather than concrete).

The porous nature of the sands and gravels forming the streambed would allow for significant infiltration to occur to the underlying groundwater. Also, the project would introduce landscaping, irrigation, and PDFs designed to infiltrate runoff. These project features would increase groundwater recharge from the project. On balance, it is unlikely that the project would result in a significant change in groundwater recharge in the project vicinity. Based on the above discussion, the project's impact on groundwater recharge is considered less than significant.

Please see **Section 4.8**, **Water Service**, of this EIR for further information regarding the groundwater basin and recharge.

8. PROJECT MITIGATION MEASURES

Although the proposed project may result in potential impacts absent mitigation, the County already has imposed mitigation measures required to be implemented as part of the approved Newhall Ranch Specific Plan. These mitigation measures, as they relate to water quality, are found in the previously certified Specific Plan Program EIR and the adopted Mitigation Monitoring Plan (May 27, 2003). The project applicant has committed to implementing the applicable mitigation measures from the Specific Plan to ensure that future development of the project site would not adversely impact adjacent properties.

a. Mitigation Measures Required by the Adopted Newhall Ranch Specific Plan, as they Relate to the Mission Village Project

The mitigation measures set forth below were adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 27, 2003). All of the mitigation measures are applicable to the Mission Village project due to its geographic location and nature of the proposed improvements. The applicable mitigation measures would be implemented to mitigate the potentially significant impacts associated with the proposed project. These measures are preceded by "SP," which stands for Specific Plan.

SP 4.2-1 All on- and off-site flood control improvements necessary to serve the NRSP are to be constructed to the satisfaction of the County of Los Angeles Department of Public Works Flood Control Division.

SP 4.2-2 All necessary permits or letters of exemption from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Game, and the Regional Water Quality Control Board for Specific Plan-related development are to be obtained prior to construction of drainage improvements. The performance criteria to be used in conjunction with 1603 agreements and/or 404 permits are described in [NRSP Program EIR] Section 4.6, Biological Resources, Mitigation Measures 4.6-1 through 4.6-10 (restoration) and 4.6-11 through 4.6-16 (enhancement).

SP 4.2-3 All necessary streambed agreement(s) are to be obtained from the California Department of Fish and Game wherever grading activities alter the flow of streams under CDFG jurisdiction. The performance criteria to be used in conjunction with 1603 agreements and/or 404 permits are described in [NRSP Program EIR] Section 4.6, Biological Resources, Mitigation Measures 4.6-1 through 4.6-10 (restoration) and 4.6-11 through 4.6-16 (enhancement).

SP 4.2-4 Conditional Letters of Map Revision (CLOMR) relative to adjustments to the 100-year FIA flood plain are to be obtained by the applicant after the proposed drainage facilities are constructed.

SP 4.2-5 Prior to the approval and recordation of each subdivision map, a Hydrology Plan, Drainage Plan, and Grading Plan (including an Erosion Control Plan if required) for each subdivision must be prepared by the applicant of the subdivision map to ensure that no significant erosion, sedimentation, or flooding impacts would occur during or after site development. These plans shall be prepared to the satisfaction of the County of Los Angeles Department of Public Works.

SP 4.2-6 Install permanent erosion control measures, such as desilting and debris basins, drainage swales, slope drains, storm drain inlet/outlet protection, and sediment traps in order to prevent sediment and debris from the upper reaches of the drainage areas which occur on the Newhall Ranch site from entering storm drainage improvements. These erosion control measures shall be installed to the satisfaction of the County of Los Angeles Department of Public Works.

SP 4.2-7 The applicant for any subdivision map permitting construction shall satisfy all applicable requirements of the NPDES Program in effect in Los Angeles County to the satisfaction of the County of Los Angeles Department of Public Works. These requirements currently include preparation of an Urban Storm Water Mitigation Plan (USWMP) containing design features and BMPs appropriate and applicable to the subdivision. In addition, the requirements currently include preparation of an SWPPP containing design features and BMPs appropriate and applicable to the subdivision. The County of Los Angeles Department of Public Works shall monitor compliance with those NPDES requirements.

SP 4.2-8 The applicant for any subdivision map permitting construction shall comply with all appropriate requirements of the County of Los Angeles Standard Urban Stormwater Mitigation Plan (SUSMP) requirements, and comply with the State Water Resources Control Board (SWRCB) issued General Permit for Construction Activity Storm Water (SWRCB Order 99-08-DWQ), as it may be amended from time to time or replaced by other applicable stormwater permits.

b. Additional Mitigation Measures Proposed by this EIR

In addition to the mitigation measures adopted in connection with the Specific Plan, identified above, the following project-specific mitigation measures are proposed to ensure that water quality impacts are less than significant. These measures are preceded by "MV," which stands for Mission Village.

MV 4.22-1 Prior to issuance of a building permit, and as a part of the design level hydrology study and facilities plan, the project applicant shall submit to LACDPW, for review and approval, drainage plans showing the incorporation into the project of those water quality and hydrologic control project design features (i.e., the post-development water quality and hydrologic control BMPs)(the "PDFs") identified in this **Section 4.22**, which PDFs shall be designed to meet the standards set forth in this **Section 4.22**, including the sizing, capacity, and volume reduction performance standards set forth herein.

MV 4.22-2 Prior to issuance of a building permit, and as a part of the design level hydrology study and facilities plan, the project applicant shall submit to planning staff for review a Landscape and Integrated Pest Management Plan, identified in this **Section 4.22**, which shall be designed to meet the standards set forth as follows.

A Landscape and Integrated Pest Management Plan shall be developed and implemented for common area landscaping within the Mission Village project that addresses integrated pest management (IPM) and pesticide and fertilizer application guidelines. IPM is a strategy that focuses on long-term prevention or suppression of pest problems (i.e., insects, diseases and weeds) through a combination of techniques including: using pest-resistant plants; biological controls; cultural practices; habitat modification; and the judicious use of pesticides according to treatment thresholds, when monitoring indicates pesticides are needed because pest populations exceed established thresholds. The Landscape and Integrated Pest Management Plan will address the following components:

1. Pest identification.

2. Practices to prevent pest incidence and reduce pest buildup.

3. Monitoring to examine vegetation and surrounding areas for pests to evaluate trends and to identify when controls are needed.

4. Establishment of action thresholds that trigger control actions.

5. Pest control methods - cultural, mechanical, environmental, biological, and appropriate pesticides.

6. Pesticide management - safety (e.g., Material Safety Data Sheets, precautionary statements, protective equipment); regulatory requirements; spill mitigation; groundwater and surface water protection measures associated with pesticide use; and pesticide applicator certifications, licenses, and training (i.e., all pesticide applicators must be certified by the California Department of Pesticide Regulation).

7. Fertilizer management - soil assessment, fertilizer types, application methods, and storage and handling.

9. CUMULATIVE IMPACTS

a. Surface Water Quality

This section defines the geographic area of potential impact for the cumulative impacts analysis, and evaluates impacts from probable future projects together with the incremental effects of the proposed project to determine effects on water quality and hydromodification within this geographic area. The model results presented below are used in addition to consideration of the other projects reflected in adopted plans and projections for areas tributary to Santa Clara River Reach 5 to get a better overall assessment of cumulative water quality effects on the Santa Clara River.

The geographic area for evaluating cumulative impacts includes the unincorporated area of Los Angeles County west of The Old Road to the Ventura County line. This geographic area includes the Newhall Ranch subregion, the Entrada subregion, the Legacy Village subregion, and the Valencia Commerce Center, as well as existing development in the Six Flags Magic Mountain area and the existing Valencia WRP (see **Figure 4.22-1**).

The proposed Entrada project site is located directly east of the Specific Plan area and west of I-5. Entrada is bounded by the Santa Clara River to the east and north, the Mission Village project within the Specific Plan area to the west, and the Westridge project to the south. The existing Six Flags Magic Mountain Theme Park is located adjacent to the Specific Plan and Entrada, but is not included in the project site. The Entrada project proposes development of single- and multi-family residential units, commercial/retail uses, and a hotel on 813 acres. The project also includes private recreational facilities and various trail and road improvements.

The proposed Legacy Village project is located south of the Specific Plan area, bordering the Mission Village and Homestead projects, and north of Stevenson Ranch. The 1,750-acre Legacy project proposes construction of residential areas and commercial space. Over 1,000 acres of open space will be incorporated into the Legacy Village project, including 50 acres of parks and trails. The above noted sites can be found on **Figure 1.0-3, Project Boundary/Environmental Setting**.

The remaining unbuilt portions of the Valencia Commerce Center are located approximately 0.5 mile upstream of the confluence of Castaic Creek and the Santa Clara River. Approximately 4 million square feet of building floor area will be developed over the next 5 to 10 years. Additionally, bank stabilization improvements to Castaic Creek and Hasley Creek would be constructed in conjunction with these remaining phases of the Commerce Center.

Urban runoff from the Specific Plan, Entrada, Legacy Village, and the Valencia Commerce Center project areas would discharge to the Santa Clara River after treatment. Each of the projects would utilize vegetated swales, bioretention areas, and/or dry extended detention basins, as well as a full suite of site

design and source control BMPs, to address pollutants of concern in stormwater runoff and dry weather discharges from the proposed projects. Urban runoff from the Magic Mountain Theme Park and the Valencia WRP currently drains to the Santa Clara River and would continue to do so in proposed conditions without any anticipated change to stormwater management controls.

The combined effect on modeled pollutant loads and concentrations of the Specific Plan, Entrada, Legacy Village, and the Valencia Commerce Center proposed projects and the existing Magic Mountain Theme Park and Valencia WRP are summarized in **Tables 4.22-35** and **4.22-36,** below, respectively. (Note that only stormwater impacts from runoff from the Valencia WRP site are included in modeled loads and concentrations; wastewater discharges are not included.) As shown in **Table 4.22-36, Predicted Average Annual Combined Runoff Volume and Pollutant Loads for the NRSP, Legacy Village, Entrada, and Valencia Commerce Center Projects**, when considered cumulatively, runoff volumes and loads of TKN, total nitrogen, total phosphorus, metals, and chloride are predicted to increase, while pollutant loads are expected to decrease for TSS and nitrate-N + nitrite-N. Pollutant concentrations from the combined projects are predicted to decrease for all modeled parameters (**Table 4.22-37**). Increases in pollutant loadings are not anticipated to be significant based on the fact that predicted pollutant concentrations are well below benchmark water quality standards and TMDL wasteload allocations and are primarily within the range of observed concentrations in Santa Clara River Reach 5 (**Table 4.22-38**).

Table 4.22-36
Predicted Average Annual Combined Runoff Volume and Pollutant Loads for the NRSP, Legacy Village, Entrada, and Valencia Commerce Center Projects

Modeled Parameter	Units	Development Condition		Change
		Existing	Developed w/ PDFs	
Volume	acre-ft	1,245	3,968	2,723
Total Suspended Solids	tons	483	302	-181
Nitrate-N + Nitrite-N	tons	5.4	3.3	-2.1
Total Kjeldahl Nitrogen	tons	5.2	9.6	4.4
Total Nitrogen	tons	10.6	12.9	2.3
Total Phosphorus	tons	1.3	1.5	0.2
Total Aluminum	lbs	4,030	7,396	3,366
Dissolved Aluminum	lbs	732	1,508	776
Dissolved Copper	lbs	39	99	60
Total Lead	lbs	37	77	40
Dissolved Zinc	lbs	477	670	193
Chloride	tons	44	93	49

Source: Geosyntec, 2010.

As discussed above, the anticipated quality of effluent expected from the Mission Village would not contribute concentrations of pollutants of concern that would be expected to cause or contribute to a violation of the water quality standards in the project's receiving waters. Therefore, the project's incremental effects on surface water quality are not expected to be significant.

The Mission Village project's surface runoff water quality, after PDFs, both during construction and post-development, is predicted to comply with adopted regulatory requirements that are designed by the RWQCB to assure that regional development does not adversely affect water quality, including MS4 Permit and SUSMP requirements; Construction General Permit requirements; General Dewatering Permit requirements; and benchmark Basin Plan water quality objectives, CTR criteria, and TMDLs. Any future urban development occurring in the Santa Clara River watershed also must comply with these requirements. By extrapolating the results of the direct and cumulative impact analysis modeling it can be predicted that analysis of other proposed development combined with existing conditions would have similar water quality results. Therefore, cumulative impacts on surface water quality of receiving waters from the project and future urban development in the Santa Clara River Watershed are addressed through compliance with the MS4 Permit and SUSMP requirements; Construction General Permit requirements; General Dewatering Permit requirements; and benchmark Basin Plan water quality objectives, CTR criteria, and TMDLs, which are intended to be protective of beneficial uses of the receiving waters. Based on compliance with these requirements designed to protect beneficial uses, cumulative water quality impacts would be mitigated to a level that is less than significant.

Table 4.22-37
Predicted Average Annual Combined Pollutant Concentrations for the Newhall Ranch Specific Plan, Legacy Village, Entrada, and Valencia Commerce Center Projects

Modeled Parameter	Units	Development Condition		Change
		Existing	Developed w/ PDFs	
Total Suspended Solids	mg/L	285	56	-229
Nitrate-N + Nitrite-N	mg/L	3.2	0.6	-2.6
Total Kjeldahl Nitrogen	mg/L	3.1	1.8	-1.3
Total Nitrogen	mg/L	6.3	2.4	-3.9
Total Phosphorus	mg/L	0.8	0.3	-0.5
Total Aluminum	ug/L	1,191	685	-506
Dissolved Aluminum	ug/L	216	140	-76
Dissolved Copper	ug/L	12	9	-3
Total Lead	ug/L	11	7	-4
Dissolved Zinc	ug/L	141	62	-79
Chloride	mg/L	26	17	-9

Source: Geosyntec, 2010.

Table 4.22-38
Comparison of Predicted Pollutant Concentrations for the Newhall Ranch Specific Plan, Entrada, Legacy Village, and Commerce Center Projects with Water Quality Criteria and Observed Concentrations in Santa Clara River Reach 5

Modeled Parameter	Units	Predicted Average Annual Concentration	TMDL/ LA Basin Plan Water Quality Objectives	California Toxics Rule Criteria[1]	Wasteload Allocations for MS4 Discharges into the Santa Clara River Reach 5	Range of Observed[2] Concentrations in Santa Clara River Reach 5
Total Suspended Solids	mg/L	35	Water shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses.	NA	NA	32–51,200
Nitrate-N + Nitrite-N	mg/L	0.18	5	NA	6.8[3]	0.2–4.0
Total Ammonia	mg/L	1.0	2.0[4]	NA	1.75[4]	0.02–1.4
Total Nitrogen	mg/L	0.30	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.	NA	NA	0.6–10.4
Total Phosphorus	mg/L	2.9		NA	NA	0.18–1.8
Dissolved Copper	µg/L	11	NA	32	NA	3.3–22.6
Total Lead	µg/L	5	NA	260	NA	1.1–95
Dissolved Zinc	µg/L	81	NA	250	NA	3.0–37
Total Aluminum	µg/L	663	NA	750	NA	131–19,650
Chloride	mg/L	21	100	NA	100	2.6–290[5]

Source: Geosyntec, 2010.

[1] *Hardness = 250 mg/L, based on minimum observed value at USGS Station 11108500. Lead criteria is for total recoverable lead. NAWQC aluminum criteria for pH 6.5 – 9.0.*

[2] *Range of concentrations observed in the Santa Clara River during wet weather (see Section 2.3.1 of* ***Appendix 4.22****).*

[3] *30-day average.*

[4] *30-day average in Reach 5 below Valencia.*

[5] *This value was observed in 1965.*

NA – not applicable

b. Groundwater Quality

As discussed above, the anticipated quality of runoff discharges from the project's developed areas and irrigation to groundwater would not contribute loads or concentrations of pollutants of concern that would be expected to cause or contribute to a violation of the groundwater quality standards. By extrapolating these results to existing and proposed development throughout the watershed, and based on a review of adapted plans and projections, it is concluded that no adverse cumulative effects would occur to groundwaters. Therefore, the project's incremental effects on groundwater quality are not expected to be significant.

The project's discharges to groundwater, after PDFs, both during construction and post-development would comply with adopted regulatory requirements that are designed by the RWQCB to assure that regional development does not adversely affect water quality, including MS4 Permit and SUSMP requirements; Construction General Permit requirements; General Dewatering Permit requirements; and benchmark Basin Plan groundwater quality objectives. Any future urban development occurring in the Santa Clara River watershed must also comply with these requirements. Therefore, cumulative impacts on groundwater quality from the proposed project and future urban development in the Santa Clara Watershed are addressed through compliance with the MS4 Permit and SUSMP requirements, Construction General Permit requirements, General Dewatering Permit requirements, and benchmark Basin Plan groundwater quality objectives, which are intended to be protective of beneficial uses of the groundwater. Based on compliance with these requirements designed to protect beneficial uses, cumulative groundwater quality impacts would be mitigated to a level that is less than significant.

c. Groundwater Recharge

Increased urbanization in the Santa Clarita Valley has resulted in the irrigation of previously undeveloped lands. The effect of irrigation is to maintain higher soil moisture levels during the summer than would exist if no irrigation were occurring. Consequently, a greater percentage of the fall/winter precipitation recharges groundwater beneath irrigated land parcels than beneath undeveloped land parcels. In addition, urbanization in the Santa Clarita Valley has occurred in part because of the importation of State Water Project (SWP) water, which began in 1980. SWP water use has increased steadily, reaching nearly 44,500 acre-feet (af) in 2003. Two-thirds of this water is used outdoors, and a portion of this water eventually infiltrates to groundwater. The other one-third is used indoors and is subsequently routed to local WRPs and then to the Santa Clara River (after treatment-unless recycled). A portion of this water flows downstream out of the basin, and a portion infiltrates to groundwater.

Records show that groundwater levels and the amount of groundwater in storage were similar in both the late 1990s and the early 1980s, despite a significant increase in the urbanized area during these two

decades. This long-term stability of groundwater levels is attributed in part to the significant volume of natural recharge that occurs in the streambeds, which do not contain paved, urban land areas. On a long-term historical basis, groundwater pumping volumes have not increased due to urbanization, compared with pumping volumes during the 1950s and 1960s when water was used primarily for agriculture. Also, the importation of SWP water is another process that contributes to recharge in the Valley. In summary, urbanization has been accompanied by long-term stability in pumping and groundwater levels, plus the addition of imported SWP water to the Valley, which together have not reduced recharge to groundwater, nor depleted the amount of groundwater that is in storage within the Valley.

Based on the above discussion, the cumulative impact on groundwater recharge is considered less than significant.

d. Hydromodification

As identified in the MS4 Permit, the increased volume, increased velocity, and discharge duration of stormwater runoff from the cumulative existing and future developed areas in watersheds of natural drainages, including the Santa Clara River, has the potential to accelerate downstream erosion and impair stream habitat. Given the very large size of the Santa Clara River watershed, the contribution of the project to the cumulative hydromodification impacts to the Santa Clara River is difficult to assess quantitatively. Therefore, a qualitative assessment that references total predicted development per adopted General Plans and projections for the Santa Clara River watershed is provided below.

Effect of Watershed Impervious Area. The limited hydromodification impact research to date has focused on empirical evidence of channel failures in relationship to directly connected impervious area (DCIA) or total impervious area. However, more recent research has established the importance of the size of watershed, channel slope and materials, and climatic and precipitation patterns. (Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. Technical Report 450. April 2005.) Impervious area that drains directly to a storm drain system and then to the receiving water is considered "directly connected," whereas impervious area that drains through vegetation or to infiltration facilities is considered "disconnected."

Booth and Jackson (1997) reported finding a correlation between loss of channel stability and increases in DCIA. In Washington State, streams displayed the onset of degradation when the DCIA increases to 10 percent or more. Even a lower imperviousness of 5 percent was found to cause significant degradation in sensitive watersheds. (Booth, D.B., and Jackson C.R. 1997 Urbanization of Aquatic Systems: Degradation Thresholds, Stormwater Detection, and the Limits of Mitigation. Journal of the American Water Resources Association, volume 33 (5), page 1077-1090.) The Center for Watershed Protection described the impacts of urbanization on stream channels and established thresholds based on total

imperviousness within the tributary drainage area. It stated "a threshold for urban stream stability exists at about 10 percent imperviousness." It further stated that a "sharp threshold in habitat quality exists at approximately 10 percent to 15 percent imperviousness." These studies, however, addressed changes in a very different climatic region than Southern California.

Geosyntec's work in the San Francisco Bay area's Santa Clara Valley also evaluated the relationship between imperviousness and stream channel degradation in an area that had predominately directly connected impervious areas. (Geosyntec Consultants, 2004. Hydromodification Management Plan, Santa Clara Valley Urban Runoff Pollution Prevention Program.) Geosyntec found similar results to those published by Booth and Schuler, where channel erosion was observed at approximately 6 to 9 percent imperviousness for two separate watershed systems. More recent studies conducted by Geosyntec in this same watershed area showed that levels as low as 2 to 3 percent total imperviousness could lead to stream channel degradation, depending on channel characteristics. This region also has different climatic characteristics than Southern California.

Although physical degradation of stream channels in semi-arid climates of California may be detectable when watershed imperviousness is between 3 and 5 percent, not all streams would respond in the same manner. (SCCRWP, 2005b. Managing Runoff to Protect Natural Streams: The Latest Developments on Investigation and Management of Hydromodification in California. Technical Report 475. December 2005.) Management strategies need to account for differences in stream type, stage of channel adjustment, current and expected amount of basin imperviousness, and existing or planned hydromodification control strategies.

The absolute measure of watershed imperviousness that could cause stream instability in the Santa Clara River depends on many factors, including watershed area, land cover, and soil type; development impervious area and connectedness; reduced sediment yield; longitudinal slope of the river; channel geometry; and local boundary materials, such as bed and bank material properties and vegetation characteristics. Based on land use data provided by the County of Los Angeles, the estimated cumulative level of percent impervious area at buildout in the Santa Clara River watershed upstream from the Specific Plan area is 9 percent.

Effect of Catchment Drainage Area. The SCCWRP found signs of hydromodification impacts in Southern California streams when watershed percent imperviousness was around 2 to 3 percent for streams with a catchment drainage area of less than 5 mi^2. (SCCWRP, 2005a. Effect of Increases in Peak Flows and Imperviousness on the Morphology of Southern California Streams. Technical Report 450. April 2005.) Recognizing that their findings were based on the type and size of catchments that were measured, the researchers in the SCCWRP study attempted to develop a framework by which their results could be

extended to other stream types. They developed a classification system based on watershed characteristics, stream channel characteristics (including level of vegetative development), and stream channel resistance, and suggested these features could be important in selecting management strategies and approaches to control hydromodification impacts. The Level 1 classification is based on watershed characteristics that include the size, shape, and topography of the watershed.

The catchment drainage area (CDA) is stated to be the most obvious differentiator among watersheds, as this is likely to have the greatest effect on runoff. The SCCWRP study focused on small watershed (<5 mi^2); whereas, the CDA of the Santa Clara River at the Los Angeles County line, near the western edge of the Specific Plan area is about 640 mi^2. Based on the differences in CDA, the SCCWRP findings with respect to CDA would not be applicable to the Santa Clara River. Information in the SCCWRP report suggests that smaller watersheds are more responsive and sensitive to changes in land use, whereas larger watersheds (>30 mi^2) were said to be less responsive to land use changes. Geosyntec's work in the San Francisco Bay area, found significant hydromodification impacts on streams of watersheds that were 40 mi^2 in size; however, this is still substantially smaller than the Santa Clara River watershed at the Los Angeles County line. Given the large CDA for the Santa Clara River, the river is likely less responsive to potential hydromodification effects, but channel morphology must still be examined to determine the level and potential significance of Santa Clara River response.

Application to the Santa Clara River. Balance Hydrologics assessed the potential effects of the planned cumulative urbanization within the Santa Clara River upstream of the County line (the upper watershed) on channel morphology by examining historical changes in the Santa Clara River channel pattern in response to different types of major disturbance, using historical rainfall and other relevant records and aerial channel photography. (Balance Hydrologics, 2005. Assessment of Potential Impacts Resulting from Cumulative Hydromodification Effects, Selected Reaches of the Santa Clara River, Los Angeles County, California. Prepared by Balance Hydrologics, Inc., for Newhall Land, October 2005 [provided in Appendix E of the Water Quality Technical Report in **Appendix 4.22**]). The findings of this analysis are summarized below.

The Santa Clara River is a dynamic, episodic system. Understanding the magnitude of geomorphic change over the course of recent history in response to natural and human disturbances in the watershed is a key factor in assessing the potential response to future urbanization within the watershed.

For example, the construction of Castaic Dam in the 1974 (affecting approximately 30 percent of the Santa Clara River watershed above Castaic Creek) cut off a significant supply of sediment to the Santa Clara River. This change, however, does not appear to have had an effect on the channel dimensions of the Santa Clara River mainstem. The width of the active corridor as well, as the general form of the channel,

are generally consistent before and after construction of the dam. It appears that the Santa Clara River had enough buffering capacity to absorb this change. The depletion of sediment supply to the mainstem, which would typically be expected to cause erosive effects, did not, in fact, result in those effects, perhaps because reductions in sediment were offset by additional available sediment stored in the basin in the upper watershed as a result of movement along the San Gabriel fault.

Similarly, the amount of vegetation within the Santa Clara River corridor appears to have generally increased since the 1960s, likely due to the increase in available summer flows due to the Valencia and Saugus WRPs' discharges. However, this vegetation does not seem to provide enough erosion resistance to maintain a "stable" channel capable of withstanding regular "re-sets," large events that completely alter the form of the Santa Clara River channel (which occur at intervals averaging about a decade), or much less than the expected lifetime of the riparian woodlands, which do get established. Despite heavy vegetation on the channel banks near the Specific Plan area and in areas of groundwater upwelling, the stream still responds to large events by a general widening and/or shift of the active channel within the River corridor.

After studying the response of the River to several different anthropogenic and natural disturbances, the report concluded that the Santa Clara River, as with many streams in semi-arid Southern California, is highly episodic. Concepts of "normal" or "average" sediment-supply and flow conditions have limited value in this "flashy" environment, where episodic storm and wildfire events have enormous influence on sediment and storm flow conditions. In these streams, a large portion of the sediment movement events can occur in a matter of hours or days. Other perturbations that can potentially affect channel geometry appear to have transitory or minor manifestations. For example, effects on the channel width due to the 1980s levee construction were barely discernible by the first few years of the 21st century, probably mostly due to morphologic compensation associated with the storm events in the mid- to late 1990s. As a result, channel morphology, stability, and character of the Santa Clara River is almost entirely determined by the "re-set" events that occur within the watershed.

Fluvial Study. Additional study of the Santa Clara River has been performed by Pacific Advanced Civil Engineering, Inc., who prepared a comprehensive fluvial analysis for the Santa Clara River through the Specific Plan area for LACDPW. (PACE, 2006b. Newhall Ranch River Fluvial Study Phase I Final Draft, Prepared for Newhall Land by Pacific Advanced Civil Engineering, Inc. Fountain Valley, California). A river fluvial analysis is the study of the river bed and bank sediment movement over time and as a result of flow in the river and changes in the tributary watershed.

The fluvial analysis had three distinct components:

1. Analysis of long term trends of river bed and bank sediment build-up (aggredation) or removal (degradation) was performed. More than 80 years of available historic topographic mapping of the river indicated no real trend of aggredation or degradation in the study reach.

2. General (capital storm event) aggredation/degradation calculations were performed to determine the expected fluvial response of the river to the LACDPW design storm event (>140,000 cfs). USACE computer modeling software (SAM) was used to evaluate existing and proposed project conditions. Only minor variations in the fluvial response were shown in the modeling.

3. Local aggredation/degradation resulting from river curvature, existing and proposed bridges, river bed material, and various other components were considered and estimates of aggredation and degradation were calculated.

To complete the fluvial analysis, long term, general, and local aggredation/degradation components were added together to obtain the total aggredation/degradation for each river section within the study reach.

One of the purposes for the fluvial analysis, which has been approved by LACDPW, was to provide a level of understanding of the Santa Clara River Newhall Ranch reach fluvial mechanics near Newhall Ranch, as it relates to existing conditions and proposed Specific Plan development conditions, in order to identify any potential project impacts. The fluvial analysis showed very little change between the pre- and post-development conditions and, therefore, concluded that there is no potential adverse impact to the fluvial mechanics of the river.

As discussed above, the project would include a number of hydrologic source control PDFs that would substantially lessen any potential contribution to cumulative hydromodification impacts to the Santa Clara River. In addition, it is presumed that all future development within the Specific Plan, Legacy, and Entrada subregions would implement hydromodification controls consistent with the Newhall Ranch Specific Plan Sub-regional Stormwater Mitigation Plan. Further, other future projects within the watershed reflected in adopted plans and projections would implement hydromodification controls to meet flow criteria that would be adopted by the LACDPW under Part 4, Section D.1 of the MS4 Permit. These measures are designed to mitigate and prevent direct and cumulative hydromodification impacts.

Geomorphic Study. Within the Santa Clara River watershed, major perturbations (urbanization, dam construction, levee construction, decadal changes in climate, and increases in woody vegetation) do not appear to have had a significant impact on the geomorphic expression of the Santa Clara River. Large "re-set" events (those which are typically not affected by increases in impervious area) have episodically completely altered the form of the Santa Clara River channel. These events, occurring on average once every 10 years, are a dominant force in defining channel characteristics. The geomorphic dominance of re-set events determines the geomorphic character of the Santa Clara River, and the Santa Clara River's

response to anthropogenic perturbations, including hydromodification impacts associated with development, is expected to be minimal in light of the re-set-driven nature of the Santa Clara River channel. Due to these episodic re-sets, "unraveling" of the Santa Clara River mainstem due to hydromodification associated with cumulative urban development within the watershed, as is seen in many smaller Southern California watersheds, is not expected to occur. The re-set events appear to adequately buffer changes that may occur in short-term sediment transport between re-set events.

Conclusion. Based upon the above discussion, concluding that the project includes hydromodification controls as PDFs, that future development projects within the watershed would control flow in compliance with the regional program, and that large-scale changes naturally occur in the Santa Clara River in response to major episodic events, the project's contribution to cumulative hydromodification impacts to the Santa Clara River would be less than significant and consistent with the requirements of the MS4 permit.

10. CUMULATIVE MITIGATION MEASURES

Because cumulative development would be subject to the same or similar required mitigation measures as the proposed project, no additional cumulative mitigation measures are proposed or required.

11. SIGNIFICANT UNAVOIDABLE IMPACTS

a. Project-Specific Impacts

With the incorporation of source and treatment controls into the project design, and implementation of the Newhall Ranch Specific Plan Program EIR and Mission Village-specific mitigation measures, no significant unavoidable impacts would occur with respect to water quality.

b. Cumulative Impacts

No significant unavoidable cumulative impacts have been identified or are anticipated for the proposed project, as it relates to water quality.

4.23 GLOBAL CLIMATE CHANGE

1. SUMMARY

The proposed Mission Village project would result in the emission of greenhouse gases (GHGs). This section discusses the scientific and regulatory developments surrounding global climate change and provides a quantitative inventory for the emissions that would result from approving Mission Village. In the absence of regulatory criteria, a significance criterion also was developed to assess the impact of the project's GHG emissions. Both project and cumulative impacts were assessed against the identified significance criterion.

This section also discusses the Intergovernmental Panel on Climate Change's (IPCC) conclusion that there is a scientific consensus that global climate change is occurring, and that the frequency of heat extremes, heat waves, and heavy precipitation events likely will increase. Currently accepted models predict that continued GHG emissions at or above current rates will produce more extreme global climate changes during the 21st century than were observed during the 20th century. Relatedly, the section also addresses the IPCC's conclusion that human activities have increased atmospheric concentrations of GHGs.

Nonetheless, there are uncertainties. The uncertainties relate to predicting: the actual climate change experienced by various areas of the world; the rate at which air and water temperatures will rise; whether the consequences of global climate change will be sudden or gradual; whether the consequences will be catastrophic or manageable; and whether international, national, state, and local measures will effectively reduce GHG emissions.[1]

The emissions inventory for the proposed Mission Village project considers eight categories of GHG emission sources that would result from approval of the Mission Village project: (1) emissions due to land use/vegetation changes; (2) emissions from construction activities; (3) emissions associated with residential building use; (4) emissions associated with nonresidential building use; (5) mobile source emissions; (6) municipal source emissions; (7) area emissions; and (8) emissions associated with recreational center use. The emissions from land use/vegetation changes and construction activities are one-time emissions event, whereas emissions from the other sources would occur annually, throughout the life of the project. The inventory identified approximately 109,331 metric tons (tonnes) of carbon dioxide equivalent (CO_2e) one-time emissions, and 61,284 tonnes of CO_2e annual emissions. If the one-time emissions are annualized, over 40 years, the annual emissions are 64,017 tonnes per year.

These emission levels were analyzed to determine whether approval of Mission Village would impede compliance with the GHG emissions reduction goals mandated by the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32), which requires that California's GHG emissions be reduced to 1990 levels by 2020. The

1 *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, California Environmental Protection Agency (March 2006) pp. 15-16. This report is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.

proposed project's CO_2e emissions from all annual sources are 36 percent below the level that would be expected if the proposed project were constructed consistent with the assumptions in the California Air Resources Board's projections for 2020 if "no actions are taken" (CARB 2020 NAT scenario). (See Climate Change Proposed Scoping Plan: A Framework for Change [Scoping Plan], California Air Resources Board [adopted December 2008].) Moreover, when the one-time land use/vegetation change and construction emissions are included, the proposed project's emissions are still 35 percent below the CARB 2020 NAT scenario. As established by CARB's emission forecasts for 2020, a reduction of 29 percent below the CARB 2020 NAT scenario is required to meet the goals of AB 32. Therefore, the proposed project would not impede implementation of AB 32 as its reduction below the CARB 2020 NAT scenario is greater than that required, and project impacts are less than significant.

This inventory was prepared assuming that all emissions from Mission Village would be "new," in the sense that absent development of Mission Village these emissions would not occur. Given the global nature of GHG emissions, questions arise over whether new global GHG emissions are caused by economic and population growth, and not the local development projects that simply accommodate such growth.

In addition, the proposed Mission Village project's GHG emissions were assessed from a cumulative impact perspective. As discussed above, AB 32 requires approximately a 29 percent reduction of GHG emissions below the CARB 2020 NAT scenario. The project design features of Mission Village would reduce its contribution of GHG emissions; therefore, especially when compared to a project that does not adopt such reduction strategies and sustainable development principles, the proposed project would enable California to meet its goal of returning to 1990 GHG emissions levels by 2020. As a result, the Mission Village GHG emissions are not considered "cumulatively considerable" under the California Environmental Quality Act (CEQA).

2. BACKGROUND

a. Relationship of Project to Newhall Ranch Specific Plan Program EIR

The Newhall Ranch Specific Plan Program EIR did not identify and analyze the Newhall Ranch Specific Plan's impact on global climate change. Nonetheless, this project-level EIR tiers from the previously certified Newhall Ranch Specific Plan Program EIR, and this section assesses the Mission Village project's GHG emissions and related global climate change impacts, and the need for mitigation measures and/or project design features.

b. Summary of the Newhall Ranch Specific Plan Program EIR Findings

As discussed above, the Newhall Ranch Specific Plan Program EIR did not quantify or analyze the GHG emissions resulting from approval of the Specific Plan. However, in response to identified significant impacts in other environmental impact/resource categories (i.e., flood/hydrology; biota; traffic/access; air quality; water resources; wastewater disposal; fire services and hazards; education; parks, recreation and trails; electricity/utilities), Los Angeles County adopted numerous mitigation measures and conditions of

approval, which not only reduce impacts to the specified environmental impact/resource category identified in the underlying Newhall Ranch Specific Plan Program EIR, but also reduce the amount of GHG emissions that would be generated by buildout of the Newhall Ranch Specific Plan and increase the Specific Plan's ability to respond to the effects of climate change.

c. References for this EIR Section

The technical analysis relied upon in this section was prepared by ENVIRON International Corporation. ENVIRON's report is titled, "Climate Change Technical Report: Mission Village" (August 2010), and is found in **Appendix 4.23** of this EIR.

3. EXISTING CONDITIONS

This section addresses the phenomenon of global climate change, including its causal factors and the consequences thereof, and surveys GHG emissions levels from statewide, national, and global perspectives.

a. Global Climate Change

Global climate change and *global warming* are both terms that describe changes in the earth's climate. Global climate change is a broader term that is used to describe any worldwide, long-term change in the earth's climate. This change could be, for example, an increase or decrease in temperatures, the start or end of an ice age, or a shift in precipitation patterns. The term global warming is more specific than global climate change and refers to a general increase in temperatures across the earth. Though global warming is characterized by rising temperatures, it can cause other dimatic changes, such as a shift in the frequency and intensity of rainfall or hurricanes. Global warming does not necessarily imply that all locations will be warmer. Some specific, unique locations may be cooler even though the world, on average, is warmer. All of these changes fit under the term, global climate change.

While global warming can be caused by natural processes, the IPCC has noted that there is a general scientific consensus that most current global warming is the result of human activities.[2] This man-made, or anthropogenic, warming primarily is caused by increased emissions of "greenhouse gases," which

2 *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, Intergovernmental Panel on Climate Change (2007), available online at http://www.ipcc.ch/. But see US Senate Report: Over 400 Prominent Scientists Disputed Man-Made Global Warming Claims in 2007 (December 2007) and U.S. Senate Minority Report: More Than 650 International Scientists Dissent Over Man-Made Global Warming Claims - Scientists Continue to Debunk "Consensus" in 2008 (December 11, 2008), available at http://epw.senate.gov/public/index.cfm ?FuseAction=Minority.SenateReport. These reports also are available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and are incorporated by reference.

keep the earth's surface warm. This is called "the greenhouse effect." The greenhouse effect and the role greenhouse gases play are described below.

b. The Greenhouse Effect

By definition, greenhouses allow sunlight to enter a defined space and then capture some of the heat generated by the sunlight's impact on the earth's surface. The earth's atmosphere acts like a greenhouse by allowing sunlight in, but trapping some of the heat that reaches the earth's surface. When solar radiation from the sun reaches the earth, much of it penetrates the atmosphere to ultimately reach the earth's surface; this solar radiation is absorbed by the earth's surface and then re-emitted as heat in the form of infrared radiation.[3] Whereas the GHGs in the atmosphere let solar radiation through, the infrared radiation is trapped by GHGs, resulting in the warming of the earth's surface.[4]

The earth's greenhouse effect has existed far longer than humans have and has played a key role in the development of life. Concentrations of major greenhouse gases, such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and water vapor (H_2O), have been present naturally for millennia at relatively stable levels in the atmosphere that are adequate to keep temperatures on earth hospitable. Without these greenhouse gases and the greenhouse effect, the earth's temperature would be too cold for life to exist.

As human industrial activity has increased, atmospheric concentrations of certain GHGs have grown dramatically. **Figure 4.23-1,[5] Carbon Dioxide and Methane concentrations have increased dramatically since the industrial revolution**, shows the increase in concentrations of CO_2 and CH_4 over time. As mentioned above, in the absence of major industrial human activity, natural processes have maintained atmospheric concentrations of GHGs (and, therefore, global temperatures) at constant levels over the last several centuries.[6] As the concentrations of greenhouse gases increase, more infrared radiation is trapped, and the earth is heated to higher temperatures. This process is described as "human-induced global warming."

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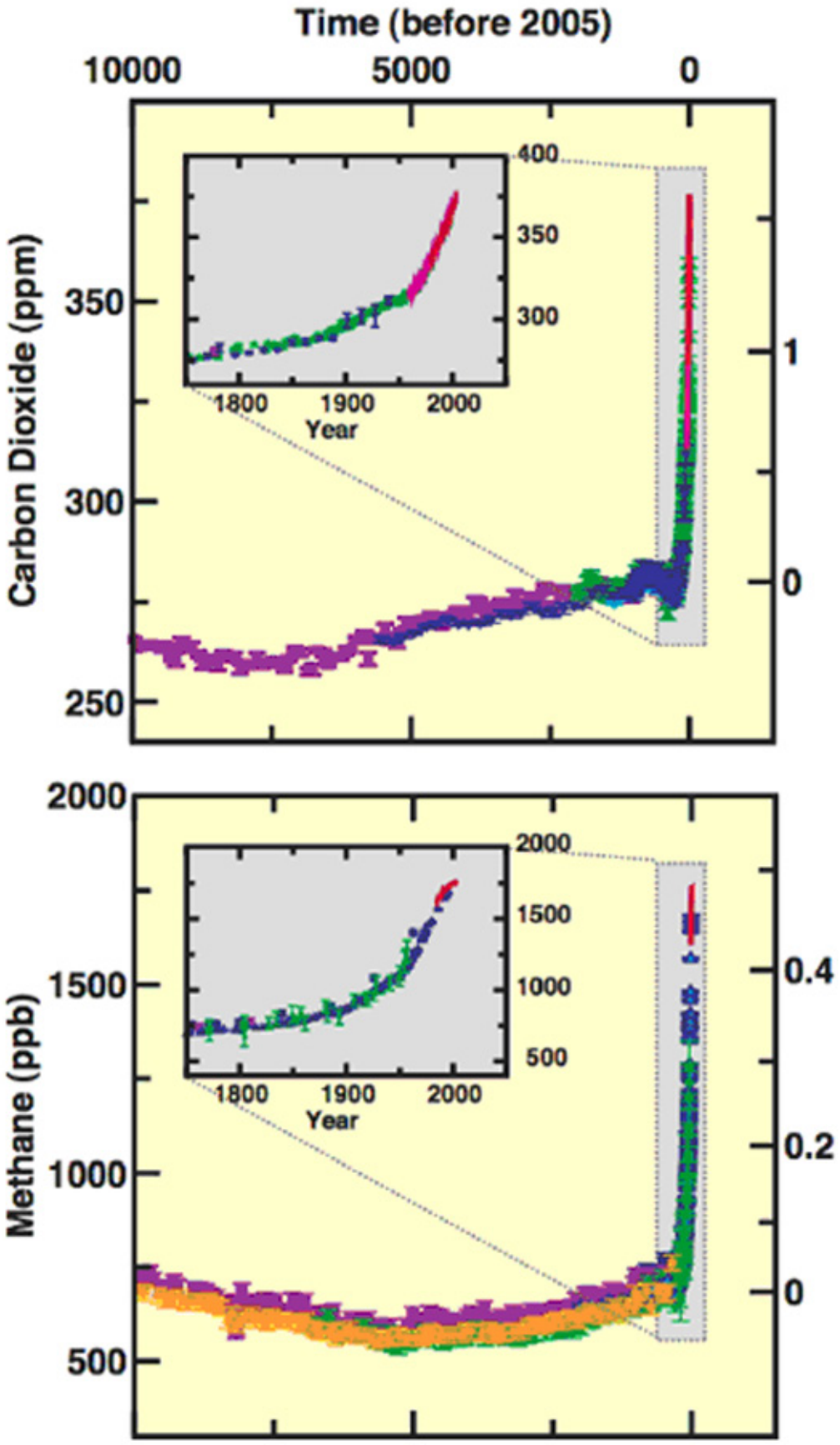
3 All light, be it visible, ultraviolet, or infrared, carries energy.

4 Infrared radiation is characterized by longer wavelengths than solar radiation. Greenhouse gases reflect radiation with longer wavelengths. As a result, instead of escaping back into space, greenhouse gases reflect much infrared radiation (i.e., heat) back to Earth.

5 Adapted from *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, *supra* footnote 2, Figure SPM-1.

6 Examples of natural processes include the addition of GHGs to the atmosphere from respiration, fires, and decomposition of organic matter. The removal of greenhouse gases is mainly from plant and algae growth and absorption by the ocean -- such processes are referred to as "carbon sequestering" processes.



SOURCE: Newhall Ranch RMDP - February 2007,

FIGURE **4.23-1**

Carbon Dioxide and Methane concentrations have increased dramatically since the industrial revolution

In 2007, the IPCC[7] began releasing components of its Fourth Assessment Report on climate change. In February 2007, the IPCC provided a comprehensive assessment of climate change science in its Working Group I Report, "The Physical Science Basis."[8] This IPCC report stated that there is a scientific consensus that the global increases in greenhouse gases since 1750 are due mainly to human activities, such as fossil fuel use, land use change (e.g., deforestation), and agriculture. In addition, the report stated that it is likely that these changes in greenhouse gas concentrations have contributed to global warming. The high confidence levels of claims in this report are due to the large number of simulations run and the broad range of available climate models.

c. Greenhouse Gases and Their Emissions

The term "greenhouse gases" includes gases that contribute to the natural greenhouse effect, such as CO_2, CH_4, N_2O, and H_2O, as well as gases that are man-made and emitted through the use of modern industrial products, such as hydrofluorocarbons (HFCs), chlorinated fluorocarbons (CFCs), and sulfur hexafluoride (SF_6). These last three families of gases, while not naturally present, have properties that also cause them to trap infrared radiation when they are present in the atmosphere, thus making them greenhouse gases. These six gases comprise the major GHGs that are recognized by the Kyoto Protocol.[9]

There are other GHGs that are not recognized by the Kyoto Protocol, due either to the smaller role that they play in climate change or the uncertainties surrounding their effects. For example, one GHG not recognized by the Kyoto Protocol is atmospheric water vapor, as there is no obvious correlation between water vapor concentrations and specific human activities. Water vapor appears to act in a feedback

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7 The World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) established the IPCC in 1988; it is open to all members of the United Nations (UN) and WMO.

8 See, *supra*, footnote 2.

9 The Kyoto Protocol is linked to the United Nations Framework Convention on Climate Change (UNFCCC), which entered into force on March 21, 1994, and is an intergovernmental effort to address climate change. The UNFCCC is not binding, but does encourage and assist developed counties in stabilizing their GHG emissions. Under the UNFCCC, governments gather and share information on greenhouse gas emissions, launch national strategies, and cooperate in preparing for adaptation to the impacts of climate change.

The Kyoto Protocol requires parties to proceed "with a view to reducing their overall emissions of such [greenhouse] gases by at least 5 percent below 1990 levels in the commitment period 2008 to 2012." (Kyoto Protocol, Article 3, paragraph 1.) Most emission reductions associated with the Kyoto Protocol are to come from developed nations; a heavier burden is placed on developed nations because developed nations can more easily afford to cut emissions, and because developed countries have historically contributed more GHGs per capita.

This treaty was negotiated in Kyoto, Japan in December 1997, opened for signature on March 16, 1998, closed for signature on March 15, 1999, and came into force on February 16, 2005. The United States is a signatory to the Kyoto Protocol, but neither President Clinton nor President Bush submitted the treaty to Congress for approval. Therefore, because the treaty has not been ratified by Congress, the terms of the treaty are not binding on the United States.

For additional information on the UNFCCC and the Kyoto Protocol, see http://unfccc.int/2860.php; and http://unfccc.int/kyoto_protocol/items/2830.php.

manner: higher temperatures lead to higher water vapor concentrations, which in turn cause more global warming.[10]

The effect each of these gases has on global warming is a combination of the volume of their emissions and their global warming potential (GWP). GWP indicates, on a pound for pound basis, how much a gas will contribute to global warming relative to how much warming would be caused by the same mass of carbon dioxide. Methane and nitrous oxide are substantially more potent than carbon dioxide, with GWPs of 21 and 310, respectively. However, these natural greenhouse gases are nowhere near as potent as sulfur hexafluoride and fluoromethane, which have GWPs of up to 23,900 and 6,500, respectively. GHG emissions typically are measured in terms of mass of CO_2e emissions, which is the product of the mass of a given GHG and its specific GWP.

The most important greenhouse gas in human-induced global warming is carbon dioxide. While many gases have much higher GWPs, carbon dioxide is emitted in such vastly higher quantities that it accounts for 85 percent of the global warming potential of all GHGs emitted by the United States. Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in carbon dioxide emissions, and thus substantial increases in atmospheric carbon dioxide concentrations. In 2005, atmospheric carbon dioxide concentrations were about 379 parts per million (ppm), over 35 percent higher than the pre-industrial concentrations of about 280 ppm.[11] In addition to the sheer increase in the volume of its emissions, carbon dioxide is a major factor in human-induced global warming because of its lifetime in the atmosphere of 50 to 200 years.

The second most prominent GHG, methane, also has increased due to human activities such as rice production, degradation of waste in landfills, cattle farming, and natural gas mining. In 2005, atmospheric levels of CH_4 were more than double pre-industrial levels, up to 1,774 parts per billion (ppb), as compared to 715 ppb.[12] Methane has a relatively short atmospheric lifespan of only 12 years, but has a higher GWP than carbon dioxide.

Nitrous oxide concentrations have increased from about 270 ppb in pre-industrial times to about 319 ppb by 2005.[13] Most of this increase can be attributed to agricultural practices (such as soil and manure management), as well as fossil fuel combustion and the production of some acids. Nitrous oxide's 120-year atmospheric lifespan increases its role in global warming.

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10 *Climate Change 2001: The Scientific Basis*, IPCC (2001), available online at http://www.ipcc.ch/. This report also is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.

11 See *supra,* footnote 2, at p. 2.

12 See *supra,* footnote 2, at p. 4.

13 See *supra,* footnote 2, at p. 4.

Besides carbon dioxide, methane and nitrous oxide, there are several gases and categories of gases that were not present in the atmosphere in pre-industrial times but now exist and contribute to global warming. These include CFCs, used often as refrigerants, and their more stratospheric-ozone-friendly replacements, HFCs. Fully fluorinated species, such as SF_6 and tetrafluoromethane (CF_4), are present in the atmosphere in relatively small concentrations, but have extremely long life spans of 50,000 and 3,200 years each, also making them potent greenhouse gases.

Please see **Table 4.23-1, Kyoto Protocol Greenhouse Gases: GWP and Current Atmospheric Concentration,** which identifies each Kyoto Protocol greenhouse gas, the global warming potential of each gas, and the current atmospheric concentration of each gas.

Table 4.23-1
Kyoto Protocol Greenhouse Gases: GWP and Current Atmospheric Concentration

Gas	Chemical Formula	Global Warming Potential	Current Atmospheric Concentration	
Carbon Dioxide	CO_2	1	379	ppm
Methane	CH_4	21	1,774	ppb
Nitrous Oxide	N_2O	310	319	ppb
Hydrofluorocarbons	HFC-23	11,700	Values range from 1 to 10	ppt
	HFC-32	650		
	HFC-125	2,800		
	HFC-134a	1,300		
	HFC-143a	3,800		
	HFC-152a	140		
	HFC-227ea	2,900		
	HFC-236fa	6,300		
	HFC-4310mme	1,300		
Perfluorocarbons	CF_4	6,500	>70 (CF_4)	ppt
	C_2F_6	9,200		
	C_3F_8	7,000		
	C_4F_{10}	7,000		
	C_6F_{14}	7,400		
Sulfur Hexafluoride	SF_6	23,900	4	ppt

Source: ENVIRON, 2009.

d. The Effects of Global Warming

(1) Impacts, Generally

As discussed above, the IPCC has concluded that there is a scientific consensus that global climate change will increase the frequency of heat extremes, heat waves, and heavy precipitation events. Currently accepted models predict that continued greenhouse gas emissions at or above current rates will induce more extreme climate changes during the 21st century than were observed during the 20th century. A warming of about 0.2 degree Celsius (°C) per decade is projected; and, even if the concentrations of all greenhouse gases and aerosols are kept constant at year 2000 levels, a further warming of about 0.1°C per decade is expected.

A faster temperature increase will lead to more dramatic, and more unpredictable, localized climate extremes. Other likely direct effects of global warming include an increase in the areas affected by drought, an increase in tropical cyclone activity and higher sea levels, as well as the continued recession of polar ice caps. There are already some identifiable signs that global warming is taking place. In addition to substantial ice loss in the Arctic, the top seven warmest years since the 1890s have been after 1997.[14] **Figure 4.23-2,**[15] **Global warming trends and associated sea level rise and snow cover decrease, shows the rise of global temperatures**, the global rise of sea level, and the loss of snow cover from 1850 to the present.

(2) Socioeconomic Impacts

Global temperature increases may negatively impact ecosystems, natural resources, and human health. Ecosystem structure and biodiversity will be compromised by temperature increases and associated climatic and hydrological disturbances. Further, the availability and quality of potable water resources may be compromised by increased salinisation of ground water due to sea-level rises, decreased supply in semi-arid and arid locations, and poorer water quality arising from increased water temperatures and more frequent floods and droughts. These impacts on freshwater systems, in addition to the effects of increased drought and flood frequencies, can reduce crop productivity and food supply.

In addition to compromising food and water resources, there are other means through which climatic changes associated with global warming can affect human health and welfare. Warmer temperatures can cause more ground-level ozone, a pollutant that causes eye irritation and respiratory problems. Ranges of infectious diseases will likely increase, and some areas will face greater incidences of illness and mortality associated with increased flooding and drought events.

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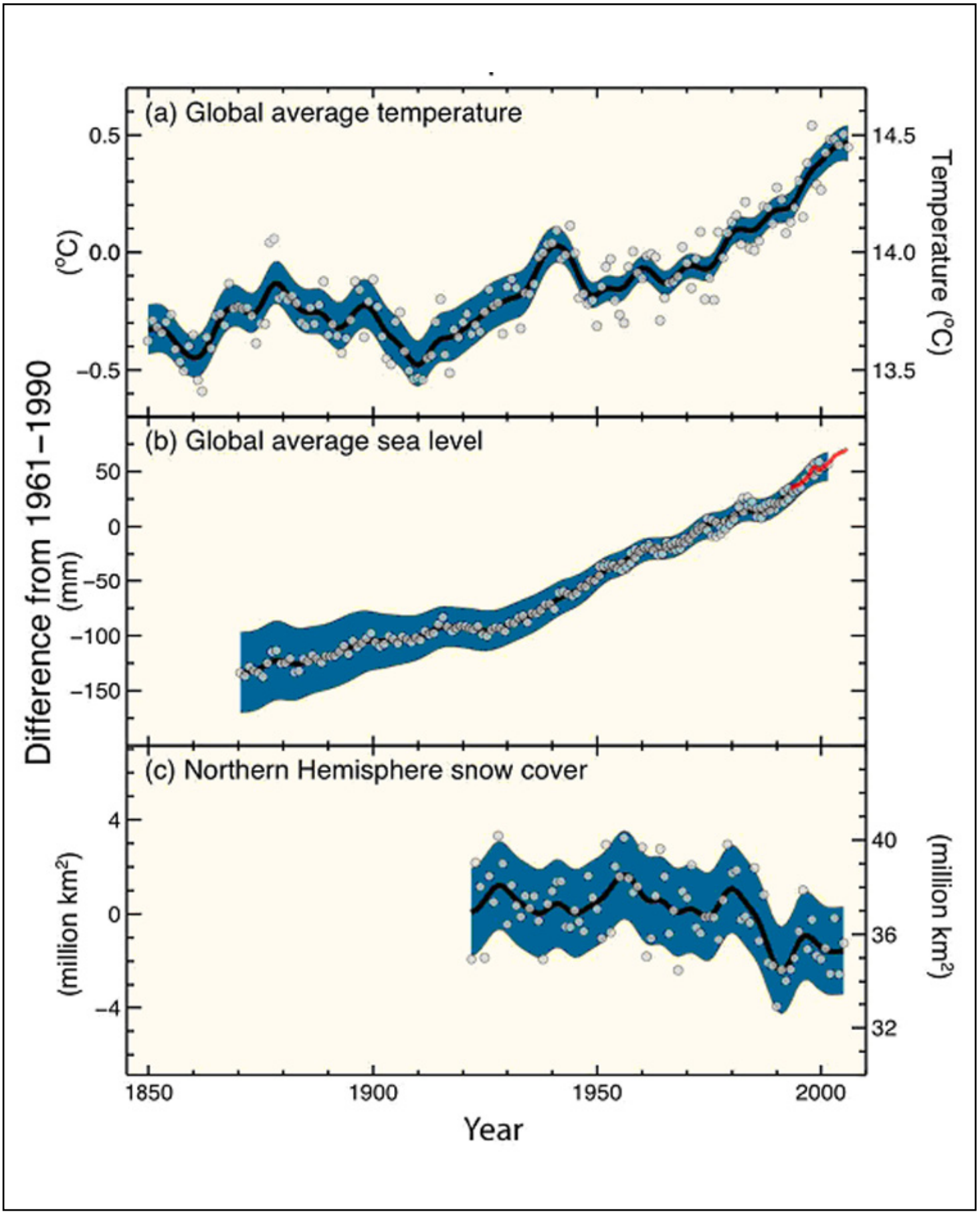
14 Statistics from Intergovernmental Panel on Climate Change Working Groups I and II.

15 Adapted from *Climate Change 2007: The Physical Science Basis, Summary for Policymakers*, *supra*, footnote 2, Figure SPM-3.



SOURCE: Newhall Ranch RMDP - February 2007,

FIGURE **4.23-2**

Global warming trends and associated sea level rise and snow cover decrease

In its April 2007 Working Group II Report, the IPCC provided an assessment of the "current scientific understanding of impacts of climate change on natural, managed and human systems, the capacity of these systems to adapt and their vulnerability."[16] Here, the IPCC states that although some people will gain and some will lose because of global climate change, the overall change will be one of social and economic losses.

It is important to recognize that the climatic conditions experienced by the proposed project over its designed lifetime are likely to be substantially different from those observed over the past century. Consequently, it is useful to consider the implications of changing climatic conditions for project performance. Scenarios[17] for 2100 modeled in the IPCC Fourth Assessment Report (FAR) include:

Temperature Increase

- Low Emissions Scenario: 1.8°C (best estimate), with a range of 1.1°C to 2.9°C
- High Emissions Scenario: 4.0°C (best estimate), with a range of 2.4°C to 6.4°C

Sea Level Rise

- Low Emissions Scenario: 0.18 to 0.38 meter (range)
- High Emissions Scenario: 0.26 to 0.59 meter (range)

Potential implications for the proposed project include:

- *Sea level:* Rising sea levels are unlikely to directly impact the proposed project due to its distance from the coast and relative elevation.
- *Temperature:* Rising temperatures could have a variety of impacts, including stress on sensitive populations (e.g., sick and elderly), additional burden on building systems (e.g., demand for conditioning), and, indirectly, increasing emissions of GHGs and criteria pollutants associated with energy generation. It is not possible to reliably quantify these risks at this time.
- *Precipitation:* Climate change is expected to alter seasonal and inter-annual patterns of precipitation. These changes continue to be one of the most uncertain aspects of future scenarios. For the proposed

16 Available online at: http://www.ipcc-wg2.org/index.html

17 Future GHG emissions are the product of very complex and dynamic systems determined by driving forces such as demographic development, socio-economic development, and technological change. Their future evolution is highly uncertain. Scenarios are alternative images of how the future might unfold and are an appropriate tool with which to analyze how driving forces may influence future emission outcomes and to assess the associated uncertainties. These scenarios assist in climate change analysis, including climate modeling and the assessment of impacts, adaptation, and mitigation. However, the possibility that any single emissions path will occur as described in any given scenario is highly uncertain. More information on the IPCC's selection of scenarios is available at http://www.ipcc.ch/ipccreports/sres/emission/index.htm.

project, the most relevant direct impacts are likely to be changes in the timing and volume of storm water runoff and changes in demand for irrigation. It is not possible to reliably quantify the implications of these changes at this time.

- *Wildfire:* Changes in temperature and precipitation may combine to alter risks of wildfire. Changes in wildfire hazard have the potential to impact the proposed project; however, it is not possible to reliably quantify the implications of these changes at this time.

- *Water supply reliability:* Changes in temperature and precipitation may also influence seasonal and inter-annual availability of water supplies. Consequently, it is reasonable to consider that climate change may affect water supply reliability. It is not possible to reliably quantify these risks for the proposed project at this time.

(2) Impacts to California, Specifically

Global temperature increases may have a series of significant negative impacts on the health of California residents and the California economy.[18] One result of the higher temperatures caused by global warming may be compromised air quality. Specifically, warmer temperatures can cause more ground-level ozone, a pollutant that causes eye irritation and respiratory problems. Another impact may result due to California's primary reliance on snowmelt for its drinking water and much of the water used in irrigation during the summer. Global warming could alter the seasonal pattern of snow accumulation and snowmelt and threaten the availability of water. Climatic changes also would affect agriculture, a major California industry, which could result in economic losses.

The California Natural Resources Agency (CNRA) recently prepared a document that discusses the impacts of climate change upon California, as well as California's climate adaptation strategy. (See *2009 California Climate Adaptation Strategy: Discussion Draft*, CNRA [December 2009].) Because climate change already is affecting California and current emissions will continue to drive climate change in the coming decades, regardless of any mitigation measured that may be adopted to reduce GHG emissions, the necessity of adaptation to the impacts of climate change is recognized by the state of California. Climate change risks are evaluated using two distinct approaches: (1) projecting the amount of climate change that may occur using computer-based global climate models, and (2) assessing the natural or human

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[18] For additional information regarding the impact of global climate change on California's water supply and sensitive biological resources, please see **Appendix 4.23** of this EIR. In the Appendix, a literature survey undertaken of global climate change and its effects on California's water supply and sensitive biological resources is presented for review. Ultimately, due to the lack of an established regulatory framework, and the general concurrence of the scientific and regulatory communities, additional study and evaluation is still required with respect to the impacts of global climate change on water supplies and sensitive biological resources; and, thus, the evaluation concludes that such impacts are too speculative to assess any further at this time. **Appendix 4.23** also contains a technical memorandum, prepared by GSI Water Solutions, Inc., regarding the *Potential Effects of Climate Change on Groundwater Supplies for the Newhall Ranch Specific Plan, Santa Clarita Valley, California* (March 18, 2008).

system's ability to cope with and adapt to change by examining past experience with climate variability and extrapolating this to understand how the systems may respond to the additional impact of climate change. A summary of CNRA's findings with respect to impacts and adaptation is presented below.

Impacts

- *Rising Temperatures:* CRNA noted that new projections predict a median probability of surface warming of 5.2°C by 2100, which is higher than previous modeling completed in 2003. Researchers modeled temperature changes specifically related to California, and predicted greater temperature increases in summer than winter, and larger increases inland when compared to the coastal areas.

- *Tipping Elements:* CNRA identified "tipping elements" that bring about "abrupt changes that could push natural systems past thresholds beyond which they could not recover." According to CNRA, there are four main events that could bring about abrupt environmental changes, each of which has a particular tipping temperature at which the event is likely to occur. The consequence of crossing each threshold could cause a 7–12 meter rise in sea level over the course of several centuries.

- *Extreme Natural Events:* CRNA listed extreme natural events that are likely to occur, including higher nighttime temperatures and longer, more frequent heat waves overall; 12–35 percent decrease in precipitation levels by mid- to late 21st century; increased evaporation and faster incidences of snowmelt that will increase drought conditions; and, more precipitation in the form of rain as compared to snow that will decrease water storage in California during the dry season and increase flood events during the wet season.

- *Precipitation Changes and Rivers:* CNRA stated that climate change will intensify California's "Mediterranean climate pattern," with the majority of annual precipitation occurring between November and March and drier conditions during the summer. This climate change will increase droughts and floods and will affect river systems.

- *Sea Level Rise:* CNRA stated that sea level rise can cause damage to coastal communities and loss of land. Current calculations of sea level rise from 1900 to 2000 estimate approximately 7 inches along the California coast.

- *Low Sea Ice Levels:* CNRA stated that substantial sea ice melting from Greenland and the West Antarctic Ice Sheet has the potential to further raise sea levels. The sea ice extent in the Western Nordic Seas (i.e., Greenland, Norway, and Iceland Seas) is at the lowest level observed in the last 800 years, the implication being that a substantial reduction in sea ice in the Arctic sea promotes alterations in atmospheric circulation and precipitation patterns that extend to the mid-latitudes (e.g., the California coast). Additionally, it was reported that the variations in sea ice extent are correlated with changes in sea surface temperatures and atmospheric and ocean heat transport from the North Atlantic.

- *Ocean Chemistry:* CRNA noted that an emerging effect from climate change may be acidification of the ocean, which will affect the ability of hard-shelled invertebrates to create their skeletal structures. The implications of this change include major losses to shellfish industries, and shifts in food resources for ocean fisheries. The primary contributing factors to oceanic acidification include increasing levels of CO_2 and weather pattern shifts; increases in CO_2 result in increased uptake by the oceans, which

result in decreased pH (acidification), and weather pattern shifts change the amount of calcium carbonate being delivered by rivers from sources stored in rocks, which further exacerbates the ability of invertebrates to form calcified shells.

California-Specific Adaptation Strategies

- Appointment of a Climate Adaptation Advisory Panel;
- Improved water management in anticipation of reduced water supplies, including a 20 percent reduction in per capita water use by 2020;
- Consideration of project alternatives that avoid significant new development in areas that cannot be adequately protected from flooding due to climate change;
- Preparation of agency-specific adaptation plans, guidance or criteria by September 2010;
- Consideration of climate change impacts for all significant state projects;
- Assessment of climate change impacts on emergency preparedness;
- Identification of key habitats and development of plans to minimize adverse effects from climate change;
- Development of guidance by the California Department of Public Health by September 2010 for use by local health departments to assess adaptation strategies;
- Amendment of General Plans and Local Coastal Plans to assess climate change impacts and develop local risk reduction strategies by communities; and,
- Incorporation of climate change impact information into fire program planning by state fire fighting agencies.

e. Global, National, and State GHG Emissions Inventories

Worldwide emissions of GHGs in 2004 were 26.8 billion tonnes of CO_2e per year.[19] In 2007, the United States emitted about 7 billion tonnes of CO_2e, or about 24 tonnes per capita per year. Over 80 percent of the GHG emissions in the United States are comprised of CO_2e emissions from energy-related fossil fuel combustion.

[19] Sum of Annex I and Annex II countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF), available online at http://unfccc.int/ghg_emissions_data/predefined_queries/items/3814.php. For countries that 2004 data was unavailable, the most recent year was used. This report also is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.

In 2004, California emitted 0.492 billion tonnes of CO_2e, or about 7 percent of US emissions. If California were a country, it would be the 16th largest emitter of greenhouse gases in the world.[20] This large number is due primarily to the sheer number of people in California; compared to other states, California has one of the lowest per capita GHG emission rates in the country, which is due to California's higher energy efficiency standards, its temperate climate, and the fact that it relies on out-of-state energy generation.

In 2004, 81 percent of greenhouse gas emissions (in CO_2e) from California were comprised of carbon dioxide emissions from fossil fuel combustion, with 4 percent comprised of CO_2 from process emissions. Methane and nitrous oxide accounted for 5.7 percent and 6.8 percent of total CO_2e respectively, and high GWP gases[21] accounted for 2.9 percent of the CO_2e emissions. Transportation, including industrial and residential uses, is by far the largest end-use category of GHGs in California.[22]

4. THE REGULATORY SETTING

The following discussion summarizes the relevant federal and state GHG emissions legal framework, the regulatory efforts and policies of the local jurisdiction (i.e., Los Angeles County), and other guidance.

a. Federal Authorities and Administering Agencies

With respect to the Executive Branch, in 2002, President George W. Bush established a national policy goal to reduce the GHG emission intensity (tonnes of GHG emissions per million dollars of gross domestic product) of the United States economy by 18 percent by 2012. However, binding caps and/or reductions did not accompany this goal; rather, the U.S. Environmental Protection Agency (U.S. EPA) administers a variety of voluntary programs and partnerships with GHG emitters. Such programs include the "Climate Leaders" program, in which companies create long-term GHG emission record-keeping and reduction strategies, and the high global warming potential gas voluntary programs, in

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20 *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004*, California Energy Commission, available online at http://www.climatechange.ca.gov/inventory/index.html. This inventory also is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.

21 Such as HFCs and PFCs.

22 As of 2004, fossil fuel consumption in the transportation sector was the single largest source of California's GHG emissions (41.2 percent), with the industrial sector as the second-largest source (22.8 percent), followed by electrical production from both in-state and out-of-state sources (19.6 percent), agricultural and forestry (8.0 percent), and other activities (8.4 percent). (*Climate Action Team Report*, *supra* footnote 1, pp. 9-10.)

which the U.S. EPA partners with industries producing and utilizing synthetic gases to reduce emissions of particularly potent GHGs.[23]

In July 2008, President Bush, and other members of the Group of 8 (i.e., Japan, Germany, Britain, France, Italy, Canada, Russia), also pledged to move towards a low-carbon society by cutting GHG emissions in half by 2050. The pledge does not clarify what year the 2050 cuts will be measured from, and does not set a goal for cutting emissions over the next decade.

During his presidential election campaign, President Barack Obama indicated he would support a national cap-and-trade program.[24] In addition, on May 19, 2009, President Obama announced a national policy for fuel efficiency and emission standards in the U.S. auto industry. In response, on September 15, 2009, the U.S. Department of Transportation and U.S. EPA issued a proposed rule that would apply to passenger cars, light-duty trucks, and medium duty passenger vehicles built in model years 2012 through 2016. As finalized in April 2010, the rule will improve average fuel economy standards to 35.5 miles per gallon by 2016. In addition, the rule will require model year 2016 vehicles to meet an estimated combined average emission level of 250 grams of carbon dioxide per mile. The implications of the rule include (1) a 960 million metric tons reduction in carbon dioxide emissions over the lifetime of the vehicles regulated, which is equivalent to taking 50 million cars and light trucks off the road in 2030; (2) conservation of about 1.8 billion barrels of oil; and (3) enabling car buyers of 2016 models to enjoy a net savings of $3,000 over the lifetime of the vehicle.[25] Most recently, in late January 2010, President Obama pledged to reduce greenhouse gas emission from federal government operations by 28 percent over the next 10 years.

In the Legislative Branch, several bills have been introduced that establish mandatory GHG reporting and/or emissions reductions requirements. In general, the bills share many features—most establish or enable a market-based system of emissions allowances as at least one means of implementing overall

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23 See *U.S. Climate Policy And Actions*, U.S. EPA, available online at http://www.epa.gov/climatechange /policy/index.html (last visited February 4, 2009). (This document is available for public inspection and review at the County of Los Angeles Public Library, Valencia Branch, 23743 West Valencia Boulevard, Santa Clarita, California 91355-2191, and is incorporated by reference.)

24 Market-based, or cap-and-trade, systems work by establishing a cap on the total amount of GHG emissions that are allowed in a compliance period, and then either distribute emissions allowances to emitting facilities, allow emitting facilities to buy allowances from an auction system, or some combination of the two. Typically, only large emitters participate in cap-and-trade systems. All emitting facilities in the system must submit an allowance for each unit of carbon dioxide equivalent (CO2e) they produce. If a facility is emitting more CO2e than they have covered by allowances, they must choose between spending money to invest in CO2e-mitigating technologies to reduce their emissions or purchasing additional allowances from facilities that are emitting less CO2e for which they have allowances. The goal of these systems is to achieve a specified overall reduction in emissions in the most cost-effective way possible.

25 For more information, please see http://www.epa.gov/otaq/climate/regulations.htm (last visited April 7, 2010).

GHG reductions. To date, however, congressional consensus has not been achieved with respect to the adoption of a cap-and-trade or cap-and-dividend program.

The adopted Consolidated Appropriations Act, 2008 (H.R.2764) contained rules requiring the U.S. EPA to establish mandatory GHG emission reporting requirements. Sponsored by Senators Feinstein and Boxer, H.R.2764 directed the U.S. EPA to publish draft reporting requirements by September 2008, with final rules in place by June 2009. H.R. 2764 mandated reporting "for all sectors of the economy" and directed the U.S. EPA to include in its rule reporting of emissions resulting from upstream production and downstream sources. In March 2009, the U.S. EPA issued a draft version of the mandatory reporting regulation mandated by H.R.2764. The emission sources covered include energy intensive sources, such as cement production, iron and steel production, fossil fuel suppliers, and manufactures of motor vehicles and engines. The U.S. EPA issued the final reporting regulation on October 30, 2009. Effective December 29, 2009, the regulation requires suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions to submit annual reports to the U.S. EPA.

A 2007 U.S. Supreme Court decision also has influenced federal action on climate change (*Massachusetts v. Environmental Protection Agency* (2007) 549 U.S. 497). In that case, the Court ruled that the U.S. EPA is authorized under the Clean Air Act (CAA) to regulate CO_2e emissions from new motor vehicles. While the Court did not mandate that the U.S. EPA enact regulations to reduce GHG emissions, it found that the U.S. EPA could only avoid taking action if it found that GHGs do not contribute to climate change or if it offered a "reasonable explanation" for not determining that GHGs contribute to climate change. The Court rejected the U.S. EPA's arguments that (1) voluntary programs already in place were sufficient to address global warming; and (2) the U.S. EPA should not take action on climate change because it may conflict with the initiatives or negotiations of the Executive Branch.

In response to the Supreme Court decision, the U.S. EPA issued an Advanced Notice of Proposed Rulemaking (ANPRM) in July 2008, subject to a 120-day comment period, to seek further comment on the regulation of GHG emissions pursuant to the Clean Air Act. Subsequently, on April 24, 2009, the U.S. EPA issued proposed endangerment and cause or contribute findings, stating that high atmospheric levels of greenhouse gases "are the unambiguous result of human emissions, and are very likely the cause of the observed increase in average temperatures and other climatic changes." The U.S. EPA further found that "atmospheric concentrations of greenhouse gases endanger public health and welfare within the meaning of Section 202 of the Clean Air Act." The U.S. EPA announced that the proposed finding was adopted on December 7, 2009; while the finding itself does not impose any requirements on industry or other entities, it does enable the U.S. EPA to adopt regulations designed to reduce greenhouse gas

emissions.[26] Legal actions have been filed, including by the State of Texas and industry groups, challenging adoption of the U.S. EPA's findings.

On September 30, 2009, the U.S. EPA issued the proposed Prevention of Significant Deterioration (PSD) and Title V Greenhouse Gas Tailoring Rule. This rule proposes a different, higher threshold for carbon dioxide equivalents than exists for other pollutants under the PSD program. The U.S. EPA is proposing that facilities emitting over 25,000 short tons of CO_2e per year obtain permits that demonstrate they use the best practices and technologies to minimize GHG emissions. The thresholds would cover nearly 70 percent of the national GHG stationary source emissions, including those from the largest emitters—including power plants, refineries, and cement production facilities.

On February 18, 2010, the Council for Environmental Quality (CEQ) issued its "Draft NEPA Guidance on Considerations of the Effects of Climate Change and Greenhouse Gas Emissions." On page 1 of the Draft NEPA Guidance, CEQ "affirms the requirements of the statute [i.e., NEPA] and regulations and their applicability to GHGs and climate change impacts." CEQ also underscores the practical limits on the analysis of global climate change. For example, CEQ provides that "agencies should recognize the scientific limits of their ability to accurately predict climate change effects, especially of a short-term nature, and not devote effort to analyzing wholly speculative effects." (Draft NEPA Guidance, p. 2.) Similarly, CEQA observes that there "are limitations and variability in the capacity of climate models to reliably project potential changes at the regional, local, or project level, so agencies should disclose these limitations in explaining the extent to which they rely on particular studies or projections." (*Id.* at p. 8.)

By the Draft NEPA Guidance, CEQ proposes that if a project would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of GHG emissions annually (or less than that amount on a long-term basis), lead agencies should provide a qualitative and quantitative assessment, and consider mitigation measures and reasonable alternatives. (Draft NEPA Guidance, pp. 1-2, 5.) However, CEQ does not propose that the "indicator level" (i.e., 25,000 metric tons) be used measure indirect effects, which CEQ notes "must be bounded by limits of feasibility in evaluating upstream and downstream effects of Federal agency actions." (*Id.* at p. 3.) Also of note, "CEQ does not propose this [i.e., 25,000 metric tons] as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis." (*Id.* at p. 2.) CEQ is accepting public comment on the Draft NEPA Guidance until mid-May 2010.

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[26] The U.S. EPA's endangerment finding is available online at http://www.epa.gov/climatechange/endangerment.html.

b. Regional Authorities and Administering Agencies

In the absence of federal action to control GHG emissions, several regional agreements have been established among various states. The agreements often develop GHG inventory and reporting standards, and set their own limits on acceptable emission levels.

One such agreement is the Western Regional Climate Action Initiative (the Initiative), entered into by Washington, Oregon, California, Arizona, Montana, Utah and New Mexico, as well as the Canadian provinces British Columbia, Ontario, Quebec and Manitoba. On August 22, 2007, the Initiative issued its "Statement of Regional Goal," which strives to secure "an aggregate reduction [of GHG emissions] of 15 percent below 2005 levels by 2020."[27] The regional goal is consistent with Short Term (2010–12), Medium Term (2020) and Long Term (2040–50) goals for each member state and province. The Initiative is developing a regional, market-based cap-and-trade program, and California is expected to participate in that program.

c. State Authorities and Administering Agencies

The California legislature also has adopted several climate change-related bills in the past seven years. These bills aim to control and reduce the emission of GHGs in order to slow the effects of global climate change. In addition, Governor Schwarzenegger has issued several executive orders directed at global climate change-related matters.

(1) Executive Orders

On June 1, 2005, Governor Schwarzenegger signed Executive Order No. S-3-05, which set the following GHG emission reduction targets for California: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and, by 2050, reduce GHG emissions to 80 percent below 1990 levels. Executive Order No. S-3-05 also instructed the Secretary of the California Environmental Protection Agency to coordinate with other state agencies and report to the Governor and State Legislature by January 2006 (and biannually thereafter) on progress made toward meeting the specified GHG emission reduction targets and the impacts of global climate change on California.

On November 14, 2008, Governor Schwarzenegger issued Executive Order No. S-13-08, which instructed various state agencies to come up with plans on how to address the expected effects of climate change in

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27 See *Western Climate Initiative Statement of Regional Goal*, Western Climate Initiative, available online at http://www.westernclimateinitiative.org/ewebeditpro/items/O104F13006.pdf (last visited February 9, 2009). (This document is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.)

California, particularly sea level rise. The Executive Order specifically required the CNRA, in cooperation with other agencies, to request that the National Academy of Sciences (NAS) convene an independent panel to complete (by December 1, 2010) the first California Sea Level Rise Assessment Report and initiate, within 60 days after the signing of this Order, an independent sea level rise science and policy committee made up of state, national, and international experts. In addition, the CNRA was required to develop a state climate adaptation strategy, in which the best known science on climate change impacts to California is summarized, California's vulnerability to the identified impacts is assessed, and solutions that can be implemented within and across state agencies to promote resiliency are outlined.

On November 17, 2008, Governor Schwarzenegger issued Executive Order No. S-14-08, which established a 2020 Renewable Portfolio Standard target of 33 percent for California's retail sellers of electricity. (Senate Bills 1078 and 107 previously established a Renewable Portfolio Standard of 20 percent by 2010.) The Executive Order also endeavored to streamline the environmental review and permitting processes for renewable energy projects by directing all state regulatory agencies to give priority to such projects. On September 15, 2009, Governor Schwarzenegger signed Executive Order S-21-09, which requires CARB to adopt a regulation consistent with the 33 percent renewable energy target established in Executive Order No. S-14-08 by July 31, 2010.

(2) Assembly Bill 1493

Assembly Bill 1493 (AB 1493) was chaptered into law on July 22, 2002. AB 1493 required CARB to adopt regulations, by January 1, 2005, that would result in the achievement of the "maximum feasible" reduction in GHG emissions from vehicles used in the state primarily for noncommercial, personal transportation.[28] As enacted, the AB 1493 regulations were to become effective January 1, 2006, and apply to passenger vehicles and light-duty trucks manufactured for the 2009 model year or later.

Although the U.S. EPA traditionally regulates tailpipe emissions, CARB maintains some regulatory authority due to the severe air quality issues in California. In fact, pursuant to the federal CAA, CARB may implement stricter regulations on automobile tailpipe emissions than the U.S. EPA, provided a waiver from the U.S. EPA is obtained.

In September 2004, CARB adopted the AB 1493-mandated regulations and incorporated those standards into the Low-Emission Vehicle (LEV) program. The regulations set fleet-wide average GHG emission requirements for two vehicle categories: passenger car/light duty truck (type 1) and light-duty truck

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28 AB 1493 prohibited CARB from requiring: (1) any additional tax on vehicles, fuel, or driving distance; (2) a ban on the sale of certain vehicle categories; (3) a reduction in vehicle weight; or (4) a limitation on or reduction of speed limits and vehicle miles traveled.

(type 2). The standards took into account the different global warming potentials of the GHGs emitted by motor vehicles, and were scheduled to phase in during the 2009 through 2016 model years. If implemented, these regulations would produce a nearly 30 percent decrease in GHG emissions from light-duty vehicles by 2030.

In December 2004, these regulations were challenged in federal court by the Alliance of Automobile Manufacturers, who claimed that the regulations attempted to regulate vehicle fuel economy, a matter that lies within the exclusive jurisdiction of the federal government. In a decision rendered in December 2007, the U.S. District Court for the Eastern District of California rejected key elements of the automakers' challenge and concluded that CARB's regulations were neither precluded nor preempted by federal statutes and policy (*Central Valley Chrysler-Jeep, Inc. v. Goldstone*, 529 F.Supp. 2d 1751 (E.D. Cal. 2007).

While this litigation was pending, in December 2005, CARB submitted a waiver application to the U.S. EPA. After waiting nearly two years for a decision from the U.S. EPA, in November 2007, California filed a lawsuit alleging that the U.S. EPA failed to consider the waiver application in a timely fashion. The U.S. EPA's chief promised to issue a decision on the application by December 31, 2007, and, in mid-December 2007, the U.S. EPA's chief fulfilled his promise by issuing a decision denying California's waiver application. The denial was based on the U.S. EPA's determination that the new federal automobile fuel economy requirements would achieve what California sought to accomplish *via* the AB 1493 regulations.

The denial of California's waiver application precluded as many as 16 other states from implementing tailpipe emission regulations similar to those adopted by California under AB 1493. In response to this denial, California filed a lawsuit, with the support of 15 other states, challenging the U.S. EPA's decision.

On January 26, 2009, President Obama issued a presidential memorandum directing the Administrator of the U.S. EPA to reconsider California's waiver application. On June 30, 2009, the U.S. EPA granted California's waiver application, reversing its prior determination and authorizing CARB to implement the AB 1493 regulations. Therefore, the state is authorized to implement the AB 1493 regulations and secure the desired tailpipe GHG emission reductions. (California will allow automakers who show compliance with the national program to also be deemed to comply with state requirements.)

(3) Assembly Bill 32

In August 2006, the California Legislature adopted the California Global Warming Solutions Act of 2006. Also known as Assembly Bill 32 (AB 32), the new law designates CARB as the state agency responsible for monitoring and regulating sources of GHG emissions and for devising rules and regulations that will achieve the maximum technologically feasible and cost-effective GHG emissions reductions. Specifically, AB 32 seeks to achieve a reduction in statewide GHG emissions to 1990 levels by 2020.

> *By January 1, 2008, the state board shall … determine what the statewide greenhouse gas emissions level was in 1990, and approve … a statewide greenhouse gas emissions limit that is equivalent to that level, to be achieved by 2020.*

(Health & Saf. Code, section 38550.) While AB 32 sets out a timeline for the adoption of measures to evaluate and reduce GHG emissions across all source categories, it does not articulate these measures itself; instead, these measures are being determined in subsequent regulatory processes.

Under AB 32, by January 1, 2008, CARB was required to determine the amount of statewide GHG emissions in 1990, and set the 2020 limit equivalent to that level. In that regard, CARB determined that the 1990 GHG emissions level (and the 2020 statewide cap) was 427 million tonnes of CO_2e. CARB further determined that the state must reduce its emissions inventory by 169 million tonnes of CO_2e to achieve the AB 32 reduction mandate (i.e., 1990 levels by 2020).

On December 6, 2007, CARB adopted regulations, pursuant to AB 32, requiring the largest facilities in California to report their annual GHG emissions. The facilities identified in the mandatory reporting regulations include industrial and commercial stationary sources, such as electricity generating facilities and retail providers; oil refineries; hydrogen plants; cement plants; cogeneration facilities; and industrial sources that emit more than 25,000 tonnes of CO_2e per year from an on-site stationary source.

CARB also has adopted its first set of GHG emission reduction measures, known as the "discrete early action measures." These measures either are currently underway or are to be initiated by CARB in the 2007–2012 timeframe. The discrete early action measures cover a number of sectors, including transportation, fuels, and agriculture, and address issues such as a low carbon fuel standard, landfill methane capture, and consumer products with high global warming potentials.

As mandated by AB 32, in December 2008, CARB adopted the *Climate Change Proposed Scoping Plan: A Framework For Change* (October 2008).[29] The Scoping Plan contains a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce the state's dependence on oil, diversify energy sources, save energy, and enhance public health while creating new jobs and enhancing growth in California's economy. Key elements of the Scoping Plan include: (1) expansion and strengthening of existing energy efficiency programs, and building and appliance standards; (2) expansion of the renewable portfolio standard to 33 percent; (3) development of a regional cap-and-trade program (i.e., participation in the Western Climate Initiative); (4) implementation of existing state laws and policies, including California's clean car standards, good movement measures, and the low carbon fuel standard; and (5) targeted fees to fund the long-term implementation of AB 32.

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29 *Climate Change Proposed Scoping Plan: A Framework for Change*, California Air Resources Board (adopted December 2008). (This document is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.)

The GHG emission reduction measures identified in the Scoping Plan adopted by the Board will be developed over the next three years and enforceable by 2012. By January 1, 2014 and every five years thereafter, CARB is required to update the Scoping Plan.

Pursuant to its AB 32 authority and consistent with Governor Schwarzenegger's Executive Order No. S-01-07 (January 18, 2007), CARB adopted a low carbon fuel standard (LCFS) on April 23, 2009. This regulation is responsive to Executive Order No. S-1-07, which calls for a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020.

Consistent with AB 32 and the adopted Scoping Plan, CARB also has initiated the rulemaking process for the state's participation in a regional cap-and-trade program. Specifically, in November 2009, CARB issued for public review a preliminary draft regulation establishing the program's framework. The cap-and-trade program is anticipated to establish a cap covering 85 percent of California's emissions, and would require covered entities to surrender (at the end of a compliance period) sufficient "compliance instruments," which CARB staff has defined to include allowances and offsets, with each instrument totaling one metric ton of carbon dioxide equivalents.

California's November 2010 ballot includes a proposition (Proposition 23) that proposes to temporarily suspend implementation of AB 32 until the State's unemployment rate returns to specified levels for four consecutive calendar quarters.

(4) Senate Bill 1

Adoption of Senate Bill 1 (SB 1) by the California Legislature in 2006 was the culmination of the Governor Schwarzenegger's Million Solar Roofs Initiative, which expanded upon the California Solar Initiative and the New Solar Homes Partnership programs. Public Resources Code, section 25405.5, as enacted by SB 1, requires that:

- sellers of production homes offer a solar energy system option to all customers who enter into negotiations to purchase a new production home constructed on land for which an application for a tentative subdivision map has been deemed complete on or after January 1, 2011; and

- the California Energy Commission (CEC) develop an offset program that allows a developer or seller of such production homes to forgo the requirement of offering a solar energy system option on a particular project by installing solar energy systems generating specified amounts of electricity on other projects. In early 2010, the CEC formally initiated the rulemaking process that will establish the rules governing the implementation of this offset program, which is referred to as the "industry option."

(5) Senate Bill 97

With respect to CEQA, the California legislature passed Senate Bill 97 (SB 97), which addresses GHG analysis under CEQA, during the 2007 legislative session. The bill contains two components, the first of which exempts from CEQA the requirement to assess GHG emissions for the following projects: (a) transportation projects funded under the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006; and (b) projects funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006.

SB 97's second component confirms that no CEQA guidelines presently exist to advise agencies and project applicants of whether a particular project may result in a potentially significant impact to global climate change. Accordingly, SB 97 requires that the Office of Planning and Research (OPR), by July 1, 2009, develop and transmit to the CNRA guidelines for the mitigation of GHG emissions and their effects. The CNRA was required to adopt the regulations by January 1, 2010. (This second component of SB 97 is codified at Public Resources Code, section 21083.05.)

Notably, Governor Schwarzenegger issued a signing message when enacting SB 97 that is instructive as to the Governor's policy on global climate change, which includes a directive towards coordinating the efforts of various agencies to efficiently and fairly achieve GHG emissions reductions:

> *Current uncertainty as to what type of analysis of greenhouse gas emissions is required under [CEQA] has led to legal claims being asserted which would stop these important infrastructure projects. Litigation under CEQA is not the best approach to reduce greenhouse gas emissions and maintain a sound and vibrant economy. To achieve these goals, we need a coordinated policy, not a piecemeal approach dictated by litigation.*
>
> *This bill advances a coordinated policy for reducing greenhouse gas emissions by directing the Office of Planning and Research and the Resources Agency to develop CEQA guidelines on how state and local agencies should analyze, and when necessary, mitigate greenhouse gas emissions.*

On June 19, 2008, in light of its SB 97-mandated obligations, OPR issued a *Technical Advisory*, which provides lead agencies and project applicants with informal advice on how to conduct GHG emissions analysis in CEQA documents. OPR intends the *Technical Advisory* to be used on an interim basis only (i.e., until OPR and the CNRA accomplish their SB 97 mandates.[30] The *Technical Advisory*'s recommended approach notes that compliance with CEQA, for purposes of GHG emissions, entails three basic steps:

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30 See *Technical Advisory -- CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review,* Governor's Office of Planning and Research, available online at http://opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf (last visited February 9, 2009). (This document is available for public inspection and review at the County of Los Angeles Public Library, Valencia Branch, 23743 West Valencia Boulevard, Santa Clarita, California 91355-2191, and is incorporated by reference.)

(1) identification and quantification of GHG emissions; (2) assessment of the project's impact on climate change; and (3) identification and consideration of project alternatives and/or mitigation measures, if the project is determined to result in an individually or cumulatively significant impact.

On April 13, 2009, OPR transmitted its proposed amendments to the CEQA Guidelines to the CNRA.[31] In the transmittal letter accompanying the proposed amendments, OPR noted that although the analysis of greenhouse gas emissions in environmental documentation "presents unique challenges to lead agencies," the analysis "must be consistent" with existing CEQA principles. Therefore, OPR confirmed that the proposed amendments "suggest relatively modest changes to various portions of the existing CEQA Guidelines."

On December 30, 2009, following an extensive public outreach program, the CNRA adopted amendments to the CEQA Guidelines that address GHG emissions and related issues. The CNRA transmitted the adopted amendments and the entire rulemaking file to the Office of Administrative Law (OAL) on December 31, 2009. On February 16, 2010, the OAL approved the adopted amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The adopted amendments became effective on March 18, 2010.

In its *Final Statement of Reasons for Regulatory Action* (December 2009), the CNRA observed:

> *Analysis of GHG emissions in a CEQA document presents unique challenges to lead agencies. Such analysis must be consistent with existing CEQA principles, however. Therefore, the Amendments comprise relatively modest changes to various portions of the existing CEQA Guidelines. Modifications address those issues where analysis of GHG emissions may differ in some respects from more traditional CEQA analysis. Other modifications clarify existing law that may apply both to analysis of GHG emissions as well as more traditional CEQA analyses.*

(*Final Statement of Reasons for Regulatory Action*, CNRA [December 2009], p. 13.) The above excerpted language is consistent with the overall spirit of the adopted CEQA Guidelines language, which does not bring about radical changes in CEQA analysis but seeks to affirm that traditional CEQA principles extend to GHG emissions and global climate change.

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31 See *CEQA Guidelines Sections Proposed To Be Added Or Amended*, Governor's Office of Planning and Research, available online at http://opr.ca.gov/index.php?a=ceqa/index.html (last visited April 15, 2009). (This document is available for public inspection and review at the County of Los Angeles Public Library, Valencia Branch, 23743 West Valencia Boulevard, Santa Clarita, California 91355-2191, and is incorporated by reference.)

With respect to the significance assessment, newly added *State CEQA Guidelines*, section 15064.4, subdivision (b), provides:

> *A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:*
>
> *(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;*
>
> *(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;*
>
> *(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.*

The amendments also provide that lead agencies should consider all feasible means of mitigating greenhouse gas emissions. These potential mitigation measures may include carbon sequestration. If off-site or carbon offset mitigation measure are proposed, they must be part of a reasonable plan of mitigation that the agency itself is committed to implementing.

In its *Technical Advisory*, OPR requested that CARB submit recommendations regarding the appropriate significance criteria to use in environmental documentation, prepared pursuant to CEQA, when evaluating GHG emissions and global climate change impacts. Accordingly, on October 24, 2008, CARB issued its "Preliminary Draft Staff Proposal: Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act (Preliminary Draft Staff Proposal)."[32] In the Preliminary Draft Staff Proposal, CARB proposes tiered significance criteria for two types of projects: (1) industrial and (2) commercial/residential. With respect to commercial/residential projects, CARB proposes a four tiered criterion:

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32 See *Preliminary Draft Staff Proposal: Recommended Approaches For Setting Interim Significance Thresholds For Greenhouse Gas Emissions under The California Environmental Quality Act*, California Air Resources Board, available online at http://www.arb.ca.gov/cc/localgov/ceqa/ meetings/102708/prelimdraftproposal102408.pdf (last visited February 9, 2009). (This document is available for public inspection and review at the County of Los Angeles Public Library, Valencia Branch, 23743 West Valencia Boulevard, Santa Clarita, California 91355-2191, and is incorporated by reference.)

- **Tier 1:** Is the project exempt from further analysis under existing statutory or categorical exemptions? If yes, there is a presumption of less than significant impacts with respect to climate change.

- **Tier 2:** Does the project comply with a previously approved plan that addresses GHG emissions? (The plan must satisfy certain requirements (e.g., be consistent with AB 32 and/or SB 375, the latter of which is discussed further below).) If yes, there is a presumption of less than significant impacts with respect to climate change.

- **Tier 3:** Does the project satisfy certain minimum performance standards relating to construction and operational activities, or include equivalent mitigation measures, *and* emit no more than a yet to be determined quantity of emissions? If yes, there is a presumption of less than significant impacts with respect to climate change.

- **Tier 4:** The project will have significant climate change impacts.

CARB received public comment on the draft criteria. However, as of this writing, CARB has suspended its work on the draft criteria.

(6) Senate Bill 375

Senate Bill 375 (SB 375) was passed by the California Legislature on September 1, 2008, and chaptered into law on September 30, 2008. SB 375 requires CARB, working in consultation with California's metropolitan planning organizations (MPOs), to set regional GHG reduction targets for the automobile and light truck sector for 2020 and 2035. CARB must provide each MPO with its reduction target by September 30, 2010. Each MPO then must incorporate the assigned GHG reduction target into its Regional Transportation Plan (RTP), which is used for long-term transportation planning, via a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS). Certain transportation planning and programming activities will need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plan) are not required to be consistent with either the RTP or SCS.

In accordance with SB 375, on January 23, 2009, CARB appointed a Regional Targets Advisory Committee (RTAC) to provide recommendations and methodologies to be used in the target setting process. The RTAC provided its recommendations in a report to CARB on September 29, 2009.

On August 9, 2010, CARB staff issued the *Proposed Regional Greenhouse Gas Emission Reduction Targets For Automobiles And Light Trucks Pursuant To Senate Bill 375*. With respect to the Southern California Association of Governments (SCAG) region, CARB staff proposed a reduction target of 8 percent for 2020, and 13 percent for 2035. The emissions reduction will be measured relative to 2005 levels and as a percent reduction in per capita emissions associated with passenger vehicles and light trucks. Based on CARB staff's *Draft Regional Greenhouse Gas Emission Reduction Targets For Automobile And Light Trucks Pursuant To Senate Bill 375* (June 30, 2010), the targets exclude emission reductions expected from the AB 1493 and low

carbon fuel standard regulations. The proposed reduction targets are scheduled to be considered by CARB on September 23, 2010. (CARB's SB 375-related materials are available on CARB's website at http://www.arb.ca.gov/cc/sb375/sb375.htm.)

SB 375 includes CEQA streamlining provisions for "transit priority projects," so long as the projects are consistent with the SCS. As defined in SB 375, a "transit priority project" shall (1) contain at least 50 percent residential use, based on total building square footage and, if the project contains between 26 and 50 percent nonresidential uses, a floor area ratio of not less than 0.75; (2) provide a maximum net density of at least 20 dwelling units per acre; and (3) be within 0.5 mile of a major transit stop or high quality transit corridor.

(7) Energy Conservation Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24), found in the California Code of Regulations, originally were established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 governs energy consumed by the built environment for commercial and residential buildings in California. This includes the heating, ventilation and air conditioning (HVAC) system, water heating, and some fixed lighting. (Non-building energy use, or "plug-in" energy use, is not covered by Title 24.) The Title 24 standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The CEC adopted a new set of standards on April 23, 2008, and the California Building Standards Commission approved them for publication on September 11, 2008. These new 2008 standards became effective on January 1, 2010, such that all applications for building permits submitted after that date will be subject to the 2008 standards.

Title 24 does not specify building dimensions (e.g., size, height, or orientation) and provides significant flexibility for window types, window amounts, insulation choice, and other parameters. Software is often used to calculate whether a building is Title 24 compliant by quantifying the built-environment energy use per square foot per year and the Time Dependent Valuation (TDV) of the energy use per square foot per year.[33] Title 24 compliance is based on TDV and not on annual energy use.

California's 2009 Appliance Efficiency Regulations were adopted by the CEC on December 3, 2008, and approved by OAL on July 10, 2009. The regulations include standards for both federally regulated

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33 TDV energy use is a parameter that speaks to the electricity burden that a building puts on the electric system. In general, there is a larger demand on the electricity supply system during the day (peak times) than at night (off peak). This results in a higher stress on the electricity delivery system per marginal unit electricity delivered at peak times. Therefore, the calculation of TDV weights energy used at different times at different values. For instance, for the same annual electricity use, a building that uses more electricity during the peak mid-day electrical usage period will have a higher TDV value.

appliances and non-federally regulated appliances, and reduce greenhouse emissions by reducing energy demand.

In early January 2010, the California Building Standards Commission unanimously adopted the first-in-the-nation mandatory statewide green building code—referred to as, CALGREEN. Taking effect on January 1, 2011, these comprehensive regulations will achieve major reductions in emissions, energy consumption and water use to create a greener California. CALGREEN will require that every new building constructed in California reduce water consumption by 20 percent, divert 50 percent of construction waste from landfills and install low pollutant-emitting materials. It also requires separate water meters for nonresidential buildings' indoor and outdoor water use, with a requirement for moisture-sensing irrigation systems for larger landscape projects and mandatory inspections of energy systems (e.g., heat furnace, air conditioner and mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity and according to their design efficiencies. CARB estimates that the mandatory provisions will reduce greenhouse gas emissions by 3 million metric tons equivalent in 2020.[34]

(8) Other Reports

In 2007, the CEC issued a report, entitled *The Role of Land Use in Meeting California's Energy and Climate Change Goals* (CEC Land Use Report).[35] The CEC Land Use Report examines how land use decisions affect emissions associated with passenger vehicle use and building energy use.

The CEC Land Use Report notes that transportation accounts for 40 percent of California's GHG gases, thereby making transportation the single largest category of GHG emissions in the state of California. The GHG emissions are a function of Vehicle Miles Traveled (VMT) and the GHG emissions per mile traveled. As provided in the CEC Land Use Report, the VMT rate has been growing by 3 percent per year, and modeling undertaken by the California Department of Transportation estimates a similar growth rate in the future.[36] Although fuel efficiency may be influenced in the near future by federal and state

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34 See Governor Schwarzenegger's Press Release regarding Statewide Green Building Standards Code, available at http://gov.ca.gov/press-release/14186/ (last visited March 10, 2010).

35 See *The Role Of Land Use In Meeting California's Energy And Climate Change Goals*, California Energy Commission, available online at http://www.energy.ca.gov/2007publications/CEC-600-2007-008/CEC-600-2007-008-SF.PDF (last visited February 9, 2009). (This document is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.)

36 Estimates assume current population growth rates and the continuation of current development and transportation practices.

regulations, the CEC Land Use Report observes that land use planners cannot easily affect the fuel efficiency of vehicles driven to and from new development.

Nonetheless, the CEC Land Use Report also finds that (1) "[r]esidential density may have the most profound effect on travel behavior, with higher density reducing vehicle miles traveled per capita;" and (2) "balancing jobs and housing in a given area may also reduce vehicle miles traveled per capita by shortening commute distances." At present time, the CEC Land Use Report notes that a standard method for predicting VMT has not been fully established and more research in the area is needed. In other words, a simple assessment of residential density and jobs-housing balance may not accurately predict VMT per capita at a development.

The CEC Land Use Report cites several energy saving project design features that developers have some control over, such as: (1) the on-site production of renewable energy; (2) the use of distributed electricity generation (DG); and (3) the orientation of residences in relation to the sun, so as to increase shade and incorporate roofs that reflect heat. The CEC Land Use Report also notes that different sizes and types of dwelling units influence the energy consumption of a home: "Residents of single-family detached housing, for example, are expected to consume 22 percent more primary energy than those of multifamily housing and 9 percent more than those of single-family attached housing."

d. Local Authorities and Administering Agencies

(1) Los Angeles County

In January 2007, the Los Angeles County Board of Supervisors adopted the Countywide Energy and Environmental Policy, which provides guidelines for sustainability and green building design within County departments. The policy states that the County will join the California Climate Action Registry (CCAR) to establish goals for reducing GHG emissions. In addition, the policy incorporates a sustainable building program into County capital improvement projects and seeks to integrate energy efficient and sustainable designs into future County building plans. For example, as of January 16, 2007, the County's Capital Construction Program must achieve Leadership in Energy and Environmental Design (LEED) Silver Certification for new County (government) buildings greater than 10,000 square feet.

Three ordinances also were adopted by the County of Los Angeles Board of Supervisors in late 2008, and became effective on January 1, 2009.[37] These ordinances include (1) green building standards ordinance; (2) low-impact development standards ordinance; and, (3) drought-tolerant landscaping ordinance. With respect to green building, the County requires buildings to consume 15 percent less energy than authorized per the 2005 Title 24 standards. In addition, for building permit applications filed on or after January 1, 2010, the ordinance requires that LEED or LEED-equivalent ratings be met. In sum, the various requirements imposed by the green building ordinance conserve water, conserve energy, conserve natural resources, divert waste from landfills, minimize impacts to existing infrastructure, and promote a healthier environment. An excerpt from the green building ordinance is provided below; for more information, please see Title 21 and 22 of the LA County Code.

> ***Los Angeles County Code, Section 22.52.2130***
>
> *A. Table 22.52.2130-1 summarizes the general green building requirements for a project, which requirements shall be based on the building permit application filing date for the project.*
>
> . . .

TABLE 22.52.2130-1

GREEN BUILDING REQUIREMENTS FOR PROJECTS

	Project Description	**Building Permit Application Filed on or after January 1, 2009, but before January 1, 2010**	**Building Permit Application Filed on or after January 1, 2010**
1	Residential projects with < 5 dwelling units	County Green Building Standards	County Green Building Standards
2	Residential projects with ≥ 5 dwelling units	County Green Building Standards	County Green Building Standards & (GPR or CGB or LEED Certified)

[37] LEED certification is a performance-oriented rating system whereby buildings earn points for satisfying criterion designed to address environmental impacts inherent in the design, construction, operation and management of buildings. LEED silver certification is awarded to buildings that obtain approximately half of the overall possible LEED points. Therefore, it may be appropriate to assume that a LEED silver building would obtain half of the possible points in the "optimize energy performance" category. To obtain half of the possible energy points, a building would need to be approximately 30 percent better than the 2005 Title 24 standards. Greenhouse gas emission reductions associated with the LEED silver certification requirement for Los Angeles County buildings were not quantitatively accounted for in this analysis due to ambiguities concerning the precise emissions savings from LEED certification. (See *Green Buildings*, County of Los Angeles, available at http://green.lacounty.gov/green_buildings.asp.) (This document is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.)

3	Hotels/motels, lodging houses, non-residential, and mixed-use buildings, with a gross floor area of < 10,000 square feet	County Green Building Standards	County Green Building Standards
4	Hotels/motels, lodging houses, non-residential, and mixed-use buildings, and first-time tenant improvements, with a gross floor area of ≥ 10,000 square feet and < 25,000	County Green Building Standards	County Green Building Standards & LEED™ Certified
5	Hotels/motels, lodging houses, non-residential, and mixed-use buildings, and first-time tenant improvements, with a gross floor area of ≥ 25,000 square feet	County Green Building Standards	County Green Building Standards & LEED™ Silver
6	High-rise buildings > 75 feet in height	County Green Building Standards	County Green Building Standards & LEED™ Silver

C. County Green Building Standards.

1. Energy Conservation. All projects shall be designed to consume at least fifteen (15) percent less energy than allowed under the 2005 Update to the California Energy Efficiency Standards . . .

2. Outdoor Water Conservation.

a. A smart irrigation controller shall be installed for any area of a lot that is landscaped or designated for future landscaping.

b. All landscaped areas shall meet the drought-tolerant requirements set forth in Part 21 of Chapter 22.52.

3. Indoor Water Conservation. All tank-type toilets installed in residential projects containing five or more dwelling units regardless of gross floor area, or in hotels/motels, lodging houses, non-residential, and mixed-use buildings with

a gross floor area of at least 10,000 square feet shall be high-efficiency toilets (maximum 1.28 gallons/flush).

4. Resource Conservation.

a. A minimum of 50 percent of non-hazardous construction and demolition debris by weight from all residential projects containing less than five dwelling units regardless of gross floor area, or from hotels/motels, lodging houses, non-residential, and mixed-use buildings with a gross floor area of less than 10,000 square feet shall be recycled and/or salvaged for reuse.

b. A minimum of 65 percent of non-hazardous construction and demolition debris by weight from all residential projects containing at least five dwelling units regardless of gross floor area, or from hotels/motels, lodging houses, non-residential, and mixed-use buildings with a gross floor area of at least 10,000 square feet shall be recycled and/or salvaged for reuse.

. . .

5. Tree Planting.

a. For each lot containing a single-family residence, a minimum of two 15-gallon trees shall be planted and maintained, at least one of which shall be from the drought-tolerant plant list. The satisfaction of this requirement may be used to fulfill other tree-planting requirements of this Title 22.

b. For each lot containing a multi-family building, a minimum of one 15-gallon tree shall be planted and maintained for every 5,000 square feet of developed area, at least fifty (50) percent of which shall be from the drought-tolerant plant list. The satisfaction of this requirement may be used to fulfill other tree-planting requirements of this Title 22.

c. For each lot containing a hotel/motel, lodging houses, and non-residential buildings, a minimum of three 15-gallon trees shall be planted and maintained for every 10,000 square feet of developed area, at least sixty-five (65) percent of which shall be from the drought-tolerant plant list. The satisfaction of this requirement may be used to fulfill other tree-planting requirements of this Title 22.

. . .

D. Additional Green Building Requirements for Certain Projects After January 1, 2010. In addition to the green building requirements set forth in subsections C.1 through C.5, this subsection sets forth green building requirements for certain projects, described below, where the building permit application for such project is filed on or after January 1, 2010.

1. For a residential project containing five (5) or more dwelling units, the project shall achieve GPR, CGB, or LEED™ certification or, at the option of the applicant, shall achieve the equivalency of any such certification, as determined by Public Works.

2. For a hotel/motel, lodging house, non-residential or mixed-use building, or first-time tenant improvement, with a gross floor area of at least 10,000 square feet but less than 25,000 square feet, the project applicant shall retain a LEED™ accredited professional or other green building professional, approved by the Director and the Director of Public Works, to be part of the project design team. In addition, the project shall achieve the equivalency of LEED™ certification, either through USGBC certification or through an equivalency determination by Public Works. The building design submitted to Public Works shall show all of the building elements that will be used to achieve such certification or such equivalency determination.

3. For a hotel/motel, lodging house, non-residential or mixed-use building, or first-time tenant improvement project, with a gross floor area greater than 25,000 square feet or for a high-rise building greater than seventy-five (75) feet in height, the project applicant shall retain a LEED™ accredited professional or other green building professional, approved by the Director and the Director of Public Works, to be part of the project design team. In addition, the project shall achieve the equivalency of a LEED™ silver certification, either through USGBC certification or through an equivalency determination by Public Works. The building design submitted to Public Works shall show all of the building elements that will be used to achieve such certification or such equivalency determination.

. . .

(2) South Coast Air Quality Management District Significance Threshold

In the spring of 2008, the South Coast Air Quality Management District (SCAQMD) convened a stakeholders working group in connection with its development of a CEQA significance threshold for GHG emissions. In December 2008, SCAQMD adopted a threshold for projects where it is the lead agency under CEQA (e.g., stationary source projects; air quality management plans and regulations). SCAQMD staff currently is developing a tiered threshold for residential and commercial projects.[38] As of SCAQMD staff's November 2009 meeting, the draft tiered threshold provides the following guidance:

- **Tier 1:** Is the project exempt from CEQA? If yes, the project is not significant and no further analysis is required.

- **Tier 2:** Is the project consistent with an approved regional climate action plan? If yes, the project is not significant and no further analysis is required.

- **Tier 3:** Would the project result in emissions below the screening level criteria? If yes, the project is not significant and no further analysis is required.

  Non-Land Use Type Specific Screening Level Criteria

  3,000 metric tons per year

  Land Use Type Specific Screening Level Criteria

  Residential: 3,500 metric tons per year

  Commercial: 1,400 metric tons per year

  Mixed-Use: 3,000 metric tons per year

- **Tier 4:** Would the project comply with certain performance-based standards? If yes, the project is not significant and no further analysis is required.

  The performance-based standard asks whether a project would achieve *either* a 28 percent reduction below business-as-usual levels or a 4.6 metric ton per service population per year efficiency metric, *and* emit no more than 25,000 metric tons per year.

- **Tier 5:** Would the project secure sufficient carbon offsets or credits to reduce emissions to a level at or below the screening level criteria presented in Tier 3, assuming a 30-year project life. If yes, the project is not significant and no further analysis is required.

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38 See *Greenhouse Gases (GHG) CEQA Significance Thresholds*, South Coast Air Quality Management District, available online at http://www.aqmd.gov/ceqa/handbook/GHG/GHG.html (last visited February 9, 2009). (This document is available for public inspection and review at the County of Los Angeles Public Library, Valencia Branch, 23743 West Valencia Boulevard, Santa Clarita, California 91355-2191, and is incorporated by reference.)

e. Other Guidance Addressing GHG Emission Inventories

The Greenhouse Gas Protocol Initiative is a multi-stakeholder partnership of businesses, non-governmental organizations (NGOs), governments, and others convened by the World Resources Institute (WRI), a U.S.-based environmental NGO, and the World Business Council for Sustainable Development (WBCSD), a Geneva-based coalition of 170 international companies. The Greenhouse Gas Protocol Initiative prepared a step-by-step guide for companies to use in quantifying and reporting their GHG emissions.

WRI categorizes emissions into three scopes: Scope 1 – direct GHG emissions; Scope 2 – electricity-related indirect GHG emissions; and Scope 3 – other indirect GHG emissions. These classifications indicate decreasing control on the company's part relative to GHG emissions. In other words, the GHGs that are produced directly from the company's operations are within Scope 1; the company has a great deal of control over those emissions. Scope 2 covers GHG emissions that result from the company's electricity use. While the company has a great deal of control over the amount of electricity use, it does not control the GHG intensity of electricity production. Finally, the company has little control over Scope 3 emissions, which include emissions resulting from activities such as an employee's work commute.

Scope 1: Direct GHG Emissions

> Direct GHG emissions occur from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.; emissions from chemical production in owned or controlled process equipment.

The only emissions that would result from the proposed project that might be considered Scope 1 emissions are construction emissions and emissions associated with the loss of carbon sequestration capacity via vegetation removal. These are the only emissions over which the project applicant has direct control.

Scope 2: Electricity-Related Indirect GHG Emissions

> Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where electricity is generated.

Although electricity consumption is accounted for in the proposed project's GHG emissions inventory, the electricity would be consumed by the eventual occupants of the residential and nonresidential buildings facilitated by approval of the proposed project. The proposed project itself will not purchase this electricity. Therefore, the electricity-related emissions associated with the proposed project are considered to fall within Scope 3, as described below.

Scope 3: Other Indirect GHG Emissions

> Scope 3 is an optional reporting category that allows for the treatment of all other indirect emissions. Scope 3 emissions are a consequence of the activities of the company, but occur from sources not owned or controlled by the company. Some examples of scope 3 activities are extraction and production of purchased materials; transportation of purchased fuels; and use of sold products and services.

All emissions, other than the construction-related and vegetation removal-related emissions discussed above, quantified in this inventory would likely be considered Scope 3. Residents and users of the development facilitated by the proposed project would not be owned or controlled by the project applicant. Although, the project applicant is unable to restrict the amount of electricity uses, miles driven, etc.; however, as discussed above, certain aspects of the development can influence these issues.

5. PROPOSED PROJECT IMPROVEMENTS

Mission Village is a proposed mixed-use community that is part of the approved Newhall Ranch Specific Plan area, located in northern, unincorporated Los Angeles County within the Santa Clarita Valley Planning Area. The Mission Village community would consist of 4,412 residences (382 single-family homes, and 4,030 multi-family units, including attached and detached condominiums, age qualified and apartment units), 1,555,100 square feet of commercial/mixed-uses, elementary school, fire station, public library, bus transfer station, parks, public and private recreational facilities, trails, and road improvements. Please see **Section 1.0**, **Project Description**, for further information.

6. PROJECT IMPACTS

The inhabitants of residential developments and users of commercial and municipal buildings use electricity, heating, and motor vehicle transportation, all of which emit GHGs. The most significant GHG emissions resulting from residential developments include CO_2, CH_4, and N_2O. CO_2 is considered the most important GHG due primarily to the large amount of emissions produced by fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles. CH_4 and N_2O also are emitted,

though their emissions are much less significant than CO_2. CH_4 is emitted from the transmission, storage, and incomplete combustion of natural gas.

Accordingly, this section inventories and assesses the significance of GHG emissions from Mission Village during construction and at buildout. This inventory includes some emissions that are within the control of the project applicant, such as grading and the placement of utilities; some emissions that are within the control of the individuals building the residential and commercial buildings, such as construction emissions; and some emissions in which control over emissions is shared by the developers and the residents, such as energy use in the built environment and traffic emissions.

Furthermore, at this stage of development, the exact design of the homes, businesses, and facilities to be located on the Mission Village project site are not precisely known. However, estimates of the types of buildings and facilities proposed for Mission Village site can serve as guidance for developing a first-order estimate of the Mission Village project's anticipated GHG emissions. Because there are buildings planned for the future with unknown occupants, average current behavior is assumed. However, actual future emissions of the site will depend heavily upon the future homeowners' and business owners' habits (and are beyond the control of the project applicant).

a. Impact Significance Criteria

At this time, there is no absolute consensus in the State of California among CEQA lead agencies regarding the analysis of global climate change and the selection of significance criteria. Numerous organizations, both public and private, have released advisories and guidance with recommendations designed to assist decisionmakers in the evaluation of GHG emissions given the current uncertainty regarding when emissions reach the point of significance. Generally speaking, several options are available to lead agencies.

First, lead agencies may elect to rely on thresholds of significance recommended or adopted by state or regional agencies with expertise in the field of global climate change. (See *State CEQA Guidelines*, Section 15064.7(c).) However, to date, neither CARB nor SCAQMD have adopted significance thresholds for GHG emissions for residential or commercial development under CEQA.[39] As discussed above,

[39] Of note, in December 2009, the San Joaquin Valley Unified Air Pollution Control District adopted guidance for use by local lead agencies in assessing the significance of a project's GHG emissions under CEQA. The guidance relies on the use of performance-based standards, and requires that projects demonstrate a 29 percent reduction in GHG emissions, from business-as-usual, to determine that a project would have a less-than-significant cumulative impact. This threshold is not so dissimilar from the criteria utilized by the County, as defined further below, which effectuates a 29 percent emission reduction in order to support a finding that a project's emissions are not significant.

CARB has suspended all efforts to develop a threshold, and SCAQMD's threshold remains in draft form. Accordingly, this option (i.e., reliance on an adopted threshold) is not viable for the County. That being said, CNRA's recent amendments to Appendix G of the *State CEQA Guidelines* are instructive. As provided in Appendix G, lead agencies may want to consider whether the project would:

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

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?[40]

Second, lead agencies may elect to conclude that the significance of greenhouse gas emissions under CEQA is too speculative. However, the County has determined that this option is not viable due to the import and focus on global climate change created by the various regulatory schemes and scientific determinations cited in this section.

Third, lead agencies may elect to use a zero-based threshold, such that any emission of greenhouse gases is significant and unavoidable. The County does not endorse this type of threshold because it may indirectly truncate the analysis provided in CEQA documents and the mitigation commitments secured from new development. Moreover, no state or regional agency with expertise in global climate change has endorsed a zero-based threshold, which would likely result in the preparation of extensive environmental documentation for even the smallest of projects, thereby inundating lead agencies and creating an administrative burden.

Fourth, lead agencies may elect to utilize their own significance criteria, so long as such criteria are informed and supported by substantial evidence. Here, the County has elected to identify its own significance criterion until such time as a state or regional threshold is adopted by a competent authority (e.g., CARB or SCAQMD).

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40 Appendix G, Environmental Checklist Form, of the CEQA Guidelines does not contain mandatory significance thresholds. As noted in the introductory text to Appendix G, "[t]he sample questions in this form are intended to encourage thoughtful assessment of impacts, and do not necessarily represent thresholds of significance." For purposes of this greenhouse gas analysis, the Appendix G criteria are considered *as* supplemented by the City's determination that whether a project is consistent with the reduction mandate established by AB 32 is relevant when determining the significance of project impacts.

Recent amendments to the *State CEQA Guidelines* adopted by CNRA, and specifically the addition of Cal. Code Regs., tit. 14, section 15064.4, subdivision (b), are instructive:

> *A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:*
>
> *(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;*
>
> *(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;*
>
> *(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.*

Appendix G of the *State CEQA Guidelines* also has been revised to provide some guidance regarding the criteria that may be used to assess whether a project's impacts on global climate change are significant. As noted above, the Appendix G environmental checklist form asks whether a project would: (a) generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or (b) conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The analysis provided in this section is informed by the factors identified above. Further, based on the above factors (and particularly the addition of Cal. Code Regs., tit. 14, section 15064.4, subdivisions (b)(2) and (b)(3)), the County of Los Angeles has determined it is appropriate to rely on AB 32, and specifically Health & Safety Code section 38550, as a benchmark and use the statute to inform its judgment as to whether the proposed project's GHG emissions would result in a significant impact. (See Cal.Code.Regs., tit.14, Section 15064, subd. (f)(1).) Accordingly, the following significance criterion is used to assess whether the project would generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment:

> *Will the proposed project's GHG emissions impede compliance with the GHG emission reductions mandated in AB 32?*

To evaluate the proposed project's emissions under this significance criterion, the anticipated emissions are compared with the CARB 2020 No Action Taken (CARB 2020 NAT) scenario to determine if the project is likely to be consistent with rules propagated for California to meet its 2020 emissions reduction mandate. A 29 percent reduction from the CARB 2020 NAT scenario is required for the State of California to meet the AB 32 reduction mandate for year 2020. In summary, the proposed project's emissions inventory is contrasted with the emissions that would be expected if the proposed project were constructed consistent with the assumptions utilized by CARB in developing the CARB 2020 NAT scenario. If the proposed project's emissions are at least 29 percent below the CARB 2020 NAT scenario, impacts would be less than significant.

Please note that while there seems to be a general consensus amongst California lawmakers, scientists and others that global climate change is a cumulative problem, such that one single project rarely has a significant effect, this analysis evaluates the proposed project at the project-level *and* cumulative-level.

b. Emissions Estimation Methodology

(1) Emissions Estimation Guidance

This inventory was developed using guidance from two government-sponsored organizations: (i) CCAR, which was established by the California Legislature to assist willing parties in estimating and recording their GHG emissions to use as a baseline for meeting future emissions reduction requirements; and, (ii) IPCC, which publishes methodology reports that include relevant emission factors and specific scientific data that can be used to estimate GHG emissions from various activities.

(2) Emissions and Energy Use Studies

For estimating emissions based on electrical and natural gas energy use, literature information on patterns of energy use must often be employed. Studies commissioned by the CEC, specifically the Residential Appliance Saturation Survey and Commercial End-Use Survey, provide data on energy use patterns of activities that would take place in Mission Village.[41] These data were used to estimate energy use patterns which were applied to the specific characteristics of Mission Village to estimate GHG emissions. In addition to the CEC studies, studies performed by individual municipalities or scientific organizations also were used.

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41 *Residential Appliance Saturation Survey*, California Energy Commission, available at http://www.energy.ca.gov /appliances/rass/; *California Commercial End-Use Survey*, California Energy Commission, available online at http://www.energy.ca.gov/ceus/.

(3) Emissions Estimation Software

CARB, SCAQMD, and other public and private organizations have developed several software programs to facilitate the calculation of emissions from construction, motor vehicles, and urban developments by streamlining emissions estimation from these sources. This inventory was developed using several models to estimate GHG emissions from the Mission Village development, including the OFFROAD2007 model, EMFAC model, and URBEMIS model. The features of each of these models are described below.

- OFFROAD – OFFROAD2007 is the most recent version of a model developed by CARB to estimate the activity and emissions of off-road mobile emissions sources, such as construction equipment. OFFROAD contains a database of default values for horsepower, load factor, and hours per day of operation and can calculate emission factors based on the type of equipment and year of use.

- EMFAC – EMFAC, also developed by CARB, compiles real fleet data on the county-level for the state of California, including vehicle model year distributions, vehicle class (e.g., light-duty auto (LDA), medium-duty truck, heavy-heavy-duty truck) distributions, and emission rate information to generate fleet-average emission factors for most criteria pollutants and CO_2. EMFAC2007 is the newest version of the program. Emission factors from EMFAC depend on the vehicle class, vehicle technology, speed, year of operation, average ambient air temperature, and relative humidity.

- URBEMIS – The URBEMIS software was created by SCAQMD, although it is used by other air districts as well. It estimates emissions associated with different aspects of urban development. The Operational Data module in URBEMIS calculates emissions from mobile sources operating during the use of a development based on emission factors from EMFAC and traffic use information specific to a development. Mobile source emissions during the construction phase are calculated separately in the construction module of URBEMIS. URBEMIS provides county, air district/air basin, or state wide averages for number of daily trips per housing unit and per student at an elementary school in the absence of more specific information from traffic engineers. URBEMIS also provides air district-specific default values for vehicle fleet characteristics (vehicle class distribution and technology categories) and travel conditions (average trip length, trip speed, and relative frequency of each type of trip). URBEMIS (Versions 9.2.2 and 9.2.4), uses EMFAC2007 emission factors and calculates CO_2 emissions using District-specific default parameters for various inputs including vehicle fleet characteristics and travel conditions.

  In addition to mobile source emissions, URBEMIS can also calculate emissions associated with the construction phase of a development and emissions from area sources, such as fireplaces, once the development is operational. The URBEMIS construction module enables separate emissions calculations from each of the three typical stages of any construction project: demolition, site grading, and building construction. Based on the timing of construction and size of the development, URBEMIS defaults can be used to estimate emissions. Alternatively, the user can override these defaults by entering specific information about the construction project, such as what types and numbers of equipment are going to be used. In terms of area sources, URBEMIS is equipped to estimate GHG emissions from three types of GHG-emitting area sources based either on program defaults or more specific project information inputted by the user. These uses are natural gas fuel combustion, hearth fuel combustion, and landscaping equipment.

c. Impact of Regulatory Developments on the Emissions Inventory

Promulgated regulations that would affect Mission Village's emissions are quantitatively accounted for in this inventory. In particular, the Pavley Standards (AB 1493) and California's Renewable Portfolio Standard (RPS) would be in effect at buildout of the proposed project and, therefore, are accounted for in the emission calculations.

(1) Renewable Power Requirements

A major component of California's Renewable Energy Program is the RPS established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity are required to increase the amount of renewable energy (e.g., wind, small hydropower, solar, geothermal, biomass, and biogas) each year by at least 1 percent until they reach at least 20 percent by December 31, 2010. Of note, California is now considering an even higher goal of 33 percent by 2020, however, this goal has not been promulgated by statute or regulation.

The increase in renewable sources for electricity production would decrease indirect GHG emissions from Mission Village because electricity production from renewable sources generally is considered carbon neutral. For purposes of this analysis, ENVIRON assumed that the production of electricity from these renewable sources would not produce any net emissions of CO_2.

The Mission Village development would be supplied with power by Southern California Edison (SCE). The 2007 SCE carbon-intensity factor is 631 pounds of CO_2e per megawatt hour (MWh) and the 2006 SCE carbon-intensity factor is 641 pounds of CO_2e per MWh. These emission factors take into account the mix of energy sources used to generate electricity for SCE and the relative carbon intensities of these sources. SCE's 2007 mix of energy sources contains 13 percent of renewable sources. The RPS requires that utilities increase this mix to 20 percent by 2010. Thus, at full build out, it is anticipated that the carbon intensity factor will be 583 lb/MWh. Further, if the proposed 33 percent renewables target for 2020 is achieved, the SCE CO_2 emission factor would decrease even further to 488 pounds CO_2/MWh. The 33 percent renewables goal conservatively was not accounted for in this analysis because it has not yet become enforceable law.

(2) Vehicle Emissions Standards/Improved Fuel Economy

The two regulatory measures considered in this section are the vehicle GHG emission standards enacted under AB 1493 (Pavley) and the increased fuel economy standards under the Energy Independence and Security Act (EISA). The Pavley standards require GHG emission reductions from vehicles equivalent to approximately 30 percent by 2016. This accounts for an approximately 20 percent reduction in 2020 in

GHG emissions across the passenger car and light duty truck fleet in California. EISA requires that manufacturers achieve a CAFE standard of 35 mpg by 2020. On April 1, 2010, the U.S. EPA issued final rules establishing vehicle GHG emissions and new CAFE standards that are similar to Pavley through 2016.

d. Impact Analysis

Given the global nature of GHG impacts, it is difficult to understand what emissions are "new" in a global sense, from a given project. As described in this section, there are methods of estimating emissions from certain aspects of projects, such as that from the vehicle travel associated with the project. However, it is not entirely clear how to determine whether those emissions are truly additional in the global sense, or whether those emissions associated with a project would have occurred globally without the project, in any case.

Analyses for evaluating the airborne criteria pollutant impacts of new projects have already, in a sense, addressed the issue of what is "new." The calculation of criteria pollutant (oxides of nitrogen, sulfur oxides, carbon monoxide, volatile organic compounds, lead, and particulate matter) air quality emissions for use in EIRs has a long history. The goal of estimating emissions of criteria pollutants from projects is to understand whether there are significant new emissions in California's air basins, which have a limited ability to absorb additional criteria pollutant emissions without adverse air quality impacts. However, an identical approach for criteria pollutants and GHGs is not warranted because the impacts of GHG emissions are a function of their global concentrations, rather than local concentrations. Thus, the question of whether a project's GHG impacts are significant, both on a project basis and on a cumulative basis, must be asked based on global, rather than on basinwide considerations.

In the developing world, GHG increases are directly tied to population growth. Therefore, it makes sense to consider operational emissions (including vehicular emissions) from new residences as growth, as residences are rarely removed from the housing supply once constructed. There are exceptions, such as when one housing development replaces another, and, in those cases, the replacement residential development need not be considered growth.

(1) Existing Conditions

The project applicant periodically leases the Mission Village site to the movie industry for set locations. Portions of the project site also are leased for cattle grazing and agricultural operations. All existing emission sources would be eliminated by project buildout.

In light of the existing conditions, ENVIRON estimated emissions resulting from the farmland /agricultural operations uses, and specifically accounted for greenhouse gas emissions associated water use, fertilizer, and equipment. Emissions associated with the periodic lease of the project site to the movie industry were not accounted for as such activities are intermittent, limited, and unpredictable. Additionally, the cattle grazing and ranching activities on the project site were considered minimal. With that said, ENVIRON estimated the emissions associated with existing site conditions, particularly farmland/agricultural operations, to be roughly 363 metric tonnes of CO_2e per year.

(2) One-Time Emissions

(a) Construction Emissions

There are three major construction phases for an urban development: demolition, site grading, and building construction. There will not be a demolition phase for this project, since the construction will occur on previously undeveloped land presently being utilized for agricultural purposes. The building construction phase can be broken down further into three subphases: building construction, architectural painting, and asphalt paving. GHG emissions from these construction phases are largely attributable to fuel use from construction equipment and worker commuting.[42]

Three programs—URBEMIS, OFFROAD2007, and EMFAC2007—have the capability to calculate construction-related CO_2 emissions.[43] URBEMIS estimates emissions associated with different aspects of urban development, and the construction data module calculates emissions utilizing emission factors from OFFROAD2007, EMFAC2007, and construction equipment use specific to the proposed project. URBEMIS accounts for emissions from offroad construction equipment, worker commuting and vendor trips, based on the size(s) and type(s) of buildings specified by the user and various default values.

Impact Sciences, Inc., provided ENVIRON with the URBEMIS modeling runs for the proposed project's construction schedule. In total, the construction phase of project buildout would result in the emission of 82,781 tonnes of CO_2e.

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42 Three programs, the URBEMIS, OFFROAD2007 and EMFAC2007 models, were utilized to calculate construction emissions associated with grading. URBEMIS inputs for the phase length and amount of construction equipment were supplied by Impact Sciences, Inc., who also provided ENVIRON with the number of hours each type of equipment would be used in the construction of Mission Village.

43 For purposes of construction-related emissions, CO_2 and CO_2e are used interchangeably for diesel construction equipment because CH_4 and N_2O are assumed to contribute a negligible amount of global warming potential when compared to the CO_2 emissions from construction equipment. For purposes of worker commuting, however, CH_4 and N_2O are explicitly calculated and, therefore, CO_2 and CO_2e are not equal.

(b) Land Use/Vegetative Change Emissions

The removal of existing vegetation at Mission Village would contribute to net GHG increases by reducing existing carbon sequestration capacity. That is, by removing vegetation that stores carbon, existing GHG emissions would increase when that carbon is released as CO_2 upon removal. However, after completion of the Mission Village project, many privately owned areas would be revegetated with trees, shrubs, and other vegetation. These new growth areas may sequester more CO_2 from the atmosphere than was sequestered pre-development due to the re-vegetation of the areas with vegetation that sequesters more carbon dioxide. To simplify, the difference between the total before-development sequestered CO_2 and the after-development sequestered CO_2 is the one-time CO_2 released from clearing the vegetation.[44]

(1) Vegetation Removal:

The one-time release of GHG emissions due to changes in the existing carbon sequestration was calculated using a four-step methodology: (i) identify and quantify the change in area of various land use types due to development; (ii) estimate the biomass associated with each land use type; (iii) calculate the CO_2 emissions from the removal of vegetation; and, (iv) calculate the overall change in sequestered CO_2. The proposed project's total CO_2e emissions attributable to the removal of vegetation would be approximately 30,082 tonnes.

(2) Site Revegetation:

The IPCC provides default annual CO_2e sequestration rates on a per tree basis for 10 likely species classes in urban areas; these rates range from a high of 0.052 tonne of CO_2e per year in hardwood maple to a low of 0.012 tonne of CO_2e per year in Juniper trees. Alternatively, an average of 0.035 tonne of CO_2e per year per tree can be assumed for trees planted, if the tree type is not known. Because the tree types for Mission Village are not known at this time, the 0.035 tonne of CO_2e per year per tree rate was utilized.

The IPCC also specifies an active growth period of 20 years. (Urban trees are only net carbon sinks when they are actively growing.) Thereafter, the accumulation of carbon in biomass slows with age, and would be offset completely by losses from clipping, pruning, and occasional death. Of course, actual active growing periods are subject to, among other things, species, climate regime, and planting density. Trees also may be replaced at the end of the 20-year cycle, which would result in additional years of carbon sequestration. However, this would be offset by the potential net release of carbon from the removal of the replaced tree.

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44 For purposes of emissions related to land use and vegetation changes, the units of CO_2 and CO_2e are used interchangeably. CH_4 and N_2O are assumed to contribute a negligible amount of global warming potential when compared to the CO_2 emissions.

Approximately 4,985 new trees would be planted in Mission Village. Planting these trees would sequester approximately 3,531 tonnes of CO_2e. This additional carbon sequestration would reduce the net CO_2e emissions from vegetation change to approximately 26,550 tonnes (that is, 30,082 tonnes (vegetation removal) less 3,531 tonnes (4,985 net new trees)).

(3) Annual Emissions

(a) Residential Emissions

Residential buildings generate GHG emissions as a result of activities requiring electricity and natural gas as energy sources. When electricity is used in a residential building, the electricity generation typically takes place off site (e.g., power plant).[45] The amount of energy, and, therefore, the associated GHG emissions emitted per dwelling unit, varies with the type of residential building. The major types of residential buildings proposed for Mission Village are single-family homes, attached townhomes or condominiums, and apartments.

Energy use in residential buildings is divided into: (1) energy consumed by the built environment; and (2) energy consumed by uses that are independent of the construction of the building, such as plug-in appliances. In California, Title 24 governs the first category (energy consumed by the built environment) and regulates HVAC systems, water heating, and some fixed lighting. Examples of "plug-in" energy use include refrigeration, cooking, lighting, etc. The GHG emissions were then calculated as a product of the resulting energy use and appropriate emission factor, incorporating information on local electricity production and future renewable resource supplies.[46]

(1) Estimate of Residential Energy Use Intensity:

ENVIRON developed CO_2 intensity values (i.e., CO_2 emissions per dwelling unit per year) for the proposed residential building types using the CEC's Residential Appliance Saturation Study (RASS).

(2) Energy Use in the Built Environment:

New Californian homes must comply with statewide building energy efficiency standards (Title 24). Compliance with the Title 24 standards is determined from the TDV of energy use in the built

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45 Residential energy sources also may include fuel, oil, kerosene, liquefied petroleum gas, and wood. However, these sources will likely contribute only small amounts of GHGs. In addition, wood burning hearths will not be permitted in the proposed residential units on the project site.

46 For purposes of emissions relating to residential uses, the units CO_2 and CO_2e are used interchangeably because CH_4 and N_2O are assumed to contribute a negligible amount of global warming potential when compared to the CO_2 emissions.

environment (on a per square foot per year basis).[47] Title 24 determines compliance by comparing the energy use of a modeled (or "proposed") home to a minimally Title 24 compliant "standard" home of equal dimensions. Title 24 focuses on building energy efficiency per square foot; it places no limits upon the size of the house or the actual energy used per dwelling unit.

To estimate Title 24-compliant energy use, data from RASS was used to calculate the total energy use per dwelling unit.[48] The study estimates the unit energy consumption (UEC) values for individual households surveyed and also provides the saturation number for each type of end-use. (The saturation number indicates the proportion of households that have a demand for each type of end-use category.)

All proposed residential units would comply with the 2008 Title 24 standards, which became effective on January 1, 2010. In addition, the project applicant has committed to making all new homes 15 percent more energy efficient than the 2008 Title 24 standards require. Although annual energy and TDV energy do not necessarily scale linearly with each other, ENVIRON assumed that all sources covered by Title 24 would uniformly use 15 percent less annual energy. For each type of home, the 2008 Title 24 compliant energy use was calculated; the energy use numbers were then each multiplied by 0.85 to account for the 15 percent improvement over the 2008 Title 24 standards.

(3) Major Appliances and Plug-In Energy Use:

Typical major household appliances provided in new residential units include refrigerators, clothes washers and dryers, dishwashers, and cooking ranges. Energy demand from using these major appliances is based on UEC and saturation values from RASS.

In addition to major appliances, additional loads, such as lighting, office equipment, plug-in cooking equipment and electronics, also are part of the anticipated energy use for a residential development.

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47 TDV energy use is a parameter that reflects the burden that a building imposes on an electricity supply system. In general, there is a larger electricity demand and, hence, higher stress on the supply system during the day (peak times) than at night (off peak). To account for this variation, the calculation of TDV assigns different weights for energy used at different times.

48 The RASS dataset is comprised of older buildings that are typically less energy efficient (on a per square foot basis) than newer buildings constructed to meet increasingly stricter efficiency standards. ENVIRON assumed that the RASS dataset estimates represent 2001 Title 24-compliant homes. Because the Title 24 standards have been updated twice (in 2005 and 2008) since RASS, and because the CEC has published reports estimating the percentage reductions in energy use resulting from these new standards, ENVIRON accounted for the reduction in energy use resulting from the Title 24 updates by deducting the estimated percentage savings from the RASS energy use estimates.

In addition, the RASS data for heating, cooling and lighting was scaled up to reflect the larger size of the Mission Village dwelling units relative to those in the RASS data set.

Similar to the major appliances above, energy use values for plug-in appliances are based on the UEC and saturation values for the miscellaneous category in RASS.[49]

(4) Results:

Total CO_2 emissions would be 15,563 tonnes per year for the CARB 2020 NAT scenario of minimally compliant 2005 Title 24 dwelling units. For dwelling units that are minimally compliant with the 2008 Title 24 standards, the total emissions would be 14,333 tonnes per year. However, the project applicant has committed to (1) exceeding the 2008 Title 24 standards by 15 percent, and (2) using renewable electricity equivalent to putting photovoltaic systems (i.e., solar panels) on all of the single-family residences. Here, it is conservatively assumed that a 2 kWh system would be installed, although larger systems (2.3 kWh) may be more common. An industry source[50] estimates that a 2 kWh system in Santa Clarita will generate 3,356 kWh per year.[51] The energy produced by the photovoltaic systems is renewable and is assumed, for the purposes of this estimate to result in zero GHG emissions. Accordingly, the quantity of energy supplied by photovoltaic systems was subtracted from the single-family residence electricity-use to estimate GHG emissions reductions from installing solar panels. With 15 percent improvements over the 2008 Title 24 standards and with renewable energy, the 382 single-family homes emit a total of 1,254 tonnes CO_2 per year – 726 tonnes less CO_2 then minimally 2005 Title 24 compliant single-family homes without renewable energy. The total CO_2 emissions for all dwelling units, if 15 percent better than 2008 Title 24 and with renewable energy, would be 12,609 tonnes per year; a 19 percent reduction in GHG emissions.

Table 4.23-2, below, presents the inventory results for residential buildings.

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49 The plug-in energy use estimates likely are overestimated because they are based upon technologies that were available during the RASS survey, which was conducted in 2003. Future and current equipment models are likely to be more energy efficient than those operating in 2003. For example, if future Mission Village residents install Energy Star appliances, use more energy efficient equipment, and replace incandescent lights with fluorescent lights, the actual electricity use for plug-ins would be lower than is estimated here. Conversely, future residents may have more small plug-ins (e.g., MP3 player, cell phone, miscellaneous equipment) that could somewhat offset the savings from more energy efficient equipment. However, because refrigerators, lighting, and large appliances contribute to the bulk of the electricity load, and these types of equipment would likely improve in energy efficiency in the future, the estimates presented here are still believed to overstated.

50 Sunpower Solar Calculator, Sunpower Company. Available at: http://www.sunpowercorp.com/For-Homes /How-To-Buy/Solar-Calculator.aspx.

51 A kWh is 1 kilowatt of power for 1 hour.

Table 4.23-2
Estimated Residential Emissions

Title 24 and Renewable Scenario	Final CO_2e (Tonnes of CO_2e/Year)	Emissions Reduction Percentage
2005 Title 24 Compliant	15,563	N/A
2008 Title 24 Compliant	14,333	N/A
15% Better Than 2008 Title 24 And Renewables (Project Applicant's Commitment)	12,609	19%

Source: ENVIRON, 2010.

Several factors lead to uncertainties in the above analysis. First, the exact design of residential buildings that would be built at Mission Village is unknown. However, this uncertainty is expected to neither over- nor underestimate emissions because each residential building will be Title 24 compliant. Title 24 grants enough flexibility that if a designer puts in more windows than is "allowed" under the prescriptive measures, the energy efficiency losses can be offset by improving the window quality, or installing a more efficient HVAC system.

Relatedly, energy use would vary considerably depending upon the design of the home, and the residential units to be built in Mission Village would vary considerably in size, layout, and overall design. The parameters used in this inventory are intended to represent the average home sizes in each category.

Finally, built environment and plug-in energy use would vary considerably depending upon the home owners' habits and the appliances, lights, and other plug-in electricity users installed by the homeowner. The project applicant would have little, if any, influence over these choices made by the homeowner. Current median behavior attributes are presented here. To the extent that individuals are becoming more energy conscious, and/or appliances become more energy efficient, this inventory tends to overestimate energy use in the future.

(b) Nonresidential Emissions

Nonresidential buildings include all structures, except residences, that may exist in a development, such as government, municipal, commercial, retail, and office space. The amount of energy, and therefore, the associated GHG emissions emitted per square foot of available space varies with the nonresidential building's type of use.[52] For example, restaurants are far more energy intensive than warehouses, which

[52] For purposes of calculating greenhouse gas emissions associated with nonresidential uses, the units of CO_2 and CO_2e are used interchangeably because CH_4 and N_2O are assumed to contribute a negligible amount of global warming potential when compared to the CO_2 emissions.

have little climate conditioned space. Accordingly, information on the type of nonresidential buildings that are planned for Mission Village is critical to estimating GHG emissions. The project applicant provided data summarizing the nonresidential building categories proposed for Mission Village, which include (1) commercial (i.e., office [45 percent]; retail/office [55 percent]); (2) library; (3) school; and (4) public safety (i.e., fire station [100 percent]).

Similar to that described for residential buildings, GHGs are emitted as a result of activities in nonresidential buildings when electricity and natural gas are used as energy sources. Combustion of any type of fuel emits CO_2e and other GHGs directly into the atmosphere. GHGs also are emitted during the generation of electricity from fossil fuels. When electricity is used in a nonresidential building, the electricity generation typically takes place off site. And, while fuel combustion generates CH_4 and N_2O, the emissions of these GHGs typically comprise less than 1 percent of CO_2e emissions from electricity generation and natural gas consumption. Fuel oil, kerosene, liquefied petroleum gas, and wood also can be used as fuels, but generally contribute only in small amounts as combustion sources within nonresidential buildings. As such, these minor emission sources are not accounted for in this analysis.

As with residential buildings, energy use in nonresidential buildings is divided into two categories: (1) energy consumed by the built environment; and (2) energy consumed by uses that are independent of the construction of the building, such as plug-in appliances. The overall electricity and natural use was calculated on a per square foot basis for each building type based on data provided by the CEC's Commercial End-Use Survey (CEUS) results. Energy use was based on buildings in California forecasting climate zone 9. The end use data provides an estimate of the percent of total energy use comprised by the Title 24 regulated (built environment) and plug-in electricity in each building type. Because the CEUS data is based on a survey of existing buildings conducted in 2002, ENVIRON adjusted the data to reflect improvements made to the Title 24 standards in accordance with the CEC's analysis of average efficiency savings associated with the 2005 and 2008 updates to the Title 24 standards.

The project applicant has committed to making all new nonresidential buildings 15 percent more energy efficient than the Title 24 2008 standards, or 15 percent more energy efficient on a TDV basis.[53] Non-Title 24 regulated energy use is assumed to still use the same amount of energy as a minimally Title 24 compliant building. For example, no credit is taken for any Energy Star appliances since it is difficult to determine which appliances may be present in the various nonresidential building categories. In addition to the Title 24 exceedance, the project applicant also has committed to provide photovoltaic equivalent systems for every 1,600 square feet of nonresidential roof area. As a result, overall CO_2 emissions

53 Although annual energy use and TDV energy do not necessarily scale linearly with each other, the analysis assumes that all sources covered by Title 24 would uniformly use 15 percent less annual energy.

associated with the nonresidential uses that would be built at Mission Village would be 5,927 tonnes CO_2 per year.

For new developments, the exact types of buildings typically are unknown. As such, not all building categories that may actually exist in Mission Village at buildout are represented in this analysis. However, all of the commercial building area is accounted for and the best available assessment of the building type composition for the proposed project was used in estimating future GHG emissions. Additionally, although it is unknown exactly how the buildings will be designed, each building will be Title 24 compliant. Therefore, all design features of any future buildings that would make a building less energy efficient would be offset by design features that make the building more energy efficient.

(c) Mobile Source Emissions

The mobile source emissions considered for this project would be from the typical daily operation of motor vehicles by Mission Village residents. Operational emissions from new residences are considered to be growth, as residences are rarely removed from the housing supply once constructed.[54] However, as previously discussed, the increase of new GHG emissions is caused by population growth. Therefore, it is not clear that commercial development should be considered new growth for vehicular travel purposes.

To the extent that commercial development serves existing residential development, its vehicular travel may not be new. In fact, if the new commercial area serves an area with a high residential/commercial balance, then this new commercial growth may reduce shopping and work trip lengths, thereby reducing GHG emissions associated with mobile sources. And, to the extent that new commercial development serves new residential development, much of the commercial vehicle travel already would be counted in the evaluation of the new residential development. If, however, the new commercial area results in longer trips for its workers and residents than they would have previously made, then it adds GHG emissions.[55] Accordingly, GHG emissions from VMT serving commercial areas only should be counted if the commercial areas contribute to greater VMT as a result of its location. If the commercial development lowers VMT, then it should be considered to have a zero or negative GHG contribution as a result of its shortened operational vehicle trips. Although the commercial area at Mission Village likely reduces trip lengths and VMT by bringing commercial land uses in closer proximity to existing residences, and thereby resulting in a negative GHG contribution, it was assumed to contribute to a net zero increase in overall United States-wide traffic.

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54 There are exceptions, such as when one housing development replaces another, and, in those cases, the replacement residential development need not be considered growth.

55 Commercial development that could potentially increase VMT would be facilities that draw trips from far away that otherwise would not be made. A theme park, for example, may be viewed as such a development.

Fehr and Peers provided ENVIRON with the VMT per dwelling unit for the proposed project.[56] The VMT estimate included all miles traveled by the future residents of the proposed project for trips that start or end at a proposed residential unit, regardless of internal or external destinations or trip purpose. The traffic report prepared by Austin Foust listed the number of trips per dwelling unit. The emissions estimate for mobile sources, therefore, is based upon the total number of miles traveled by future residents and accounts for running emissions (i.e., VMT) and start-up emissions.

The CCAR General Reporting Protocol recommends estimating GHG emissions from mobile sources at an individual vehicle level, assuming knowledge of the fuel consumption rate for each vehicle as well as the miles traveled per car. Since these parameters are not known for a future development, the CCAR guidance is too specific to use as recommended. However, the CCAR methodology can be used with fleet-average characteristics estimated from current data available for the state of California. The program developed for CARB, the EMFAC2007 model, has the capability to calculate mobile source CO_2e emission factors for the vehicles that would be associated with the proposed project.

Based on the modeling and incorporation of regulatory standards, vehicles associated with the proposed project would emit approximately 39,355 tonnes of CO_2e per year.

(d) Municipal Emissions

Municipal sources of GHG emissions at Mission Village would include both the supply and treatment of water and wastewater, public lighting and municipal vehicles. The overall emissions from these three municipal sources would be 3,073 tonnes of CO_2e per year.

Water and Sewage:

The majority of estimated GHG emissions from water supply and sewage treatment are due to the energy used to convey, treat, and distribute water. Thus, these emissions generally are from the production of electricity to power these systems. Additional emissions from wastewater treatment include CH_4 and

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56 In an effort to include only trips made by Mission Village residents, as opposed to trips associated exclusively with the commercial development, only trips originating or ending at Mission Village residences are analyzed. This approach avoids counting trips made by residents outside of Mission that visit Mission Village to shop, which, as discussed above, do not represent true growth because they would have been made in the absence of the population growth accommodated by Mission Village. In fact, the existence of Mission Village likely will reduce trip lengths as it would provide local shopping and employment opportunities for existing residents in the Santa Clarita Valley. It also should be noted that non-home-based trips made by Mission Village residents (e.g., from work to a gas station) are not included in this analysis. In addition, all legs of multistop trips are not counted, as only the first leg of the trip from the home would be counted.

N_2O, which are emitted from the wastewater. In general, the water/sewage category is the major source of municipal sector GHG emissions.

Mission Village would generate a total water demand of 2,917 acre-feet per year (afy).[57] Of the 2,917 afy, 1,676 afy would be potable groundwater pumped from an underlying aquifer and 1,241 afy would be non-potable recycled water produced by the Newhall Ranch Water Reclamation Plant. To supply potable water to residential and commercial users, three processes are necessary: (1) supply and conveyance of the water from the source; (2) treatment of the water to make it acceptable for consumption; and (3) distribution of the water to individual users. After use, the wastewater is treated either for disposal or reuse as recycled water. Any recycled water generally is redistributed to users via pumping.

Potable Groundwater Supply and Conveyance. To supply the annual demand for 1,676 afy of potable water, Mission Village would draw upon a local supply of water from an underground aquifer, through pumping, and distribute the water throughout the development. The Electric Power Research Institute has estimated that, nationwide, the amount of energy required to pump water from the ground ranges from 228 to 587 kW per hour per acre-foot.[58] Pumping groundwater in southern California is typically more energy-intensive than in other areas of the state and nation because its aquifers are relatively deep; in southern California's Chino Basin, which is to the southeast of the Mission Village site, it has been estimated that 950 kW per hour of electricity are needed to supply 1 acre-foot of groundwater.[59] To be conservative, it was assumed that it would require 950 kW per hour of electricity to extract 1 acre-foot of water from the aquifer underlying Mission Village.[60] Using this emission factor, the expected potable

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57 Subsequent to ENVIRON's preparation of the emissions inventory for the Mission Village project (see **Appendix 4.23**), the estimated water demand of the proposed project was refined to provide a total demand of 2,919 afy. The two afy increase is not anticipated to appreciably affect the emission estimates and significance assessment presented in this analysis.

58 *California's Water-Energy Relationship: Final Staff Report*, California Energy Commission (November 2005), CEC-700-2005-011-SF, page 26. This report is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.

59 *California's Water-Energy Relationship: Final Staff Report*, 2005

60 *Ibid.* The amount of energy required to supply and convey water depends heavily both on how the water is extracted and on the distance between the water source and the end user. At least half of the potable water consumed in southern California is drawn from surface water in northern California or nearby states, and supplied to the south via aqueducts. Pumping this water over great distances and sometimes high elevations to the end user can be very energy-intensive. It has been estimated that the average amount of electricity necessary to supply and convey one acre foot of water suitable for indoor use to southern California is 3,1709 kW/hr, taking into consideration the large portion of water that is imported from hundreds of miles away. Using the SCE carbon-intensity factor, this is equivalent to approximately 2.94 tonnes of CO_2e per million gallons. However, since it is known that Mission Village would use the much less energy-intensive process of pumping groundwater to supply its potable water needs, it is appropriate to use a groundwater specific emission factor and not the generic average emission factor for southern California.

water demand of 1,676 afy and the SCE carbon-intensity factor, supplying and conveying groundwater in Mission Village is estimated to account for 421 tonnes of CO_2e per year.[61]

Potable Water Treatment and Distribution. For water intended for indoor use in southern California, it is estimated that 36 kW per hour of electricity is necessary to treat 1 acre-foot of water, and an additional 414 kW per hour is necessary to distribute that water to the end users.[62] Based on Mission Village's total estimated potable water demand of 1,676 afy, these emission factors, and the SCE-carbon intensity factor, treating and distributing potable water in Mission Village is estimated to account for 16 tonnes[63] of CO_2e and 184 tonnes of CO_2e per year, respectively. (Please note that this estimate may double count pumping energy requirements already accounted for in the groundwater pumping analysis because the water may already be at the required pressure to distribute after being pumped from the aquifer.)

Wastewater Treatment. Emissions associated with wastewater treatment would include the emissions necessary to power the treatment process and emissions from the organic material in the wastewater. The emissions estimate is based on the proposed project's wastewater treatment demand and the recycled water-to-wastewater ratio. The wastewater volume is smaller than the total amount of water demanded by and supplied to Mission Village (2.917 afy) because not all of the water used by the community would be captured and treated as wastewater.

The electricity required to operate a wastewater treatment plant in southern California is estimated to be 623 kW per hour per acre-foot.[64] This is a conservative estimate because it assumes a level of treatment necessary for indoor water (i.e., potable water or water acceptable for household uses such as in toilets); that is, because not all wastewater treated by the reclamation plant for use at Mission Village would be re-used or treated to this level, the actual amount of electricity required will likely be lower. Based on the expected amount of wastewater requiring treatment (1,553 afy), the emission factor and the SCE carbon-intensity factor, emissions from the electricity necessary to power the wastewater treatment process are estimated to account for 256 tonnes of CO_2e per year.

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61 A more refined estimate, taking into account the actual aquifer depth and physical properties of the aquifer, likely would lower the estimate of GHG emissions from groundwater pumping slightly.

62 *Refining Estimates of Water-Related Energy Use in California*, California Energy Commission (December 2006), PIER Final Project Report, prepared by Navigant Consulting, Inc., page 22. This report is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.

63 Because treatment is likely simply the addition of chlorine tablets, a low value (eight tonnes of CO_2e per year), or the approximate GHG emissions of two single-family homes, is appropriate.

64 *Refining Estimates of Water-Related Energy Use in California*, California Energy Commission (December 2006), PIER Final Project Report, prepared by Navigant Consulting, Inc., page 22. This report is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.

In order to calculate the direct emissions associated with wastewater treatment, which include emissions of CH_4 and N_2O, a per capita emission factor was developed based on a 2005 U.S. GHG inventory for domestic wastewater treatment[65] and the 2005 U.S. population. Emissions from wastewater treatment then were calculated using the emission factor developed from this data (0.084 tonne of CO_2e per capita per year) and the projected population at Mission Village (10,802 residents). The direct emissions from wastewater treatment are estimated to account for 911 tonnes of CO_2e per year.

Non-Potable Recycled Water Distribution. Mission Village also would need 1,241 afy of non-potable water, which will be provided from recycled water. Once treated at the Newhall Ranch Water Reclamation Plant, this water will need to be re-pumped through the development to supply it to end users. Estimates of the amount of energy needed to redistribute and, if necessary, additionally treat recycled water vary from 391 to 978 kW per hour per million gallons.[66] To be conservative, the high-end energy intensity estimate was used in this inventory. Based on the estimated demand for reclaimed water, the estimated electricity demand, and the SCE carbon-intensity factor, non-potable reclaimed water redistribution emissions were calculated. Accordingly, redistributing wastewater that has been treated and reclaimed for non-potable uses in Mission Village is estimated to account for 321 tonnes of CO_2e per year.

In total, all water and wastewater supply, treatment, and distribution activities for Mission Village are expected to produce 2,108 tonnes of CO_2e annually. A summary of the CO_2e emissions generated by Mission Village's water demands is provided in **Table 4.23-3**.

Table 4.23-3
Estimated Water and Wastewater Emissions

Water and Wastewater Program	Total CO_2e Emissions (Tonnes CO_2e per Year)
Groundwater Supply and Conveyance (Potable)	421
Water Treatment (Potable)	16
Water Distribution (Potable)	184
Wastewater Treatment (Indirect Emissions)	256
Wastewater Treatment Plant (Direct Emissions)	911
Recycled Water Distribution (Non-Potable)	321
Total Emissions:	**2,108**

Source: ENVIRON, 2010.

65 *Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2005*, US Environmental Protection Agency (April 2007), No. 430-R-07-002, available online at http://epa.gov/climatechange/emissions/downloads06/07Waste.pdf. This report also is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.

66 *Refining Estimates of Water-Related Energy Use in California*, California Energy Commission (December 2006), PIER Final Project Report, prepared by Navigant Consulting, Inc., page 24. This report is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.

Typical sources of imported water for southern California are from northern California and the Colorado River; and, based on CEC estimates for energy demand, pumping water to southern California from these typical sources emits approximately 0.84 tonne of CO_2e per acre-foot of water delivered. If Mission Village were to acquire its water from these typical sources, the GHG emissions associated with pumping the water would be greater. However, since Mission Village will obtain half of its water from the local underground aquifer and half of its water from the local Newhall Ranch Water Reclamation Plant, water will not need to be pumped long distances to the project site. Therefore, the energy demand, and thus the GHG emissions, are lower than if the development were to obtain its water from imported sources.

Public Lighting:

GHG emissions from public lighting sources are associated with the production of the electricity that powers these lights. Lighting sources considered in this source category include streetlights, traffic signals, area lighting for parks and lots and lighting in public buildings. Data from a report by the City of Duluth shows that the amount of electricity demanded for all types of public lighting is 149 kW per hour per capita per year.[67] Using this study, the SCE-specific carbon intensity emission factor, and the expected Mission Village population of 10,802, it is estimated that public lighting in Mission Village would be responsible for 425 tonnes of CO_2e per year.

Municipal Vehicles:

GHG emissions from municipal vehicles are due to the burning of fossil fuels. Municipal vehicles considered in this source category include police cars, fire trucks, and garbage trucks. Based on data from various sources evaluated in the technical report (see **Appendix 4.23**), CO_2e emissions from municipal vehicles would be approximately 0.05 tonnes of CO_2e per capita per year. Using this information in conjunction with Mission Village's projected population, municipal vehicles would generate 540 tonnes of CO_2e per year.

(e) Area Emissions

The area emissions considered for the Mission Village project are from hearths (e.g., natural gas fired stoves) and landscaping fuel combustion sources (e.g., lawn mowers).[68] URBEMIS, Version 9.2.2, and

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67 This factor was calculated by summing the total electricity needs for municipal uses and dividing by the Duluth population. The Duluth population was calculated by dividing the city's reported GHG emissions by its reported per capita emissions.

68 GHG emissions due to natural gas combustion are excluded from this section since they are covered in residential emissions.

various land use information were used by Impact Sciences, Inc., to calculate area source GHG emissions for Mission Village.

The location of the project, as specified in URBEMIS, determined the factors used to calculate the hearth fuel use. In Mission Village, it is estimated that hearths and landscape maintenance emissions would emit approximately 31 tonnes of CO_2e per year.[69]

(f) Recreation Center Emissions

Three recreation centers would be built in Mission Village. These centers may include various pools, spas, and restroom buildings. This analysis assumed that pools would be the main consumers of energy in the proposed recreation centers.

The energy used to heat and maintain a swimming pool depends on several factors, including, but not limited to (1) whether the pool is indoors or outdoors; (2) the size of the pool (surface area and depth); (3) the water temperature; (4) the energy efficiency of the pool pump and water heater; and (5) whether solar heating is used. The analysis below assumed that the proposed pools would be outdoor pools with the dimensions of a typical, competition-size pool. In addition, electricity calculations were based on a pool that ran its standard (not high-efficiency) water filter for 24 hours per day, 365 days per year. The large pool size and standard operating equipment allowed for a conservative (high) energy use estimate that would decrease with a smaller pool or more efficient equipment.

An outdoor competition-sized pool emits approximately 632 tonnes of CO_2 per year (96 tonnes from electricity used to pump water and 535 tonnes from natural gas used to hear the pool). However, each recreation center pool located on the project site would have solar water heating, thereby reducing GHG emissions to only 96 tonnes per year per pool (i.e., the emissions associated with the electricity needed to pump water). Assuming that there will be three, solar heated, competition-sized pools, the total yearly CO_2 emissions from recreation centers is 290 tonnes.

(4) Life-Cycle Emissions

Life-cycle emissions are GHG emissions resulting from the processes used to manufacture and transport materials used in the building and infrastructure provided by the Mission Village development. The life-cycle GHG emissions include the embodied energy from the materials manufactured and the energy used to transport those materials to the project site. The overall life cycle emissions, annualized by

69 Because area sources account for such a small percentage of the overall CO_2e emissions, the contribution of methane and nitrous oxides to overall project GHG emissions was assumed to be small and, therefore, was not calculated.

40 years, are approximately 1.1 to 10 percent of the annualized GHG emissions for the entire Mission Village project. The bulk of these emissions are from general life-cycle analysis studies and do not reflect the details of Mission Village.

This GHG emissions estimate, however, is provided for informational and comparative purposes only, and is not included in the final inventory, as these emissions would be accounted for under AB 32 in other industry sectors. For instance, the concrete industry is required by law to report emissions and undergo certain early action emission reduction measures under AB 32. Further, although life-cycle emissions estimates can provide a broader view of a project's emissions, life-cycle analyses often double count emissions that might be attributable to other sectors in a comprehensive analysis.

In addition, the life cycle emissions field is still relatively new, and while there are general standards for goals and general practices, the specific methodologies and, in particular, the boundaries chosen for the analysis makes inter-comparison of various studies difficult. For example, in a life cycle emissions analysis for building materials, somewhat arbitrary boundaries must be drawn to define the processes considered in the life-cycle analysis.[70] It has been noted that:

> *The full life-cycle of GHG emissions from construction activities is not accounted for in the modeling tools available, and the information needed to characterize GHG emissions from manufacture, transport, and end-of-life of construction materials would be speculative at the CEQA analysis level.*[71]

Accordingly, the calculations and results presented for the life-cycle emissions vary based on input assumptions and assessment boundaries (e.g., how far back to trace the origin of a material). Assumptions made in this analysis generally are conservative. However, due to the open-ended nature of life-cycle emissions analysis, the analysis presented is not exact and may be highly uncertain.

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70 For instance, in the case of building materials, the boundary could include the energy to make the materials, the energy used to make the machine that made the materials, and the energy used to make the machine that made the machine that made the materials.

71 *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, California Air Pollution Control Officers Association (January 2008), p. 65. This report is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.

(5) Impacts in Context

A summary of the proposed project's emissions is presented below in **Table 4.23-4**.

As depicted in **Table 4.23-4**, the proposed project would increase existing emissions levels by 64,017 tonnes of CO_2e/year above existing, on-site conditions, which conservatively are assumed to be zero. (But see, *supra*, discussion of existing emission levels on the project site, which are upwards of roughly 350 metric tons of CO_2e per year.) While this numeric increase (i.e., approximately 64,017 tonnes) represents an obvious change to existing, on-site conditions (of roughly 350 tonnes), the increase, alone, is not sufficient to support a significance determination because of the absence of scientific and factual information regarding when particular quantities of greenhouse gas emissions become significant (as climate change is a global issue). Accordingly, and as discussed further below, the analysis also considers whether the proposed project's emissions (i.e., 64,017 tonnes of CO_2e/year) would impede the State of California's compliance with the statutory emissions reduction mandate established by AB 32.

As previously discussed, in order for California to return to 1990 levels by 2020 and achieve the emission reduction mandates of AB 32, the CARB 2020 NAT scenario must be improved upon by at least 29 percent. The CARB 2020 NAT scenario relies on specific assumptions such as electricity generation, vehicle fuel efficiency, and building energy efficiency codes. In particular, the CARB 2020 NAT scenario assumes that all new electricity generation will be supplied by natural gas plants, building energy efficiency codes are held at the 2005 Title 24 standards, and vehicle fuel efficiency is not affected by any regulatory action. As shown below, the proposed project's emissions have been reduced more than 29 percent below the CARB 2020 NAT scenario. Therefore, the project would not impede compliance with the GHG emission reductions mandated in AB 32. As such, the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, and impacts would be less than significant.

(a) Comparison With Executive Order S-03-05 2050 Goal:

As previously discussed, Executive Order S-03-05 mandates that California emit 80 percent less GHGs in 2050 than it emitted in 1990. As of 2004, California was emitting 12 percent more GHG emissions than in 1990. For California to emit 80 percent less than it emitted in 1990, the emissions would need to be only 18 percent of the 2004 emissions. Accounting for a population growth from 35,840,000 people in 2004 to approximately 55,000,000 people in 2050, the emissions per capita would have to be only 12 percent of what they were in 2004. This means 88 percent reductions in per capita GHG emissions from today's emissions intensities must be realized in order to achieve California's 2050 GHG goals.

Table 4.23-4
Summary of Greenhouse Gas Emissions

Source	GHG Emissions			Improvement over CARB 2020 NAT[9]
	Unit	Project	CARB 2020 NAT	(%)
Vegetation[1]	tonnes CO_2e/year	26,550	26,550	N/A
Construction[2]		82,781	82,781	N/A
Total (one-time emissions)		**109,331**	**109,331**	**N/A**
Residential[3]	tonnes CO2e/year	12,609	15,563	19%
Non-Residential[4]		5,927	8,283	28%
Mobile[5]		39,355	64,907	39%
Municipal[6]		3,073	5,109	40%
Recreational (Pools)[7]		290	1,925	85%
Area[8]		31	31	0%
Total (annual emissions)		**61,284**	**95,818**	**36.0%**
Annualized Total[10]	**tonnes CO2e/year**	**64,017**	**98,551**	**35.0%**

Notes:

1. *Vegetation emissions are one-time emissions resulting from the removal of existing vegetation on the project site. A total of 1,854 acres of existing vegetation is considered to be removed for development purposes.*
2. *Construction emissions are one-time emissions reported in total metric tonnes. Sources of emissions include construction equipment and vehicles associated with worker commuting and vendor trips.*
3. *Residential emissions for single-family, attached, and apartment dwelling units include emissions associated with electricity and natural gas use.*
4. *Non-residential emissions for retail, offices, fire station, library and schools account for electricity and natural gas use.*
5. *Mobile source emissions account for residential vehicular trips.*
6. *Municipal emissions account for emissions due to energy production associated with water supply, public/street lighting, and municipal vehicles.*
7. *ENVIRON assumed an outdoor competition-size swimming pool as the main source of GHGs in an aquatic/recreation center.*
8. *Area emission sources include hearth fuel combustion, such as fireplaces, and landscape fuel combustion, such as mowing a lawn.*
9. *Percentages only apply to annual CO_2e emissions; annual and one-time CO_2e emissions cannot be directly compared.*
10. *One-time emissions (vegetation and construction) are "annualized" by dividing by an annualization factor (40). One-time emissions are not annualized in their respective rows above.*

Source: ENVIRON, 2010.

CARB's Scoping Plan provides insight as to how it anticipates California will achieve the 2050 reduction goal in Governor Schwarzenegger's Executive Order S-03-05:

> *Reducing our greenhouse gas emissions by 80 percent will require California to* develop new technologies *that dramatically reduce dependence on fossil fuels, and* shift into a landscape of new ideas, clean energy, and green technology. *The measures and approaches in this plan are designed to accelerate this necessary transition, promote the rapid development a cleaner, low*

> *carbon economy, create vibrant livable communities, and improve the ways we travel and move goods throughout the state.*

(*Climate Change Proposed Scoping Plan: A Framework For Change*, California Air Resources Board (adopted December 2008), p. ES-2; emphasis added.)

> *[T]he measures needed to meet the 2050 goal are too far in the future to define in detail . . .*

(*Ibid*.)

The CEC and CARB also have published an alternative fuels plan that identifies[72] "challenging but plausible ways to meet 2050 [transportation] goals." The main finding from this analysis is that reducing today's average per capita driving miles by about 5 percent (or back to 1990 levels), in addition to the decarbonization strategies listed below, would achieve Governor Schwarzenegger's goal to reduce transportation-related emissions to 80 percent below the 1990 levels. The approach described below is from the CEC/CARB report: [73]

> *An 80 percent reduction in GHG emissions associated with personal transportation can be achieved even though population grows to 55 million, an increase of 50 percent. The following set of measures could be combined to produce this result:*
>
> 1. *Lowering the energy needed for personal transportation by tripling the energy efficiency of on-road vehicles in 2050 with:*
>
>   a. *Conventional gas, diesel, and flexible fuel vehicles (FFVs) averaging more than 40 miles per gallon (mpg).*
>
>   b. *Hybrid gas, diesel, and FFVs averaging almost 60 mpg.*
>
>   c. *All electric and plug-in hybrid electric vehicles (PHEVs) averaging well over 100 mpg (on a greenhouse gas equivalents (GGE) basis) on the electricity cycle.*
>
>   d. *Fuel cell vehicles (FCVs) averaging over 80 mpg (on a GGE basis).*
>
> 2. *Moderating growth in per capita driving, reducing today's average per capita driving miles by about 5 percent or back to 1990 levels.*
>
> 3. *Changing the energy sources for transportation fuels from the current 96 percent petroleum-based to approximately:*

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72 See *State Alternative Fuels Plan*, California Energy Commission and California Air Resources Board, available online at http://www.energy.ca.gov/2007publications/CEC-600-2007-011/CEC-600-2007-011-CMF.PDF (last visited February 11, 2009). This report is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.

73 *Id*. at pp. 67–68.

a. 30 percent from gasoline and diesel from traditional petroleum sources or lower GHG emission fossil fuels such as natural gas.

b. 30 percent from transportation biofuels.

c. 40 percent from a mix of electricity and hydrogen.

4. Producing transportation biofuels, electricity, and hydrogen from renewable or very low carbon-emitting technologies that result in, on average, at least 80 percent lower life cycle GHG emissions than conventional fuels.

5. Encouraging more efficient land uses and greater use of mass transit, public transportation, and other means of moving goods and people.

Setting aside the CEC and CARB's preliminary plans with respect to the transportation sector, significant and drastic changes will need to be made across every economic sector to reduce emissions to 80 percent below 1990 levels by 2050. In light of the uncertainties regarding the specific reduction strategies and methods needed for California to achieve the 2050 reduction goal identified in Governor Schwarzenegger's Executive Order S-03-05, the impact of the proposed project on the 2050 reduction goal is considered too speculative to assess at this time. (See Cal. Code Regs., tit. 14, sec. 15145.)

(b) Plan, Policy and Regulation Consistency

As previously discussed, Appendix G of the *State CEQA Guidelines* has been revised to include criteria applicable to greenhouse gas emissions. One criterion asks whether the project would "conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases." As discussed further below, the proposed project would not conflict with any adopted plan, policy or regulation; therefore, the project's impacts are less than significant with respect to this criterion.

- CARB Scoping Plan – The proposed project would comply with all applicable regulations adopted by CARB and other regulatory agencies to implement the Scoping Plan pursuant to AB 32.

- Executive Order S-3-05 – The proposed project, through implementation of project design features, would not impede achievement of the statewide goal of reducing GHG emissions to 1990 levels by 2020.

- California Code of Regulations, Title 24 – The proposed project would exceed the 2008 Title 24 standards by 15 percent, thereby demonstrating a commitment to the energy efficient design, construction and operation of residential and non-residential structures.

- Senate Bill 375 – The proposed project is a mixed-use development and is consistent with the objective of SB 375 to improve land use planning decisions at the local level by locating a mix of land uses in close proximity to one another and transit options.

- Reduction Strategies – As demonstrated below, the proposed project is consistent with various reduction strategies recommended by the California Attorney General's Office and Climate Action Team for purposes of reducing greenhouse gas emissions.

At present time, the County of Los Angeles has adopted a Countywide Energy and Environmental Policy and three ordinances designed to implement the Green Building Program. The proposed project would comply with these County-mandated programs and ordinances; as such, the project would be consistent with plans, policies or regulations adopted by local governments to reduce GHG emissions.

In summary, in light of the project's consistency with the state and local programs and efforts identified above, the project's impacts are not significant under the referenced criterion.

7. MITIGATION MEASURES

a. Application of Project Design Features to Newhall Ranch, Including Mission Village, to Reduce GHG Emissions

The project applicant considered potential project design features during preparation of the Newhall Ranch Specific Plan and the first village within Newhall Ranch—the Mission Village project.[74] As shown below, Mission Village, as with all of Newhall Ranch, would incorporate the components of a sustainable community, including the following:[75]

- **Mix of Land Uses.** Mission Village, along with the other villages in Newhall Ranch, will include a broad range of housing types, including affordable housing, along with commercial, office, and public facilities. As to Mission Village, a diverse range of 4,412 homes (382 single-family and 4,030 multi-family units) would be provided. To minimize and shorten vehicle trips, most homes will be within walking distances to the Mission Village community's commercial and mixed-use areas, elementary school site, library, community park, and trail system. Finally, Mission Village is located adjacent to the Valencia Commerce Center, one of the largest employment centers in the Santa Clarita Valley. Bike and pedestrian trails within Newhall Ranch and Mission Village will connect to trails within the Valencia Commerce Center, further reducing automobile usage.

- **Provision of Jobs.** A portion of Newhall Ranch's approximately 20,000 new jobs would be created through buildout Mission Village's mixed-use and commercial areas. Newhall Ranch is adjacent to

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74 When crafting Mission Village's project design features, and identifying feasible mitigation measures (as discussed later in the subsection), the project applicant referenced the Office of the California Attorney General's "whitepaper" on mitigation measures and global warming resources, which was last revised on September 25, 2007. This document is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.

75 See also the "Mission Village Sustainability Overview" summary issued by the project applicant in 2010. The sustainable community design components include the green building program, water conservation, renewable energy, reduced impermeable surfaces/water re-use, walkability, recreation, protection of natural resources, transportation solutions, and the economic structure. This report is located in **Appendix 4.23** of the Draft EIR.

the existing Valencia Gateway (which includes the Valencia Commerce Center), which presently provides 50,000 jobs. Other development within Valencia Gateway will create an additional 30,000 jobs. When completed, the job centers in Newhall Ranch and Valencia will have resulted in the creation of approximately 100,000 jobs in the Santa Clarita Valley. A balanced jobs-housing base is a critical component to a sustainable community because it allows people to work close to home and minimizes vehicle miles traveled.

- **Locating of Residential Uses in Close Proximity to Commercial Services/Public Spaces.** Nearly 60 percent of the residential units in Newhall Ranch will be located within walking distance of village or commercial centers. This is clearly documented by the Mission Village land plan. Residents within Mission Village will be able to utilize paseos/trails and/or the Santa Clara River Regional Trail to walk to commercial centers, private recreational facilities, the elementary school and a community park. As stated above, this traditional neighborhood design minimizes vehicle trips.

- **Provision of Transit and Light Rail Right-of-Way.** Newhall Ranch, including Mission Village, will be part of the Santa Clarita Transit system and will pay its fair share for transit service to the community. Transit improvements within Newhall Ranch will include a park-and-ride lot, a future transit station, bus transfer station, bus stops, and preservation of light rail right-of-way. Mission Village will include bus stops and a bus transfer station. The provision of transit and the accommodation of light rail encourage residents to rely less on vehicular travel.

- **Open Space, Recreation, and Preservation of Sensitive Resource Areas.** Newhall Ranch, of which Mission Village is a part, includes the preservation of the High Country, Salt Creek Corridor and the Santa Clara River and internal open areas, a total of nearly 7,800 acres. A total of three community parks and up to 10 neighborhood parks will be provided as part of Newhall Ranch. Finally, private recreation facilities will be provided throughout the entire Ranch providing additional nearby recreational opportunities to residents, further minimizing vehicle trips.

- **Hierarchy of Trails.** Newhall Ranch will include over 50 miles of trails to encourage pedestrian mobility. Mission Village includes approximately 7.5 miles of trails, including an extension of the Santa Clara River trail, with direct connections to residential, commercial, and park uses, and various paseos. This design also is intended to minimize vehicle trips.

- **Reducing Impermeable Surfaces.** To curtail urban runoff generated by this project and maximize groundwater recharge, Newhall Ranch, including Mission Village, will utilize open/soft bottom channels, smaller street sections, where possible, increased native landscape areas, and non-structural water quality treatment improvements.

- **Water Conservation and Re-Use.** Newhall Ranch, including Mission Village, will utilize native and drought-tolerant plants in the community's landscaping, use recycled water for irrigation, and evapotranspiration controllers (i.e., weather-sensitive sprinklers) to reduce water demand and runoff. The reduction of water demand will reduce energy requirements for water transport and treatment.

- **Traffic/Transportation Improvements.** Mission Village's traffic circulation plan, which is consistent with all of Newhall Ranch, minimizes vehicle trips and reduces GHG emissions through the design of internal roads in conjunction with homes, school site, commercial areas, and trail systems. Transit is included in the traditional neighborhood design, and it includes a park-and-ride lot, bus transfer station and bus stops. Trails and bike paths leading to close-to-home jobs, neighborhood-serving

retail, and the school encourage residents to reduce vehicle miles traveled. The applicant also has committed to fund $300 million in roadway improvements in the Santa Clarita Valley in conjunction with the Newhall Ranch Specific Plan, including Mission Village, to improve traffic movement and circulation.

b. Mitigation Measures and Conditions of Approval Required by the Adopted Newhall Ranch Specific Plan, as they Relate to the Mission Village Project

The following mitigation measures and condition of approval were adopted by the County in connection with its approval of the Newhall Ranch Specific Plan (May 2003). Although these measures were not adopted in response to an analysis of the Newhall Ranch Specific Plan's global climate change impacts, the measures do reduce the amount of GHG emissions resulting from development of the Newhall Ranch Specific Plan, promote sustainable development, and would enable the Specific Plan development to respond to any potential impacts of global climate change. As these measures were adopted and will be implemented, pursuant to the Newhall Ranch Specific Plan, they can be relied upon in this analysis as feasible measures designed to reduce GHG emissions and global climate change impacts.

Flood/Hydrology:

Mitigation Measures 4.2-5, 4.2-6, 4.2-7, and 4.2-8

Biota:

Mitigation Measures SP 4.6-1, SP 4.6-5, SP 4.6-6, SP 4.6-7, SP 4.6-11, SP 4.6-13, SP 4.6-15, SP 4.6-17, SP 4.6-18, SP 4.6-19, SP 4.6-22, SP 4.6-23, SP 4.6-24, SP 4.6-25, SP 4.6-26, SP 4.6-26a, SP 4.6-37, SP 4.6-38, SP 4.6-41, SP 4.6-42, SP 4.6-43, SP 4.6-48, SP 4.6-49, SP 4.6-50, SP 4.6-51

Traffic/Access:

Mitigation Measures SP 4.8-1, SP 4.8-5, SP 4.8-11, SP 4.8-12

Air Quality:

Mitigation Measures SP 4.10-1, SP 4.10-2, SP 4.10-3, SP 4.10-4, SP 4.10-5, SP 4.10-6, SP 4.10-7, SP 4.10-8, SP 4.10-11, SP 4.10-12, SP 4.10-14

Water Resources:

Mitigation Measures SP 4.11-1, SP 4.11-2, SP 4.11-3, SP 4.11-4, SP 4.11-16

Wastewater Disposal:

Mitigation Measures SP 4.12-1, SP 4.12-2

Fire Services and Hazards:

Mitigation Measures SP 4.18-1, SP 4.18-4

Education:

Mitigation Measure SP 4.16-1

Parks, Recreation, and Trails:

Mitigation Measures SP 4.20-1, SP 4.20-2

Electricity/Utilities:

Mitigation Measure SP 4.14-1

Additional Conditions of Approval:

Condition (g)

c. Project Design Features Incorporated as Mitigation Measures by This EIR

As identified and described in the inventory of GHG emissions that would result from Mission Village, the project includes numerous project design features that lessen Mission Village's estimated emissions total. In order to ensure that these project design features are implemented, they are recommended here as specific mitigation measures. Therefore, if approved, these project design features/mitigation measures would become part of the legally enforceable mitigation monitoring and reporting program, required by CEQA, for Mission Village.

These mitigation measures are in addition to those adopted in the previously certified Newhall Ranch Specific Plan Program EIR. To indicate that the measures relate specifically to the Mission Village project, each measure is preceded by "MV," which stands for Mission Village.

MV 4.23-1 All residential buildings on the project site that are enabled by approval of the proposed project shall be designed to provide improved insulation and ducting, low E glass, high efficiency air conditioning units, and radiant barriers in attic spaces, as needed, or equivalent to ensure that all residential buildings operate at levels 15 percent better than the standards required by the 2008 version of Title 24. Notwithstanding this measure, all residential buildings shall be designed to comply with the then-operative Title 24 standards applicable at the time building permit applications are filed. For example, if new standards are adopted that supersede the 2008 Title 24 standards, the residential buildings shall be designed to comply with those newer standards and, if necessary, exceed those standards by an increment that is equivalent to a 15 percent exceedance of the 2008 Title 24 standards.

MV 4.23-2 All commercial and public buildings on the project site that are enabled by approval of the proposed project shall be designed to provide improved insulation and ducting, low E glass, high efficiency HVAC equipment, and energy efficient lighting design with occupancy sensors, as needed, or equivalent to ensure that all commercial and public buildings operate at levels 15 percent better than the standards required by the 2008 version of Title 24. Notwithstanding this measure, all nonresidential buildings shall be

designed to comply with the then-operative Title 24 standards applicable at the time building permit applications are filed. For example, if new standards are adopted that supersede the 2008 Title 24 standards, the nonresidential buildings shall be designed to comply with those newer standards and, if necessary, exceed those standards by an increment that is equivalent to a 15 percent exceedance of the 2008 Title 24 standards.

MV 4.23-3 The project applicant or designee shall produce or cause to be produced renewable electricity, or secure greenhouse gas offsets or credits from a public agency (e.g., CARB; SCAQMD) endorsed market, equivalent to the installation of one photovoltaic (i.e., solar) power system no smaller than 2.0 kilowatts, when undertaking the design and construction of each single-family detached residential unit on the project site.

MV 4.23-4 The project applicant or designee shall produce or cause to be produced renewable electricity, or secure greenhouse gas offsets or credits from a public agency (e.g., CARB; SCAQMD) endorsed market, equivalent to the installation of one photovoltaic (i.e., solar) power system no smaller than 2.0 kilowatts, on each 1,600 square feet of nonresidential roof area provided on the project site.

MV 4.23-5 Consistent with the Governor's Million Solar Roofs Plan, the project applicant or designee, acting as the seller of any single-family residence constructed as part of the development of at least 50 homes that are intended or offered for sale, shall offer a solar energy system option to all customers that enter negotiations to purchase a new production home constructed in Mission Village on land for which an application for a tentative subdivision map has been deemed complete. The seller shall disclose the total installed cost of the solar energy system option, and the estimated cost savings.

MV 4.23-6 The project applicant shall use solar water heating for all pools located at the Mission Village recreation centers.

MV 4.23-7 The project applicant, in accordance with Los Angeles County requirements, will design and construct the approximately 13,500 square feet fire station and 36,000 square feet public library so as to achieve LEED silver certification.[76]

In addition to the seven global climate change mitigation measures identified above, mitigation measures recommended in connection with other sections (i.e., air quality; biological resources; traffic) of the Mission Village Draft EIR would reduce the proposed project's GHG emissions and/or improve the

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76 LEED certification is a performance-oriented rating system whereby buildings earn points for satisfying criterion designed to address environmental impacts inherent in the design, construction, operation and management of buildings. LEED silver certification is awarded to buildings that obtain approximately half of the overall possible LEED points. Therefore, it may be appropriate to assume that a LEED silver building would obtain half of the possible points in the "optimize energy performance" category. To obtain half of the possible energy points, a building would need to be approximately 30 percent better than the 2005 Title 24 standards. Greenhouse gas emission reductions associated with the LEED silver certification requirement for Los Angeles County buildings were not quantitatively accounted for in this analysis due to ambiguities concerning the precise emissions savings from LEED certification. (See *Green Buildings*, County of Los Angeles, available at http://green.lacounty.gov/green_buildings.asp.)

project's capacity to respond to the uncertain effects of global climate change. As these measures are recommended for adoption and incorporation into a mitigation monitoring and reporting program, these measures can be relied upon in this analysis as feasible measures designed to reduce GHG emissions and the impact of global climate change on the project.

Table 4.23-5
Summary of Mission Village Global Climate Change Mitigation Measures

Mitigation Measure	Compliance Method
4.23-1: Residential Buildings 15% Percent Better Than Title 24	Design features may include, but are not limited to, improved insulation and ducting, low E glass, high efficiency air conditioning units, and radiant barriers in attic spaces.
4.23-2: Nonresidential Buildings 15% Percent Better Than Title 24	Design features may include, but are not limited to, improved insulation and ducting, low E glass, high efficiency HVAC equipment, and energy efficient lighting design with occupancy sensors or equivalent.
4.23-3: Renewable Electricity for Single-Family Residences	Renewable electricity may be provided via, but is not limited to, solar power; alternatively, carbon offsets or credits may be purchased.
4.23-4: Renewable Electricity for Nonresidential Buildings	Renewable electricity may be provided via, but is not limited to, solar power; alternatives, carbon offsets or credits may be purchased.
4.23-5: Governor's Million Solar Roofs Plan	Project applicant shall offer solar energy system option to prospective purchases of single-family residences under the terms mandated by the Governor's Million Solar Roofs Plan.
4.23-6: Solar Water Heating for Pools	Each of the pools located at the recreation centers would be heated via solar power.
4.23-7: LEED Silver Certification for Fire Station and Library	Compliance with LEED standards, which would require the fire station to obtain approximately half of the overall LEED points.

d. Additional Potentially Feasible Programs

In addition to the mitigation measures set forth above, the project applicant also is pursuing implementation of two potentially feasible programs that may result in further reductions of CO_2e per year. The feasibility of the following two programs is still uncertain, but nonetheless the project applicant has committed to working with Los Angeles County and Southern California Edison with respect to each program:

Energy Efficient Municipal Lighting Program. The project applicant is committed to working with the County of Los Angeles and Southern California Edison to install, where feasible, energy efficient municipal lighting in Mission Village. Annual energy costs associated with municipal lighting are lowered by 16 to 40 percent via the use of energy efficient lighting. Although the exact parameters and feasibility of the program have not yet been determined, the installation of energy efficient municipal lighting would reduce greenhouse gas emissions associated with the proposed project.

Smart Meter Program. The project applicant is committed to working with Southern California Edison and Southern California Gas Company to assess the feasibility of installing smart meters at residential units in Mission Village. Although the GHG emissions reductions achieved via the implementation of a smart meter program are uncertain and there do not appear to be any authoritative references that outline the overall energy savings from smart meters, numerous studies suggest that smart meters can reduce peak demand by 10 to 20 percent and energy costs from appliance use by approximately 10 percent. Based on the available information, a 10 percent decrease in overall energy use and, therefore, greenhouse gases for residential units may be realized by the use of smart meters.[77]

At present time, the feasibility of these two programs is uncertain. However, the project applicant is committed to evaluating the two programs discussed above in conjunction with the County, Southern California Edison, and Southern California Gas Company.

e. Consistency With Recommended Mitigation Programs

The proposed project also is compatible with many of the mitigation measures recommended by the California Attorney General's Office and the Climate Action Team. **Table 4.23-6, Compatibility with the California Attorney General GHG Emission Reduction Strategies**, and **Table 4.23-7**, **Compatibility with Climate Action Team GHG Emission Reduction Strategies**, identify the recommended mitigation measures and assess whether the proposed project is compatible with those measures or if the measures are applicable.

Table 4.23-6
Compatibility with California Attorney General GHG Emission Reduction Strategies

Measure	Compatibility of Project
Energy Efficiency	
Design buildings to be energy efficient. Site buildings to take advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use.	*Compatible:* All residential and nonresidential land uses included in the proposed project would be at least 15 percent more energy efficient than Title 24 requires, and, where specified, may rely on renewable energy sources to satisfy the project's energy demands. (See **Mitigation Measures MV 4.23-1** through **MV 4.23-4**.) The project applicant would use its best efforts to site buildings to take advantage of shade, prevailing wind, *etc.* to reduce energy use. Therefore, the proposed project would further implementation of this reduction strategy.

77 Smart meters are designed to transmit usage directly to the utility provider, thereby eliminating the need for door-to-door meter reading. The elimination of door-to-door meter reading would reduce overall GHG emissions further, by eliminating vehicle emissions.

Measure	Compatibility of Project
Energy Efficiency (continued)	
Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings.	*Compatible:* The project applicant is committed to working with the County of Los Angeles and Southern California Edison to install, where feasible, energy efficient municipal lighting in Mission Village. Although the exact parameters and feasibility of the program have not been determined, the installation of energy efficient municipal lighting would reduce overall emission levels associated with the proposed project. Therefore, the proposed project would further implementation of this reduction strategy.
Install light colored "cool" roofs, cool pavements, and strategically placed shade trees.	*Compatible:* The Mission Village tract map site currently is cultivated with row crops. In building out a project with Mission Village's land use and design parameters, it is likely that approximately 4,985 new trees will be planted to revegetate the project site; the planting of these trees would occur concurrently with buildout of the proposed project. The inclusion of new vegetation would increase shade throughout the project site. Therefore, the proposed project would further implementation of this reduction strategy.
Provide information on energy management services for large energy users.	*Not Applicable:* The land uses that would be built on the Mission Village project site would not be considered large energy users (e.g., electricity providing utility; industrial-related business; etc.).
Install energy efficient heating and cooling systems, appliances and equipment, and control systems.	*Compatible:* As discussed throughout this section, the proposed project's residential and nonresidential land uses would be at least 15 percent more efficient than required by Title 24. (See **Mitigation Measures MV 4.23-1** and **MV 4.23-2**.) Further, the applicant is committed to working with Southern California Edison and Southern California Gas Company to assess the feasibility of installing smart meters at residential units located throughout Mission Village. Based on the available information, a 10 percent decrease in overall energy use and, therefore, greenhouse gases for residential units may be realized by the use of smart meters. Therefore, the proposed project would further implementation of this reduction strategy.
Install light emitting diodes (LEDs) for traffic, street, and other outdoor lighting.	*Compatible:* The project applicant is committed to working with the County of Los Angeles and Southern California Edison to install, where feasible, energy efficient municipal lighting throughout the Mission Village project site. Therefore, the proposed project would further implementation of this reduction strategy.
Limit the hours of operation of outdoor lighting.	*Not Applicable:* The project applicant has little to no control over the hours of operation of outdoor lighting at the residential and nonresidential development that would be built on the project site.

Measure	Compatibility of Project
Energy Efficiency (continued)	
Use solar heating, automatic covers, and efficient pumps and motors for pools and spas.	*Compatible:* The project applicant is committed to using solar water heating for each of the pools located at the three recreation centers that would be built on the Mission Village project site. (See **Mitigation Measure MV 4.23-6**.) Therefore, the proposed project would further implementation of this reduction strategy.
Provide education on energy efficiency.	*Compatible*: The project applicant is committed to providing the future property owners of land uses built on the project site with energy efficiency literature. In addition, as noted above, the applicant is committed to working with Southern California Edison and Southern California Gas Company to assess the feasibility of installing smart meters at residential units, which help educate residents about their energy consumption. It also should be observed that Southern California Edison has established an energy efficiency education program in order to ensure that its energy users are informed of existing opportunities to decrease their overall demand for energy. Moreover, in September 2008, the US EPA launched a new online tool – Energy Star & Work, to provide individuals with tips and information on how to save energy and protect the environment in the workplace. Therefore, the proposed project would further implementation of this reduction strategy.
Renewable Energy	
Install solar and wind power systems, solar and tankless hot water heaters, and energy-efficient heating ventilation and air conditioning. Educate consumers about existing incentives.	*Compatible:* The project applicant may use renewable electricity, equivalent to 2-kilowatt photovoltaic (i.e., solar) power systems, when undertaking the design and construction of all single-family detached residential units that would be built on the Mission Village project site. (See **Mitigation Measure MV 4.23-3**.) In addition, renewable electricity may be utilized for some of the nonresidential development facilitated by project approval. (See **Mitigation Measure MV 4.23-4**.) Therefore, the proposed project would further implementation of this reduction strategy.
Use solar panels on carports and over parking areas.	*Compatible:* As discussed above, the project applicant may use renewable electricity, equivalent to 2-kilowatt photovoltaic (i.e., solar) power systems, when undertaking the design and construction of all single-family detached residential units that would be built on the Mission Village project site. (See **Mitigation Measure MV 4.23-3**.) In addition, renewable electricity may be utilized for some of the nonresidential development facilitated by project approval. (See **Mitigation Measure MV 4.23-4**.) Therefore, the proposed project would further implementation of this reduction strategy.

Measure	Compatibility of Project
Renewable Energy (continued)	
Use combined heat and power in appropriate applications.	*Not Applicable*: Cogeneration (also known as combined heat and power) is the use of a heat engine or power station to simultaneously generate electricity and heat. The land uses that would be built at the Mission Village project site do not lend themselves to cogeneration.
Water Conservation and Efficiency [1]	
Create water-efficient landscapes.	*Compatible:* The applicant is committed to using native (or non-native/non-invasive) and drought-tolerant vegetation when revegetating the project site. Therefore, the proposed project would further implementation of this reduction strategy.
Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.	*Compatible:* The proposed project would rely on evapotranspiration (i.e., weather-sensitive sprinklers) to reduce water demand and runoff. Therefore, the proposed project would further implementation of this reduction strategy.
Use reclaimed water for landscape irrigation in new developments and on public property. Install the infrastructure to deliver and use reclaimed water.	*Compatible:* The proposed project would use reclaimed/recycled water for landscape irrigation, and the infrastructure needed to deliver and use this water would be provided as part of the Newhall Ranch Water Reclamation Plant. Therefore, the proposed project would further implementation of this reduction strategy.
Design buildings to be water-efficient. Install water-efficient fixtures and appliances.	*Compatible:* The proposed project's design features would comply with all applicable state, regional, and local regulations regarding water efficiency. In addition, the proposed project's wastewater would be routed through the Newhall Ranch Water Reclamation Plant (WRP), and reused throughout the project site for irrigation purposes. This project design feature and water treatment approach ensures the efficient use of water. Therefore, the proposed project would further implementation of this reduction strategy.
Use graywater.	*Compatible:* The proposed project would use reclaimed water for landscape irrigation. Therefore, the proposed project would be compatible with this type of reduction strategy by minimizing the energy and water resources required to meet the demands of the proposed project's residents and occupants at buildout.

Measure	Compatibility of Project
Water Conservation and Efficiency (continued)[1]	
Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff.	*Compatible:* While the watering methods of the users and occupants of Mission Village are beyond the control of the applicant, the applicant is committed to curtailing urban runoff and maximizing groundwater recharge. In order to achieve this goal, the applicant would install native (or non-native/non-invasive) and drought-tolerant vegetation in landscape areas and non-structural water quality treatment improvements. The project design would include minimizing impervious surfaces through clustering development and using bioretention, extended detention, and other vegetated treatment control Best Management Practices (BMPs) to disconnect impervious surfaces and reduce runoff volumes through evapotranspiration and infiltration. (Please see **Section 4.22, Water Quality**, of this Draft EIR for additional information.) Therefore, the proposed project would further implementation of this reduction strategy.
Restrict the use of water for cleaning outdoor surfaces and vehicles.	*Compatible:* The project applicant has little to no control over the future occupants' use of water for cleaning outdoor surfaces and vehicles. Nonetheless, the project applicant has committed to implementing an educational program, targeted at both residents and commercial businesses, regarding services that could affect water use and quality. The site design for Mission Village also would include the provision of a car wash pad connected to sanitary sewer in the multi-family residential areas. (Please see **Section 4.22, Water Quality**, of the Draft EIR for additional information.) Therefore, the proposed project would further implementation of this reduction strategy.
Implement low-impact development practices that maintain the existing hydrologic character of the site to manage stormwater and protect the environment.	*Compatible:* The primary goals of low impact/site design BMPs are to maintain a landscape functionally equivalent to predevelopment hydrologic conditions and to minimize the generation of pollutants of concern. The Los Angeles County Municipal Stormwater Permit and the State Board's Construction Storm Water General Permit regulate construction Best Management Practices for private and public construction in Los Angeles County, and Newhall Ranch is featured as a "low impact development." Please also see **Section 4.8**, **Water Service**, of the Draft EIR, which discusses various low-impact project design features of Mission Village (e.g., clustered development; reserved open space; minimizing impervious areas through landscaping; buffer areas between the project site and the Santa Clara River Corridor; etc.). Therefore, the proposed project would further implementation of this reduction strategy.

Measure	Compatibility of Project
Water Conservation and Efficiency (continued)[1]	
Devise a comprehensive water conservation strategy appropriate for the project and location.	*Compatible:* As discussed in **Section 4.8, Water Service**, of the Draft EIR, potable water demand would be met by the Valencia Water Company through the use of the project applicant's rights to groundwater from the Alluvial aquifer, which is presently used by the applicant for agricultural irrigation. Non-potable water demand would be met through the use of recycled (reclaimed) water from the initial phase of the Newhall Ranch WRP, with buildout of the WRP occurring over time as demand for treatment increases with implementation of the Newhall Ranch Specific Plan. Alternatively, if the Newhall Ranch WRP is not operating at the time of project occupancy, the non-potable water demand would be met through the use of recycled water from the existing Valencia WRP, located upstream of the Mission Village project site. In addition, the Valencia Water Company is a member of the California Urban Water Conservation Council (CUWCC). (See http://www.cuwcc.org/home.html.) The primary mission of the CUWCC is to increase efficient water use statewide through partnerships among urban water agencies, public interest organizations, and private entities. Accordingly, the CUWCC has committed to implementing numerous BMPs to improve water efficiency. These BMPs address residential surveys; retrofits; audits; metering; landscaping; clothes washers; public information; school education; wholesaler incentives; rates; waste prohibitions; etc. (See http://www.cuwcc.com/mbmp.lasso.) In summary, the proposed project would further implementation of this reduction strategy.
Provide education about water conservation and available programs and incentives.	*Compatible:* Valencia Water Company, which would provide water supply services to the Mission Village project site, operates a water conservation management program. Valencia Water Company's contractor, WaterWise Consulting, at no cost, visits residences, inspects the residence for leaks, installs water saving devices, and shares conservation information with the occupant. (See http://www.valenciawater.com/conservation/index.asp.) Therefore, the proposed project would further implementation of this reduction strategy.

Measure	Compatibility of Project
Solid Waste Measures	
Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).	*Compatible*: As discussed in **Section 4.10, Solid Waste Services**, of the Mission Village Draft EIR, the project applicant would comply with all state- and locally mandated waste diversion and recycling requirements. Therefore, the proposed project would further implementation of this reduction strategy.
Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.	*Compatible:* Consistent with Specific Plan mitigation measures 4.15-1 and 4.15-2, Mission Village would meet the requirements of all applicable solid waste diversion, storage, and disposable regulations, which includes providing recycling areas that are conveniently located, secured and protected against environmental conditions, clearly marked, and adequate in capacity, number and distribution. Therefore, the proposed project would further implementation of this reduction strategy.
Recover by-product methane to generate electricity.	*Not Applicable:* The proposed land uses would not generate methane that could be used for cogeneration purposes.
Provide education and publicity about reducing waste and available recycling services.	*Compatible:* Consistent with Specific Plan mitigation measure 4.15-3, the first purchaser of each residential unit within Mission Village would be provided with educational or instructional materials addressing recyclable materials. In addition, the local waste management provider (Burrtec Waste Industries, Inc.) would distribute and/or have available online informational materials regarding reducing waste and its recycling services during the ordinary course of business. (See http://www.burrtec.com.) Therefore, the proposed project would further implementation of this reduction strategy.
Land Use Measures	
Include mixed-use, infill, and higher density in development projects to support the reduction of vehicle trips, promote alternatives to individual vehicle travel, and promote efficient delivery of goods and services.	*Compatible:* The Mission Village project would include a broad range of housing types and nonresidential uses. Within the project site, many residents will be located within walking distances to commercial and mixed-use areas, schools, community parks, and trails. In addition, as Mission Village is adjacent to the Valencia Commerce Center, bike and pedestrian trails within Newhall Ranch would connect to trails within the Valencia Commerce Center. Therefore, the proposed project would further implementation of this reduction strategy.

Measure	Compatibility of Project
Land Use Measures (continued)	
Educate the public about the benefits of well-designed, higher density development.	*Compatible:* The project applicant has prepared a community outreach, informational document to educate the public about the advantages of residing within a well-designed community, such as the proposed project— *Mission Village Sustainability Overview* (2010). (This document is located in **Appendix 4.23**.) Therefore, the proposed project would further implementation of this reduction strategy.
Incorporate public transit into project design.	*Compatible:* Although not a "transit priority project," as defined by SB 375, the land use and circulation plans for Mission Village have been designed to minimize car trips and reduce GHG emissions. Accordingly, mass transit would be conveniently located through the development of a new bus transfer station and bus stops. Trails and bike paths leading to close-to-home jobs, neighborhood serving retail, and the elementary school would encourage residents to enjoy the walkability of the community. Finally, the project applicant has committed to funding $300 million in roadway improvements in the Santa Clarita Valley for transportation mobility. Therefore, the proposed project would further implementation of this reduction strategy.
Preserve and create open space and parks. Preserve existing trees, and plan replacement trees at a set ratio.	*Compatible:* In building out a development of Mission Village's parameters, it is likely that approximately 4,985 trees would be planted to vegetate the project site; in addition, other landscaping would be implemented throughout the project site. As discussed in **Section 4.14, Parks and Recreation**, of the Mission Village Draft EIR, the Mission Village project includes a 20-acre Community Park, 5.0-acre Neighborhood Park, 6.9-acre Community Center, 4.6 acres of private recreation, 18,900 linear feet of community trails, 12,900 linear feet of local trails, and 9,200 linear feet of pathways. Moreover, over 50 percent of the Newhall Ranch Specific Plan (of which Mission Village is a part of) would be preserved as open space: the High County Special Management Area is over 4,200 acres; the Santa Clara River Corridor is over 1,000 acres; open space areas within the individual areas would total about 1,100 acres; the Salt Creek corridor, which is located on the western edge of Newhall Ranch, is over 1,500 acres. In total, this open space amounts to 7,800 acres. Therefore, the proposed project would further implementation of this reduction strategy.

Measure	Compatibility of Project
Land Use Measures (continued)	
Develop "brownfields" and other underused or defunct properties near existing public transportation and jobs.	*Not Applicable:* The project site is not considered a "brownfield," and presently is characterized by agricultural uses.
Include pedestrian and bicycle-only streets and plazas within developments. Create travel routes that ensure that destinations may be reached conveniently by public transportation, bicycling or walking.	*Compatible:* Nearly 60 percent of the residential units that would be built out in Newhall Ranch would be located within walking distance of village or commercial centers. Newhall Ranch would include paseos and trails, including the Santa Clara River Regional Trail, which would facilitate pedestrian access. Therefore, the proposed project would further implementation of this reduction strategy.
Transportation and Motor Vehicles	
Limit idling time for commercial vehicles, including delivery and construction vehicles.	*Compatible:* Idling limits are in place by regulations subject to statewide application. The project applicant would require all contractors to comply with existing, applicable environment regulations, such as the anti-idling regulations. Therefore, the proposed project would neither hinder nor impede implementation of the anti-idling regulations.
Use low or zero-emission vehicles, including construction vehicles.	*Compatible:* As provided in Specific Plan's air quality mitigation measures, TLEV, ULEV, LEV, and ZEV would be operated in connection with the commercial and business park land uses. (Please note that Mission Village would not include business park land uses.) Therefore, the proposed project would further implementation of this reduction strategy.
Promote ride-sharing programs (e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger load and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides).	*Compatible:* Various mitigation measures adopted in connection with the Newhall Ranch Specific Plan would accomplish the goals identified in the recommended reduction strategy by facilitating and providing incentives for ride-sharing efforts. The Los Angeles County Metropolitan Transportation Authority also has over 100 conveniently located park-and-ride locations countywide, and sponsors a subsidized metro vanpool program. (See http://www.metro.net/riding_metro /commute_services/vanpool/default.htm.) Therefore, the proposed project would further implementation of this reduction strategy.
Create car sharing programs. Accommodations for such programs include providing parking spaces for the car share vehicles at convenient locations accessible by public transportation.	*Compatible:* The Los Angeles County Metropolitan Transportation Authority's website contains information regarding car sharing. (See http://www.metro.net/riding_metro/commuteservices/ commuter_carsharing.htm.) The proposed project would neither impede nor hinder implementation of this reduction strategy.

Measure	Compatibility of Project
Transportation and Motor Vehicles (continued)	
Create local "light vehicle" networks, such as neighborhood electric vehicle (NEV) systems.	*Compatible:* Market forces will drive the installation and use of "light vehicle" networks, and the project applicant has little to no control over whether future project users and occupants choose to utilize such networks. Nonetheless, the design of Mission Village, which is structured to provide optimal walkability via the paseos and trails, serve to accomplish the same primary objective as this reduction strategy (i.e., reduction in reliance on single occupancy vehicles as the primary means of travel). Therefore, the proposed project would neither hinder nor impede implementation of this reduction strategy.
Provide the necessary facilities and infrastructure to encourage the use of low or zero-emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations).	*Compatible:* Market forces will drive the installation and use of "light vehicle" networks, and the project applicant has little to no control over whether future project users and occupants choose to utilize such networks. Moreover, as previously mentioned, Mission Village has been designed to be a walkable community, thereby reducing the need to operate or rely on motor vehicle transportation to reach many essential services (e.g., schools; food and gas; parks; etc.). The proposed project would neither hinder nor impede implementation of this reduction strategy.
Increase the cost of driving and parking private vehicles by, e.g., imposing tolls and parking fees.	*Compatible:* Mitigation measures adopted in connection with the Newhall Ranch Specific Plan would provide preferential parking for carpools and vanpools, and implement pricing structures for parking to favor more efficient group travel. Moreover, market forces (e.g., oil prices) are the primary driver of increased driving costs. In light of these ever-increasing costs, Mission Village would encourage and facilitate use of numerous types of alternative transportation via the community's walkability and extensive trail network, the park-and-ride lot, bus stops, and bus transfer station. Therefore, the proposed project would further implementation of this reduction strategy.
Build or fund a transportation center where various public transportation modes intersect.	*Compatible:* As previously mentioned, the Newhall Ranch Specific Plan would include numerous modes of public transportation (e.g., park-and-ride lot; bus stops; transit station; regional trail network; right-of-way for Metrolink extension; paseos; *etc.*) in close proximity to one another to accommodate the future residents, visitors, and occupants of the Specific Plan land uses. Therefore, the proposed project would further implementation of this reduction strategy.

Measure	Compatibility of Project
Transportation and Motor Vehicles (continued)	
Provide shuttle service to public transit.	*Compatible:* Consistent with the mitigation measures adopted in connection with the Newhall Ranch Specific Plan Program EIR, there would be a variety of shuttle services to and from residential, commercial, and business park land uses throughout the Specific Plan site. The City of Santa Clarita also provides demand-responsive service using a fleet of 16 ADA-compliant paratransit vans and small buses; and curb-to-curb services are available to the elderly, disabled, and general public every day of the week. (See http://www.santa-clarita.com/cityhall/admin/Transit/AAC.asp.) Therefore, the proposed project would further implementation of this reduction strategy.
Provide public transit incentives such as free or low-cost monthly transit passes.	*Not Applicable:* Public transit incentives typically are provided by education facilities and businesses. The project applicant has little to no control over whether individual business owners elect to incentive the use of public transit via free or low-cost passes.
Incorporate bicycle lanes and routes into street systems, new subdivision, and large developments.	*Compatible:* Mission Village would incorporate bike lanes and routes into the street system. The Specific Plan's regional river trails allow for bicycle use and reduces the number of times that bicycles would interact with motor vehicles. (The regional river trails span from the Los Angeles County line into the City of Santa Clarita.) Therefore, the proposed project would further implementation of this reduction strategy.
Incorporate bicycle-friendly intersections into street design.	*Compatible:* As discussed above, Mission Village would contain and connect to an extensive network of bike trails. The circulation plan has incorporated these bike trails and paths into the street design in order to ensure that these routes are user-friendly. Therefore, the proposed project would further implementation of this reduction strategy.
For commercial projects, provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle community, including, e.g., locked bicycle storage, or covered or indoor bicycle parking.	*Compatible:* The project applicant has little or no control over whether future commercial businesses on the Mission Village project site will elect to provide bicycle parking near buildings. However, as discussed above, market forces will drive the provision of this bicycle parking. In addition, adopted Specific Plan air quality mitigation measures require that future commercial and business park uses be complemented by any two of the following: bicycle facility improvements; bicycle parking facilities; and/or showers for bicycling employees' use. Therefore, the proposed project would further implementation of this reduction strategy.

Measure	Compatibility of Project
Transportation and Motor Vehicles (continued)	
Create bicycle lanes and walking paths directed to the location of schools, parks and other destination points.	*Compatible:* Mission Village and Newhall Ranch generally would include an extensive network of paseos and trails that provide access to schools, commercial centers, community parks, etc. Therefore, the proposed project would further implementation of this reduction strategy.
Work with the school district to restore or expand school bus services.	*Compatible:* As discussed in **Section 4.13, Education**, of the Mission Village Draft EIR, the Castaic Union School District (Castaic District) and the William S. Hart Union High School District (Hart District) currently provide public elementary, junior high/middle school, and senior high school education in the Mission Village project area. Both the Castaic District and Hart District provide bus services, with the latter's services derived from the City of Santa Clarita Transit. (See http://www.castaic.k12.ca.us/; http://www.santa-clarita.com/cityhall/admin/transit/school.asp.) The proposed project also includes construction of the Mission Village Elementary School, which would be centrally located within Mission Village. Therefore, elementary school students may not require busing due to the walkability of Mission Village and the proximity of this elementary school. In summary, the proposed project would further implementation of this reduction strategy.
Institute a telecommute program. Provide information, training, and incentives to encourage participation. Provide incentives for equipment purchases to allow high-quality teleconferences.	*Not Applicable:* This is beyond the scope of the proposed project, and beyond the control of the applicant.

Measure	Compatibility of Project
Transportation and Motor Vehicles (continued)	
Provide information on all options for individuals and businesses to reduce transportation-related emissions. Provide education and information about public transportation.	*Compatible:* Both the Los Angeles County Metropolitan Transportation Authority and City of Santa Clarita Transit provide extensive transportation services in the vicinity of the Mission Village site. Information on these services would be readily available, via the agencies' websites, to all future residents and occupants of Mission Village. In addition, consistent with Specific Plan mitigation measure 4.10-14, the sellers of new residential units would be required to distribute brochures and other relevant information published by SCAQMD (or a similar organization) to new homeowners regarding the importance of reducing vehicle miles traveled, as well as information on local opportunities for public transit and ridesharing. Finally, pursuant to mitigation measure MV 4.9-17, kiosks containing transit information shall be constructed by the project applicant adjacent to selected future bus stops prior to initiation of bus service. Therefore, the proposed project would further implementation of this reduction strategy.

Source: Office of the California Attorney General, Global Warming Measures, updated February 14, 2008.

[1] The Santa Clarita Valley water suppliers have joined together to develop a plan to ensure the efficient use of water in Santa Clarita Valley. In that regard, the water suppliers are working towards adoption of the *Santa Clarita Valley Water Use Efficiency Strategic Plan* (September 2008), the goal of which is to achieve a long-term reduction in water demand of at least 10 percent over the next 20 years. (This document is available for public inspection and review at Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, California 90012, and is incorporated by reference.)

Table 4.23-7
Compatibility with Climate Action Team GHG Emission Reduction Strategies

GHG Emission Reduction Strategies	Compatibility of Project
California Air Resources Board (CARB)	
Vehicle Climate Change Standards: AB 1493 required CARB to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from passenger vehicles and light-duty trucks. Regulations were adopted by CARB in September 2004.	*Compatible:* California recently received the required waiver under the Clean Air Act to enable implementation of the AB 1493 regulations. GHG emission reductions are expected to occur via action undertaken by automobile manufacturers and any enforcement programs implemented by CARB. The proposed project would neither hinder nor impede implementation of the AB 1493 regulations.
Diesel Anti-Idling: In July 2004, CARB adopted a measure to limit diesel-fueled commercial motor vehicle idling. Additionally, in July 2007, CARB adopted requirements applicable to off-road diesel equipment, including limits on idling times.	*Compatible:* The diesel anti-idling regulations are subject to statewide application. The project applicant would require all contractors to comply with existing, applicable environment regulations, such as the anti-idling regulations. Therefore, the proposed project would neither hinder nor impede implementation of the anti-idling regulations.
Hydrofluorocarbon Reduction: (1) Ban retail sale of HFCs in small cans; (2) Require that only low GWP refrigerants be used in new vehicular systems; (3) Adopt specifications for new commercial refrigeration; (4) Add refrigerant leak-tightness to the pass criteria for vehicular inspection and maintenance programs; (5) and Enforce the federal ban on HFCs.	*Not Applicable:* These reduction measures are beyond the scope of the proposed project and the control of the project applicant.
Transportation Refrigeration Units (TRUs): These measures would reduce emissions from TRUs, increase off-road electrification, and increase use of shore side/port electrification.	*Compatible:* The project applicant does not anticipate that any notable use of TRUs would occur in connection with the proposed project. Therefore, the proposed project would neither hinder nor impede implementation of measures designed to reduce emissions from TRUs.
Heavy-Duty Vehicle Emission Reduction Measures: Increased efficiency in the design of heavy-duty vehicles and an education program for the heavy-duty vehicle sector.	*Compatible:* These reduction measures would be enforced by CARB and subject to statewide application. The project applicant would require all contractors to comply with existing, applicable environment regulations, such as the heavy-duty vehicle emissions reduction measures. Therefore, the proposed project would neither hinder nor impede implementation of these reduction measures.
Achieve 50% Statewide Recycling Goal: This strategy requires achievement of California's 50 percent waste diversion mandate, as established by the Integrated Waste Management act of 1989. Meeting the waste diversion mandate would reduce emissions associated with energy-intensive material extraction and production, as well as methane emission from landfills.	*Compatible:* As discussed in **Section 4.10, Solid Waste Services**, of the Mission Village Draft EIR, the project applicant would comply with state- and locally mandated waste diversion and recycling requirements. Therefore, the proposed project would further implementation of this reduction strategy.

GHG Emission Reduction Strategies	Compatibility of Project
Department of Forestry	
Urban Forestry: Expand local urban forestry programs and achieve a statewide goal of planting 5 million trees in urban areas by 2020.	*Compatible:* In building out a development of Mission Village's parameters, it is likely that approximately 4,985 trees would be planted to vegetate the project site; in addition, other landscaping would be implemented throughout the project site. In addition, as discussed in **Section 4.14**, of the Mission Village Draft EIR, Parks and Recreation, the Mission Village project includes a 20-acre Community Park, 5.0-acre Neighborhood Park, 6.9-acre Community Center, 4.6 acres of private recreation, 18,900 linear feet of community trails, 12,900 linear feet of local trails, and 9,200 linear feet of pathways. Moreover, over 50 percent of the Newhall Ranch Specific Plan (of which Mission Village is a part of) would be preserved as open space: the High County Special Management Area is over 4,200 acres; the Santa Clara River Corridor is over 1,000 acres; open space areas within the individual areas would total about 1,100 acres; the Salt Creek corridor, which is located on the western edge of Newhall Ranch, is over 1,500 acres. In total, this open space amounts to 7,800 acres. Therefore, the proposed project would further implementation of this reduction strategy.
Department of Water Resources	
Water Use Efficiency: Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions.	*Compatible:* The proposed project would rely on less energy-intensive water resources than those typically used throughout California, due to the availability of local groundwater. In addition, to curtail urban runoff and maximize groundwater recharge, Newhall Ranch would utilize open/soft bottom channels, increased native landscape areas, and non-structural water quality treatment improvements. Finally, Newhall Ranch would be vegetated with native (or non-native/non-invasive) and drought-tolerant plants, use recycled water for irrigation, and evapotranspiration controllers to reduce potable water demand and runoff. Therefore, the proposed project would further implementation of this reduction strategy.
California Energy Commission (CEC)	
Building Energy Efficiency Standards in Place and in Progress: Public Resources Code section 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards that apply to newly constructed buildings and additions and alterations to existing buildings.	*Compatible:* As discussed throughout this section, all new residential and nonresidential development on the Mission Village site would be at least 15 percent more energy efficient than the existing standards adopted by the CEC in Title 24. (See Mitigation Measures **MV 4.23-1** and **MV 4.23-2**.) Therefore, the proposed project would neither hinder nor impede implementation of this reduction strategy.

GHG Emission Reduction Strategies	Compatibility of Project
California Energy Commission (CEC) (continued)	
Appliance Energy Efficiency Standards in Place and in Progress: Public Resources Code section 25402 authorizes the CEC to adopt and periodically update its appliance energy efficiency standards that apply to devices and equipment using energy that are sold or offered for sale in California.	*Compatible:* Appliances installed throughout Mission Village would comply with the applicable energy efficiency standards, to the extent that the selection of appliances is within the control of the project applicant (and not the control of the future users and occupants of Mission Village). Therefore, the proposed project would neither hinder nor impede implementation of this reduction strategy.
Building, Transportation, and Housing Agency	
Smart Land Use and Intelligent Transportation Systems (ITS): Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors.	*Compatible:* The proposed project is a mixed-use planned community that employs sustainable development principles. Buildout within Newhall Ranch and Valencia would result in the creation of approximately 100,000 jobs in the Santa Clarita Valley, and thereby increase the jobs-housing balance. In addition, nearly 60 percent of the residential units within Newhall Ranch would be located within walking distance of village or commercial centers. Further, Newhall Ranch would be part of the Santa Clarita Transit system, include extensive open space and recreation areas (including over 50 miles of trails), and preserve sensitive resources areas. Therefore, the proposed project would further implementation of this reduction strategy.
Measures to Improve Transportation Energy Efficiency: Builds on current efforts to provide a framework for expanded and new initiatives including incentives, tools, and information that advance cleaner transportation and reduce climate change emissions.	*Compatible:* The proposed project incorporates "transit friendly" project design features. For example, Mission Village would include a bus transfer station and bus stops. In addition, the applicant is committed to providing its fair share for roadway improvements in the Santa Clarita Valley. Therefore, the proposed project would further implementation of this reduction strategy.
State Consumer Services Agency	
Green Buildings Initiative: Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, compared with 2003 levels.	*Compatible:* The project applicant would comply with the County of Los Angeles' green building policies and ordinances, and any other state-mandated green building initiatives, as applicable and as required by law. In addition, the proposed project would be at least 15 percent more energy efficient than Title 24 currently requires and, where specified, may be supplemented by renewable energy resources. (See Mitigation Measures **MV 4.23-1** through **MV 4.23-4**.) Therefore, the proposed project would further implementation of this reduction strategy.

Source: Summarized from Chapter 5 of the Climate Action Team Report to Governor Schwarzenegger and the Legislature (March 2006).

8. CUMULATIVE IMPACTS

Under CEQA, the analysis of cumulative impacts is necessarily guided by standards of practicality, feasibility, and reasonableness. (*State CEQA Guidelines*, section 15151.) And, the question to be considered when undertaking the analysis is whether the project's incremental effects are "cumulatively considerable" (*State CEQA Guidelines*, section 15130, subd. (a)), which means whether the project's incremental effects are significant when viewed in connection with the effects of past, present, and probably future projects. (*State CEQA Guidelines*, section 15065, subd. (a)(3).) Here, the specific question is whether Mission Village's GHG emissions are cumulatively considerable in conjunction with GHG emissions generated by other projects, in that the emissions would impede compliance with the GHG emissions reduction goals mandated by AB 32.

First, as discussed in this section, above, emissions must be reduced at least 29 percent below the CARB 2020 NAT scenario for California to achieve the emission reduction mandates of AB 32. The proposed project's emissions would be at least 30 percent below the CARB 2020 NAT scenario and, therefore, project-level impacts would be less than significant. The proposed project would not result in any additional effect because the project's GHG emissions do not impede compliance with the GHG emissions reduction goals mandated by AB 32, as it is presently understood. As a result, the Mission Village GHG emissions are not considered "cumulatively considerable" under CEQA.

In addition to incorporating the design features and mitigation measures necessary to facilitate the achievement of AB 32's goals at a statewide level, the Mission Village project also would comply with any additional, applicable state-mandated requirements concerning GHGs and any local initiatives from Los Angeles County. Compliance with all such measures would further ensure that the Mission Village project would not result in significant cumulatively considerable impacts on global climate changes.

9. CUMULATIVE MITIGATION MEASURES

Other than complying with the mitigation measures identified above, in connection with the approval of Mission Village, no further mitigation is recommended or required. Nonetheless, it should be noted that as AB 32's mandate is brought to fruition, through the adoption of regulations and additional legislation, additional GHG reduction measures would be implemented, and Mission Village, and the residents and businesses that occupy Mission Village, would be subject to those reduction measures. Therefore, additional GHG emissions reductions are ensured and inevitable.

Section 15130, subdivision (c), of the *State CEQA Guidelines* acknowledges that "[w]ith some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis." Global climate change is this type

of issue, as the very causes and effects of global climate change are not simply determined on a local or regional scale. Therefore, given the uncertainties in identifying, let alone quantifying, the impact of any single project on global warming and climate change, and the efforts made to design the Mission Village project with sustainable development principles in mind, any further mitigation is best accomplished through CARB regulations implementing the mandated reduction goals of AB 32.

10. SIGNIFICANT UNAVOIDABLE IMPACTS

a. Project-Specific Impacts

With implementation of the project design features and mitigation measures recommended in this section, no significant unavoidable project-related GHG emissions would result from approval of the proposed Mission Village project.

b. Cumulative Impacts

With implementation of the project design features and mitigation measures recommended in this section, no significant unavoidable cumulative impacts have been identified or are anticipated from the GHG emissions generated by the proposed Mission Village project.

5.0 PROJECT ALTERNATIVES

1. PURPOSE

California Environmental Quality Act (CEQA) Guidelines *Section 15126.6 provides that the purpose of the alternatives section of an EIR is to assess a range of reasonable alternatives to the proposed project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project. The EIR must also include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. The discussion of alternatives should be governed by the "rule of reason." Generally, significant effects of an alternative shall be discussed, but in less detail than the proposed project.*

2. INTRODUCTION

As stated above, the principal purpose of the alternatives analysis is to assess a range of project alternatives that would reduce the magnitude of, or eliminate, potential project-related impacts. However, the *State CEQA Guidelines* place some restrictions on the range of alternatives an EIR must address. First, an EIR need only examine those alternatives that meet most basic objectives of the project. Second, the *State CEQA Guidelines* stipulate that alternatives addressed in an EIR should be feasible and should not be considered remote or speculative. When addressing feasibility, the *State CEQA Guidelines* state that "… among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, jurisdictional boundaries, and whether the applicant can reasonably acquire, control or otherwise have access to the alternative site." Third, where a previous EIR analyzed a range of reasonable alternative locations and environmental impacts for a project with the same basic purpose, the EIR may rely on the previous document to assess the feasibility of potential project alternatives to the extent the circumstances remain substantially the same as they relate to such alternatives.

Based on these CEQA-driven directives, alternatives to the project that would reduce significant adverse impacts without undermining basic project objectives were selected for analysis in this section. The objectives of the proposed Mission Village project are listed in **Section 1.0, Project Description**, of this EIR.

3. NEWHALL RANCH SPECIFIC PLAN ALTERNATIVES PREVIOUSLY EVALUATED

The certified Newhall Ranch Specific Plan Program EIR evaluated six on-site alternatives to the Specific Plan, and three alternative site locations. These nine alternatives were selected based on the significant

impacts of the Specific Plan, the comments received in response to the Notice of Preparation, discussions with Los Angeles County (County) staff and its Significant Ecological Area Technical Advisory Committee, discussions at 26 Community Task Force meetings, and discussions with members of the community and community groups. The previously evaluated on-site and off-site alternatives are identified below.

a. On-Site Alternatives

- **Alternative 1, The No Project Alternative.** This alternative is required by the *State CEQA Guidelines*, and it compared the impacts that might occur if the site was left in its present condition with those that would be generated by development of the Specific Plan. While many impacts associated with development of the Specific Plan would be avoided under this alternative, certain other impacts would not necessarily be precluded under this alternative;

- **Alternative 2, Site Buildout under the Santa Clarita Valley Area Plan.** The purpose of this alternative was to describe the impacts of developing the site as allowed by the Santa Clarita Valley Area Plan and to compare such impacts with those generated by development of the Specific Plan. Under this alternative, approximately 2,070 dwelling units and 47,372 square feet of commercial space would be constructed on the Specific Plan site. Given the substantial reduction in site population under this alternative, direct and indirect impacts generally would be less than those under the Specific Plan. However, certain Specific Plan project benefits, including increased public access to dedicated open space, would not be realized under this alternative;

- **Alternative 3, The Clustered Alternative (Same Amount of Development as Specific Plan, Smaller Footprint).** The primary purpose of this alternative was to minimize or avoid potentially significant biological impacts by reducing the development footprint of the Specific Plan. In doing so, many other impacts that could occur as a result of land surface disturbance (e.g., impacts to cultural resources, geotechnical resources, fugitive dust impacts generated by grading, etc.) might also be reduced in magnitude by a reduction in the development footprint of the Specific Plan;

- **Alternative 4, The 19,750-Unit Alternative (20 Percent Reduction in Development, Same Footprint).** The primary purpose of this alternative was to minimize or avoid potentially significant traffic, air quality, noise, indirect biological, utility (e.g., water demand, wastewater generation), and public service (e.g., fire department, sheriff department) impacts by generally reducing the overall amount of development on the site;

- **Alternative 5, The 15,000-Unit Alternative (39 Percent Reduction in Development, Smaller Footprint).** The primary purpose of this alternative was to avoid or minimize the potentially significant direct and indirect biological impacts created by the Specific Plan by removing commercial and residential development completely from the previous Significant Ecological Area (SEA) 23 boundary and by reducing the intensity of development and footprint upon which such development would occur. In doing so, many other impacts which could occur as a result of site development might also be reduced in magnitude; and

- **Alternative 6, The 8,000-Unit Alternative (68 Percent Reduction in Development, Smaller Footprint).** The primary purpose of this alternative was to avoid or minimize the potentially significant visual and biological impacts created by the Specific Plan. In doing so, many other impacts that could occur as a result of site development might also be reduced in magnitude.

The Specific Plan Program EIR alternatives analysis concluded that the 8,000-unit alternative was the environmentally superior alternative. However, the Board of Supervisors did not choose this alternative, and instead adopted the Newhall Ranch Specific Plan, as revised, along with the mitigation measures identified in both the Final EIR and Mitigation Monitoring Plan. The Board also found that the No Project Alternative was not feasible or acceptable because, if implemented, many of the basic objectives of the Specific Plan would not be attained. As to the other alternatives, the Board found, generally, that the alternatives were infeasible because they too narrowly limited the range of housing opportunities and did not reflect the market conditions under which the Specific Plan would be developed, and also would not achieve many of the basic objectives of the Specific Plan. Consequently, in accordance with *State CEQA Guidelines* Section 15093, a Statement of Overriding Considerations was adopted to substantiate the Board's decision to reject the environmentally superior alternative, and the other identified alternatives, because the significant benefits afforded by the Specific Plan outweighed the environmental effects identified in the Newhall Ranch Specific Plan Program EIR.

b. Off-Site Alternatives

Twenty-three sites were initially considered as part of the alternative site evaluation conducted in the certified Newhall Ranch Specific Plan Program EIR. Of the 23 sites considered, three were found to be reasonably comparable to the Newhall Ranch Specific Plan site in terms of size, topography, and location in relation to the Los Angeles planning and market area. The three sites are the Hathaway Ranch, Temescal Ranch, and The Newhall Land and Farming Company's Ventura County holdings. The Newhall Ranch Specific Plan Program EIR fully evaluated the environmental impacts of developing these alternative sites compared to developing the Newhall Ranch Specific Plan site.

The Board of Supervisors found that none of the off-site alternatives were superior from an environmental standpoint when compared to the Newhall Ranch Specific Plan site. The Board found, generally, that each of the off-site alternatives would create greater impacts than those that would result with development on the proposed Specific Plan site, that many of the objectives of the project would not be achieved with the off-site alternatives, and that several of the benefits associated with the project would not be realized with the off-site alternatives. Therefore, the Board rejected all of the off-site alternatives as neither reasonable nor feasible. No changes in the Specific Plan or its circumstances have occurred since the Newhall Ranch Specific Plan Program EIR was certified in May 2003. In light of this fact, and given that the proposed Mission Village project is consistent with the land uses in the Specific Plan, it can be concluded that the prior Newhall Ranch Specific Plan Program EIR still adequately addresses alternative site locations. Consistent with *State CEQA Guidelines* Section 15126.6(f)(2)(c), as well

as sections 15152, 15168, and 15385, because the Specific Plan Program EIR sufficiently analyzed a range of reasonable alternative locations and associated environmental impacts for the Specific Plan, and because the circumstances remain substantially the same as they relate to off-site alternative locations, this EIR relies on the off-site alternatives previously evaluated in the Newhall Ranch Specific Plan Program EIR to assess the feasibility of potential project alternatives. Accordingly, this analysis incorporates by reference the discussions and analysis contained in that certified EIR pertaining to the off-site alternatives.

4. MISSION VILLAGE ALTERNATIVES

This EIR, at **Section 4.0, Environmental Impact Analysis**, determined that project implementation would result in potentially significant impacts prior to mitigation in numerous environmental impact categories, and also determined that project implementation would result in significant unavoidable impacts relative to biota, visual qualities, construction noise, air quality, solid waste services, and agricultural resources.

In order to avoid or substantially lessen the significant impacts identified for the proposed project, and in light of the basic objectives of the project, public comments received in response to the Notice of Preparation (NOP), and discussions with County staff, the public, and other public agencies, the following five alternatives to the proposed project were selected for analysis: (1) No Project/No Development Alternative; (2) No Project/Future Development Alternative; (3) Expanded Spineflower Preserve Alternative; (4) 20% Reduction in the Number of Dwelling Units Alternative and (5) Cluster Alternative. Each of these alternatives is discussed separately below. No other alternatives were identified or rejected as infeasible during the County's EIR scoping process.

a. Alternative 1: No Project/No Development Alternative

Section 15126.6(e) of the *State CEQA Guidelines* provides guidance on consideration of the No Project condition. When examining a development project on a specific piece of property, the No Project Alternative is the circumstance under which the project does not proceed. Under a No Project/No Development scenario, the discussion compares the environmental effects of the property remaining in its current state against the environmental effects that would occur if the project were approved and constructed.

Under the No Project/No Development Alternative, the project site would remain in its present condition and would be used for agricultural purposes, oil and natural gas-related activities and easements for public utility conveyance. As described in **Section 2.0, Environmental and Regulatory Setting,** a portion of the site is, or has been, used for agricultural activities, oil and natural gas production, water wells, and utility easements and, therefore, is either in an otherwise disturbed state (e.g., agricultural fields, oil/natural gas well pads), or is presently open space. Under the No Project/No Development Alternative,

the potential project-related impacts associated with development of the project site and described in **Section 4.0** would not occur.

In relation to the proposed project, this alternative would have less demand on public services and utilities (i.e., water service, wastewater, solid waste, education, libraries, parks and recreation, fire and police protection, gas and electricity), would not require floodplain modifications and, correspondingly, would create no significant impacts. Project viewsheds would remain the same as the existing condition. The alternative would not generate the traffic, air emissions, and noise associated with the proposed project. Therefore, in contrast to the proposed project, this alternative would not result in significant unavoidable impacts related to biota, visual qualities, construction noise, air quality, solid waste services, and agricultural resources.

However, because the proposed project would not be constructed under the No Project/No Development Alternative, none of the project objectives set forth in this EIR, at **Section 1.0, Project Description**, would be attained under this alternative.

It also is noted that under this alternative, certain benefits associated with the proposed project would not occur. For example, the No Project/No Development Alternative would not result in the installation of bank stabilization along the tract map site's northern boundary, thereby allowing continued sedimentation/erosion to occur at these locations; in its current state, there is no flood protection on the tract map site. Additionally, because of ongoing agricultural cultivation and oil/natural gas uses, and existing utility infrastructure, the tract map site presently has limited habitat value with the exception of the Spineflower Preserve and River Corridor Special Management Area (SMA).

b. Alternative 2: No Project/Future Development

Under *State CEQA Guidelines* Section 15126.6(e)(3)(B), if disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, then this "no project" consequence (i.e., No Project/Future Development scenario) should be discussed.

Disapproval of the proposed Mission Village project would not necessarily preclude future development of the property. The County Board of Supervisors adopted the Newhall Ranch Specific Plan on May 27, 2003, consistent with Title 22, Chapter 22.46 of the Los Angeles County Zoning Code. The Newhall Ranch Specific Plan implements the goals and policies of the General Plan and Santa Clarita Valley Area Plan on a focused, site-specific basis. The Specific Plan permits a maximum of 5,465 dwelling units and approximately 1.299 million square feet of commercial land uses within the planning areas that constitute the Mission Village tract map site.

In addition to being planned for developed uses, the project site is located near existing water, sewer, natural gas, telephone, and cable lines. Further, the site is located within the existing service area of both sheriff and fire department stations, and all public services are readily available to serve future site development. Given that the property currently is planned for residential and commercial land uses that can be served by existing and proposed infrastructure, it is reasonable to assume that the site will likely be developed at some time in the future if the currently proposed project is not approved. In the event that the site is developed in the future as described for this alternative, some, if not most, of the environmental impacts associated with such a development alternative likely would be comparable to those identified for the proposed project, which is fully evaluated throughout **Section 4.0** of this EIR. Therefore, the No Project/Future Development Alternative likely would not avoid or substantially lessen the proposed project's identified significant effects.

Whether or not the No Project/Future Development Alternative would attain any of the project objectives is dependent upon the specific type of development that ultimately would occur under this alternative. Therefore, any conclusion in this respect, by necessity, would be speculative.

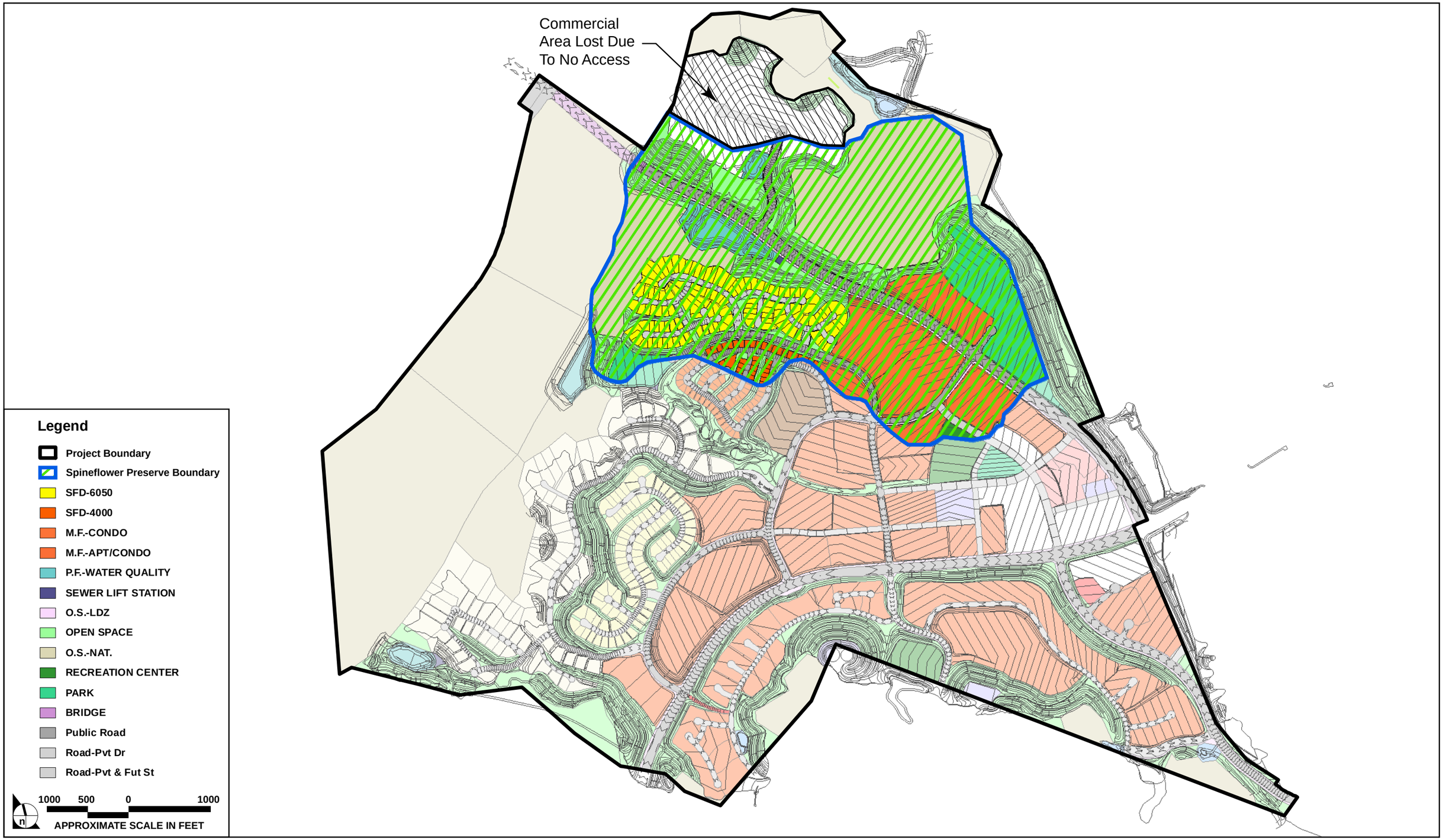
c. Alternative 3: Expanded Spineflower Preserve Alternative

As shown on **Figure 5.0-1, Alternative 3 – Expanded Spineflower Preserve**, retains the overall layout of the proposed project, except this alternative would expand the Spineflower Preserve and consequently reduce the number of dwelling units and commercial square footage that would be developed on the site.

This alternative would reduce development by 214 single-family dwelling units and 1,208 multi-family dwelling units, along with a reduction of 697,000 square feet of commercial space when compared to the proposed project, for a total of 2,990 dwelling units and 858,000 commercial square feet. The Expanded Spineflower Preserve Alternative would retain the 9-acre elementary school, neighborhood park, library site, fire station, and some of the private recreation areas proposed as part of the proposed project, although construction Commerce Center Drive Bridge and extension roadway would be eliminated under this alternative, which would eliminate direct access from the project site to State Route 126 (SR-126) and the Valencia Commerce Center and also eliminate the project's ability to connect the wastewater system to the Newhall Ranch Water Reclamation Plant (WRP).

(1) Potential Impacts

The following discussion compares the potential environmental impacts of the Expanded Spineflower Preserve Alternative, Alternative 3, to those associated with implementation of the proposed project.



SOURCE: PSOMAS – May 2010

FIGURE **5.0-1**

Alternative 3 - Expanded Spineflower Preserve Expansion

32-99•05/10

(a) Geotechnical and Soil Resources

Implementation of this alternative would result in less grading because of the reduced development footprint on the tract map site. However, all improvements constructed on the site would be subjected to the forces of ground movement during seismic events similar to the proposed project and would also be subject to the same construction requirements as the proposed project. To the extent Alternative 3 would result in less development, when compared to the proposed project, geotechnical hazards would be reduced and, therefore, Alternative 3 would result in fewer impacts than the proposed project with respect to geology and soils.

(b) Hydrology

Implementation of this alternative would result in slightly less storm runoff and more infiltration than the proposed project because less land area would be developed resulting in more open area. Also, it is likely the landscape irrigation needs of Alternative 3 would be less than the proposed project due to less landscaped acreage. The urban runoff that is generated under this alternative would be conveyed and discharged into the Santa Clara River in a similar manner as the proposed project. This alternative would also reduce the amount of bank stabilization needed on site, because the development footprint fronting the river would be reduced. Consequently, to the extent Alternative 3 would result in slightly less storm runoff than the proposed project, this alternative would result in fewer impacts from a hydrology perspective than the proposed project.

(c) Water Quality

Under either this alternative or the proposed project, Project Design Features (PDFs) incorporated into the development to address water quality and hydrologic impacts would include site design, source control, treatment control, and hydromodification control Best Management Practices (BMPs). In addition, flow control BMPs would be incorporated into the PDFs in order to comply with the Los Angeles Countywide Standard Urban Storm Water Mitigation Plan (SUSMP) and County Interim Peak Flow Standard. The flow control BMPs for either development of the proposed project or Alternative 3 would include both source control and detention. The PDFs combined with the implementation of recommended mitigation measures would reduce water quality and hydromodification impacts to less than significant levels under either development scenario. For this reason, Alternative 3 would result in similar impacts to the proposed project from a water quality perspective.

(d) Biota

Under Alternative 3, the area to be reserved for the Spineflower Preserve would be expanded, and subsequently there would be a reduction in land disturbance on the tract map site. Consequently,

Alternative 3 would reduce the direct biological impacts to the spineflower when compared to the proposed project. Furthermore, significant indirect impacts such as increased light and glare, increased non-native plant species and increased human and domestic animal presence would also be reduced as Alternative 3 represents reduced development intensity, including the elimination of the Commerce Center Drive bridge. For these reasons, to the extent Alternative 3 would result in reduced direct and indirect impacts to biota resources, Alternative 3 would result in fewer impacts to biota than the proposed project.

(e) Floodplain Modifications

Alternative 3 would slightly reduce the extent of floodplain modifications when compared to the proposed project. Consequently, floodplain modifications associated with construction and operation of Alternative 3 would result in fewer impacts on sensitive aquatic/riparian resources in the Santa Clara River corridor as this alternative would create slightly reduced flows, water velocities, water depth, changes in sediment transport and changes in flooded areas. Although the proposed project creates only minor hydraulic effects, which are insufficient to alter the amount, location, and nature of aquatic and riparian habitats in the project area and downstream, as well as insufficient to impact sensitive riparian species, including the unarmored threespine stickleback, arroyo toad, California red-legged frog, southwestern pond turtle and two-striped garter snake, Alternative 3 would result in fewer impacts than the proposed project relative to floodplain modifications because it would create fewer hydraulic impacts with reduced development on the project site, including the elimination of the Commerce Center Bridge.

(f) Visual Qualities

Development of the site under Alternative 3 or the proposed project would be subject to Development Regulations and Design Guidelines contained in the Specific Plan. These regulations and guidelines address grading, lighting, fencing, landscaping, signage, architecture, and site planning for subsequent subdivisions within the Newhall Ranch Specific Plan. Despite such features, significant visual impacts would result from the change in the visual character of the site from rural to urban. As with the proposed project, Alternative 3 would significantly alter the visual characteristics of the Santa Clara River/SR-126 corridor, as existing open-space views would be replaced with the images of residential development, roadways, bridges, and other human activity.

Development under either the proposed project or Alternative 3 would introduce sources of outdoor illumination that do not presently exist. Outdoor lighting, such as streetlights and traffic signals, are essential safety features in development projects that involve new streets and intersections, and cannot be eliminated if the site is to be developed. In conclusion, Alternative 3 would result in similar impacts to the proposed project relative to visual qualities.

(g) Traffic and Access

Implementation of Alternative 3 would reduce the number of vehicle trips generated by on-site uses when compared to the proposed project. Specifically, using the Institute of Transportation Engineers (ITE) *Trip Generation Manual* factors, average daily trip generation for the proposed project is estimated at 58,452 trips. In comparison, Alternative 3 would generate 39,558 trips, resulting in a reduction of 18,892 trips when compared to the proposed project. While there would be less traffic generated with this alternative, the proposed project represents a balanced land plan that contains neighborhood-serving commercial uses that are connected to the residential areas by paseos and trails, thereby promoting alternative means of travel and keeping vehicle trips internal to the project. A reduction of 697,000 square feet of commercial uses, as called for under Alternative 3, would likely cause some portion of these internal trips to leave the site as people seek needed goods or services at another location. Additionally, Commerce Center Drive Bridge and the related Commerce Center roadway extension would not be constructed, thereby eliminating direct access between the project site and SR-126 and the employment centers north of the project, including the Valencia Commerce Center. The absence of the bridge would further affect the flow of traffic potentially affecting emergency access, and it can be expected that without Commerce Center Drive Bridge more traffic trips would be generated to Magic Mountain and Westridge Parkways. Consequently, the reduction in motor vehicle trips generated by on-site uses under Alternative 3 may not result in a proportional reduction in the number of project generated vehicle trips traveling along off-site roadway segments and would result in increased volumes along Westridge and Magic Mountain parkways, and the elimination of direct access to SR-126 likely would adversely affect any reduction in vehicle miles traveled attributed to the reduced vehicle trips. However, to the extent Alternative 3 would result in a reduced total number of vehicle trips when compared to the proposed project, Alternative 3 would result in fewer impacts than the proposed project with respect to traffic, as the total number of trips would be reduced when compared to the proposed project.

(h) Noise

Under either Alternative 3 or the proposed project, development of the property would involve clearing and grading of the ground surface, installation of utility infrastructure, and the building of the proposed improvements. These activities typically involve the temporary use of heavy equipment, smaller equipment, and motor vehicles, which generate both steady static and episodic noise. This noise would primarily affect the occupants of on-site uses constructed in the earlier phases of the development (assuming that the site is occupied in sections as other portions are still under construction) and would be audible to occupants of Travel Village Recreational Vehicle (RV) Park when construction activities would occur on the northern portion of the site. Individuals who would have an uninterrupted line-of-sight to the construction noise sources could be exposed to noise levels, which would exceed the County's Noise Ordinance standards during construction regardless of the development alternative selected. However,

Alternative 3 would eliminate the construction of Commerce Center Drive Bridge. The elimination of the construction of the bridge would eliminate the pile driving noise impacts associated with the bridge at the Travel Village RV Park when compared to the proposed project. For this reason, Alternative 3 would result in fewer construction impacts than the proposed project with regard to construction noise.

With respect to operational impacts, under either Alternative 3 or the proposed project, building occupants and off-site land uses would be subject to traffic noise along both internal and off-site roadways, as well as noise from day-to-day activities at the site and from Magic Mountain Theme Park. However, to the extent Alternative 3 would reduce the number of vehicle trips and associated roadway noise and on-site land use activity when compared to the proposed project, there would be less off-site noise impacts, so this alternative would result in fewer impacts than the proposed project relative to noise.

(i) Air Quality

Under this alternative, short-term grading and construction-related air quality impacts would be reduced, as compared to those of the proposed project, because Alternative 3 would reduce the amount of construction activities.

As shown in **Table 5.0-1, Estimated Expanded Spineflower Preserve Alternative Operational Emissions Without Mitigation**, long-term (i.e., operational) emissions from this alternative would also be reduced when compared to the proposed project as the number of operational traffic trips would be reduced because of the development of 1,422 fewer residential units (214 single-family and 1,208 multi-family dwelling units) and 697,000 less commercial square footage.

However, both the proposed project and this alternative would result in South Coast Air Quality Management District (SCAQMD) air quality thresholds being exceeded in the summertime for carbon monoxide (CO), volatile organic compounds (VOC), oxides of nitrogen (NO_x), and fine particulate matter (PM_{10}). Wintertime emissions also would result in air quality thresholds being exceeded for CO, VOC, NO_x, and PM_{10}. However, fewer emissions would be generated with this alternative. Consequently, based on this information, to the extent Alternative 3 would generate fewer emissions of criteria pollutants than the proposed project, Alternative 3 would result in fewer impacts than the proposed project relative to air quality.

(j) Water Service

The proposed project would generate a potable water demand of approximately 1,676 acre-feet per year (afy) and a non-potable demand of 1,243 afy, for a total water demand of 2,919 afy. Potable water would be supplied to the project by the Valencia Water Company from local groundwater supplies. The

Newhall Ranch WRP, construction of which would likely begin simultaneously with the construction of the proposed project, would supply non-potable (recycled) water to the project.

The potable water demand for Alternative 3 would result in a reduction in the water usage to 1,114 acre-feet potable and 1,143 acre-feet non-potable, for a total water demand of 2,257 afy. Therefore, to the extent Alternative 3 would utilize less water than the proposed project, Alternative 3 would result in fewer impacts when compared to the proposed project with respect to water service.

Table 5.0-1
Estimated Expanded Spineflower Preserve Alternative Operational Emissions Without Mitigation

	Emissions in Pounds per Day					
Emissions Source	**VOC**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Summertime Emissions						
Point Sources	3	—	—	—	1	1
Mobile Sources	143	146	1,445	3	470	92
Area Sources						
Natural Gas	4	49	24	0	< 1	< 1
Hearth (Natural Gas Fireplaces)	—	—	—	—	—	—
Landscape Maintenance	5	< 1	39	0	< 1	< 1
Consumer Products	125	—	—	—	—	—
Architectural Coatings	12	—	—	—	—	—
Area Source Subtotal	146	49	63	0	< 1	< 1
Summertime Emission Totals:	292	195	1,508	3	471	93
Recommended Threshold:	55	55	550	150	150	55
Spineflower Alternative Exceeds Threshold?	**YES**	**YES**	**YES**	NO	**YES**	**YES**
Wintertime Emissions						
Point Sources	3	—	—	—	1	1
Mobile Sources	149	175	1,371	2	470	92
Area Sources						
Natural Gas	4	49	24	0	< 1	< 1
Hearth (Natural Gas Fireplaces)	1	18	8	< 1	1	1
Landscape Maintenance	—	—	—	—	—	—
Consumer Products	125	—	—	—	—	—
Architectural Coatings	12	—	—	—	—	—
Area Source Subtotal	142	67	31	< 1	2	2

Emissions Source	Emissions in Pounds per Day					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Wintertime Emission Totals:	293	242	1,402	3	473	94
Recommended Threshold:	55	55	550	150	150	55
Spineflower Alternative Exceeds Threshold?	**YES**	**YES**	**YES**	NO	**YES**	**YES**

Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix 5.0.***
Totals in table may not add exactly due to rounding in the computer model calculations.

(k) Wastewater Disposal

Wastewater generation for this alternative would be approximately 765,534 gallons per day (gpd), which represents a decrease of 360,910 gpd when compared to the proposed project, which would generate 1,126,444 gpd. However, without Commerce Center Drive Bridge, this wastewater would need to be treated by the Valencia WRP. Based on the County Sanitation Districts of Los Angeles County (CSDLAC) future wastewater generation estimates and the planned expansion of the Saugus and Valencia WRPs, the Valencia WRP would have sufficient capacity to temporarily accommodate this alternatives predicted wastewater generation of 765,534 gpd. However, the projected wastewater flows from the Newhall Ranch Specific Plan were to be accommodated by the Newhall Ranch WRP. Therefore, the ability for the Valencia WRP to permanently treat this volume of wastewater would need to be investigated. For these reasons, Alternative 3 likely would result in greater impacts than the proposed project with respect to wastewater treatment since it could impact existing treatment facilities.

(l) Solid Waste Services

The project would generate 8,451 tons of solid waste per year. In comparison, Alternative 3 would generate 5,333 tons of solid waste per year resulting in a decrease of 3,118 tons per year of solid waste generated compared to the proposed project. To the extent Alternative 3 would generate less solid waste than the proposed project, this alternative would, therefore, result in fewer impacts than the proposed project relative to solid waste services.

(m) Sheriff Services

The proposed project would result in a resident population of approximately 10,802 persons, which would increase the demand for law enforcement related services on the project site and the local vicinity in terms of personnel and equipment. The proposed project would require the services of an additional 11 sworn officers. Based on the average size of a county household of 3.17 persons per single-family

household, and 2.38 persons per multi-family household, Alternative 3 would result in a population of 7,249 persons. Given the Sheriff Department ratio of 1 officer per 1,000 persons, Alternative 3 would require the services of 7 officers, which is 4 officers less than the proposed project.

The project applicant has entered into negotiations with the Sheriff's Department for the provision of a Sheriff station site near the Newhall Ranch Specific Plan boundary to serve buildout of uses within the Newhall Ranch Specific Plan. In addition, increased revenues generated by the project as it builds out (via motor vehicle registration fees paid by new on-site residents and businesses), would be available for funding additional staffing and equipment for the Sheriff and California Highway Patrol (CHP) to meet future demands. While Alternative 3 would reduce the demand for law enforcement equipment and personnel, there would be a concomitant reduction in tax revenue to fund ongoing law enforcement efforts. Overall, therefore, from a sheriff services standpoint, Alternative 3 would result in impacts similar to the proposed project with respect to law enforcement.

(n) Fire Protection Services

The proposed project site is located in an area that has been designated as a Very High Fire Hazard Severity Zone (formerly called Fire Zone 4) by the County's Fire Department, which denotes the County Forester's highest fire hazard potential. Any land use constructed on the site would be required to meet all County codes and requirements relative to providing adequate fire protection services to the site during both the construction and operational stages of the project.

Since the number of housing units and square footage of commercial uses would be reduced under this alternative, the number of fire protection service calls to the project site presumably would also be reduced relative to the proposed project. However, this alternative would provide proportionally less tax revenue to fund ongoing fire protection services, thereby offsetting any reduction in service calls.

The project applicant is currently in discussions with the County's Fire Department on a Memorandum of Understanding (MOU) for the entire Newhall Ranch Specific Plan. At this time, a fire station has been proposed within the project site near the intersection of Magic Mountain Parkway and Westridge Parkway. The fire station would be constructed under Alternative 3 as well. As a result, site development under either the proposed project or Alternative 3 would not diminish the staffing or the response times of existing fire stations in the Santa Clarita Valley, nor would it create a special fire protection requirement on the site that would result in a decline in existing service levels. This alternative eliminates the extension of Commerce Center Drive, an important roadway link that would provide alternate access in case of an emergency. Based on this information, Alternative 3 would result in impacts similar to the proposed project with respect to fire protection services.

(o) Education

The proposed project would generate an estimated 969 elementary students, 187 middle school students, and 321 senior high school students for the three affected school districts at build out. Because Alternative 3 would reduce the number of dwelling units by 1,422 compared to the proposed project, fewer students would be generated by on-site uses.

Development of either the proposed project or Alternative 3 would be subject to the funding agreements established between the applicant and the affected districts. Given that all future development, including the proposed project or Alternative 3, must comply with existing school facilities funding agreements and other mechanisms (e.g., Senate Bill [SB] 50, the Valley-Wide Joint Fee Resolution, and/or new school facilities funding agreements), Alternative 3 would result in impacts similar to the proposed project with respect to education.

(p) Parks and Recreation

The proposed project includes a 20-acre Community Park, 5-acre neighborhood park, 6.9-acre private Community Recreation Center, and 4.6 acres of private recreation area. With respect to trails, the proposed project includes 18,980 linear feet (of community trails, 12,900 linear feet of local trails, and 9,200 linear feet of pathways. The proposed project would dedicate 70.4 acres of park and recreational space, which would result in a parkland dedication equivalent to approximately 9.4 acres per 1,000 persons. This is greater than the Los Angeles County (County) and Quimby Act requirements of 3.0 acres per 1,000 persons.

In comparison, development of Alternative 3 would provide a reduced parkland acreage due to the elimination of the community park and some trail improvements. This figure would exceed the County and Quimby Act requirements of 3.0 acres per 1,000 persons. For this reason, Alternative 3 would be comparable to the proposed project with respect to parks and recreation.

(q) Library Services

Based on the adopted County library planning guideline of 0.50 square foot of library facilities per capita and the adopted County library planning standard of 2.0 library books per capita for new libraries, development of the proposed project would require a total of 5,401 square feet of library facilities and 21,605 items (books, magazines, periodicals, etc.). In comparison, Alternative 3 would require a total of 3,625 gross square feet of library facilities with 14,498 additional items for the library system's collection. This results in a decrease in demand of 1,776 square feet of library facilities and 7,107 library items when compared to the proposed project.

As part of the County's approval of the Newhall Ranch Specific Plan, the County adopted library mitigation requiring that the developer provide funding for the construction and development of library facilities on the Specific Plan site. This requirement would apply equally to Alternative 3, as well as to the proposed project. The proposed project would provide for a 3.3-acre library facility in the Village Center. Therefore, while Alternative 3 would result in less demand for space and items than would the proposed project, Alternative 3 would result in impacts similar to the proposed project because, under either the proposed project or Alternative 3, the demand for space and items would be met by construction and operation of the new libraries, as required by the Specific Plan mitigation.

(r) Agricultural and Forest Resources

Development of the project site under this alternative would result in the loss of prime agricultural land and agricultural production. Like the proposed project, Alternative 3 would convert to non-agricultural land uses 160.7 acres of Prime Farmland, 30.1 acres of Unique Farmland, and 0.6 acres of Farmland of Statewide. In addition, as to forest resources, Alternative 3 would convert approximately 10.6 acres of native trees to urban uses, similar to the proposed project. Consequently, Alternative 3 would result in impacts similar to the proposed project with respect to agricultural and forest resources.

(s) Utilities

Uses proposed by both the proposed project and Alternative 3 are within the maximum permitted by the Newhall Ranch Specific Plan and the demand for energy was previously analyzed in the Newhall Ranch Specific Plan Program EIR. Since less development is planned under Alternative 3, energy use associated with this alternative would be less than that identified for the proposed project. However, projections for energy supply and demand by Southern California Edison and the Southern California Gas Company indicate that the utilities would have sufficient electricity and natural gas supply to serve the project site regardless of the development type selected. In addition, all development on the property would exceed Title 24 energy conservation requirements by 15 percent. Based on the above, Alternative 3 would result in impacts similar to the proposed project with respect to utilities.

(t) Mineral Resources

Alternative 3 would result in a smaller development footprint and requires less grading than does the proposed project. As such, the potential for disturbance or over covering of any potential mineral resource deposits during site development would be reduced when compared to the proposed project. For this reason, Alternative 3 would result in fewer impacts than the proposed Mission Village project with respect to mineral resources.

(u) Environmental Safety

The potential environmental safety impacts relative to development of the proposed project site include soil contamination attributable to past and present agricultural activities, on-site petroleum (i.e., oil) drilling and pipeline activities, and the disposal of on-site hazardous materials debris. Future residents of either the proposed project or Alternative 3 could be subjected to these potential hazards unless remediated. For these reasons, Alternative 3 would result in impacts similar to the proposed project with respect to environmental safety.

(v) Cultural/Paleontological Resources

This alternative would result in a smaller development footprint and requires less grading near to known archaeological and paleontological resources than does the proposed project. As such, the potential for disturbance to known cultural/paleontological resources during construction activities would be reduced when compared to the proposed project. For this reason, Alternative 3 would result in impacts lesser than the proposed project with respect to cultural/paleontological resources.

(w) Global Climate Change

Alternative 3 would result in a smaller development footprint (i.e., fewer residential units and non-residential square footage) than the proposed project. As such, Alternative 3 would result in fewer greenhouse gas emissions than the proposed project. Although the proposed project and Alternative 3 are both consistent with the emission trajectories required to return California to its 1990 emission levels by 2020, Alternative 3 would result in fewer impacts (i.e., less emissions) than the proposed project because of its smaller size.

(x) Conclusion on Environmental Analyses

Generally, under Alternative 3, impacts associated with geotechnical and soil resources, water resources, traffic/access, air quality, noise, biota, cultural/paleontological resources, visual qualities, solid waste services, mineral resources, floodplain modifications, and global climate change would be reduced when compared to the proposed project. Alternative 3 would result in fewer impacts than the proposed project. A summary comparison of impacts associated with the project alternatives is provided later in this section in **Table 5.0-3, Alternatives Impact Comparison Matrix**.

(2) Analysis of Project Objectives

While Alternative 3 is considered environmentally superior to the proposed project, Alternative 3 does not meet several of the basic project objectives, which are set forth in this EIR in **Section 1.0**. Project objectives not fully met or impeded by Alternative 3 are listed below.

(a) Land Use Planning Objectives

Land Use Planning Objective No. 2 states, "… Accommodate projected regional growth in a location that is adjacent to existing and planned infrastructure, urban services, transportation corridors, and major employment centers and that avoids leapfrog development." Because Alternative 3 would substantially reduce the number of housing units to be developed, and, therefore, reduce the number of housing units available to accommodate projected regional growth and eliminates a major highway extension (Commerce Center Drive) that would connect the project to existing infrastructure, urban services, transportation corridors, and major employment centers, this alternative is not consistent with this project objective when compared with the proposed project.

Land Use Planning Objective No. 5 states, "Establish land uses that permit a wide range of housing densities, types, styles, prices, and tenancy (for sale and rental)." Alternative 3 is inconsistent with this project objective, as it would result in a substantial reduction in residential units (approximately 32 percent reduction), thereby reducing housing options for the site.

(b) Economic Objectives

Economic Objective No. 1 states, "Provide a variety of residential homes, which would respond and adjust to changing economic and market conditions." Alternative 3 does not meet this project objective as the alternative results in a substantial reduction in residential units, thereby accommodating less housing for regional growth purposes.

Economic Objective No. 2 states, "Provide a tax base to support public services and facilities." Alternative 3 is inconsistent with this project objective, as it would cause a substantial reduction in residential and commercial land use on site, resulting in a substantial reduction in tax base to support the public facilities and services within the project area.

(3) Previous Findings Related to this Alternative

As noted above, the County's Board of Supervisors already considered Specific Plan alternatives, three of which (Alternatives 3, 5, and 6) reduced development opportunities in part, for the preservation of biological resources. The Board rejected these alternatives as infeasible, in part, because such alternatives

did not achieve many of the basic objectives of the Specific Plan, including the significant public benefits associated with implementation of such a plan.

d. Alternative 4: 20 Percent Reduction in the Number of Dwelling Units

As shown in **Figure 5.0-2, Alternative 4 – 20% Reduction in the number of Dwelling Units**, this alternative would reduce the number of residential units proposed on the site from 382 single-family and 4,030 multi-family to 306 single-family and 3,224 multi-family, when compared to the proposed project. No other changes to the project description are proposed. This alternative would result in fewer units developed with the remaining undeveloped acreage being used for open space. The development footprint of this Alternative is the same as the proposed project.

(1) Potential Impacts

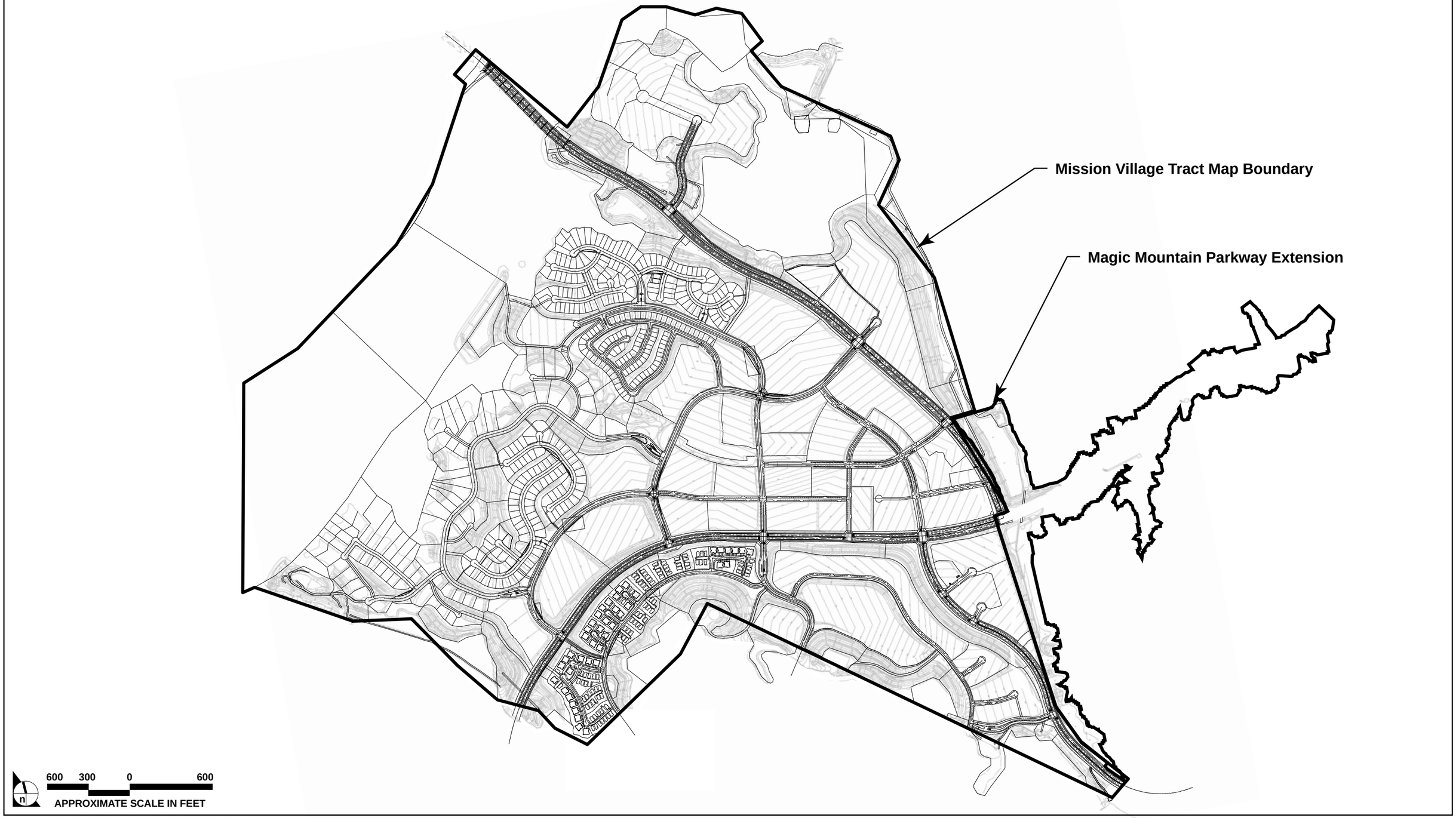
The following discussion compares the potential environmental impacts of the 20% Reduction in the Number of Dwelling Units Alternative, Alternative 4, to those associated with implementation of the proposed project.

(a) Geotechnical and Soil Resources

Implementation of this alternative would not result in less grading because the footprint of the development would remain the same. All improvements constructed on the site would be subjected to the forces of ground movement during seismic events similar to the proposed project and would also be subject to the same construction requirements as the proposed project. Because there would be the same grading and earth movement under this alternative, geotechnical hazards would be similar to the proposed project, and therefore, Alternative 4 would have similar impacts as the proposed project with respect to geology and soils.

(b) Hydrology

Implementation of this alternative would result in slightly less storm runoff and more infiltration than the proposed project because fewer dwelling units would be developed resulting in more open area. Also, it is likely the landscape irrigation needs of Alternative 4 would be more than the proposed project due to more landscaped acreage. The urban runoff from impervious surfaces that would be generated under this alternative would be conveyed and discharged into the Santa Clara River in a similar manner as the proposed project. Consequently, to the extent Alternative 4 would result in reduced runoff and increased infiltration, this alternative would result in fewer impacts from a hydrology perspective than the proposed project.



SOURCE: PSOMAS – December 2004, Impact Sciences, Inc. – May 2010

FIGURE **5.0-2**

Alternative 4 - 20% Reduction in the Number of Dwelling Units

(c) Water Quality

Under either this alternative or the proposed project, PDFs incorporated into the development to address water quality and hydrologic impacts would include site design, source control, treatment control, and hydromodification control BMPs. In addition, flow control BMPs would be incorporated into the PDFs in order to comply with the Los Angeles Countywide SUSMP and County Interim Peak Flow Standard. The flow control BMPs for development of either the proposed project or Alternative 4 would include both source control and detention. The PDFs combined with the implementation of recommended mitigation measures would reduce water quality and hydromodification impacts to less than significant levels under either development scenario. For this reason, Alternative 4 would result in similar impacts when compared to the proposed project from a water quality perspective.

(d) Biota

Alternative 4 would result in similar land disturbance at the tract map site, as the development footprint would be the same as the proposed project. Consequently, Alternative 4 would not reduce the direct biological impacts compared to the proposed project. Significant indirect impacts such as increased light and glare, increased non-native plant species and increased human and domestic animal presence would be reduced slightly as Alternative 4 represents a reduced development intensity. However, the development footprint, and consequently impact area of this alternative remains the same as the proposed project. For these reasons, Alternative 4 would result in impacts similar to the proposed project relative to biota.

(e) Floodplain Modifications

Alternative 4 would not reduce the extent of floodplain modifications compared to the proposed project. The reduction in the total number of dwelling units on the site would not reduce impacts on sensitive aquatic/riparian resources in the Santa Clara River corridor as this alternative would not substantially affect flows, water velocities, water depth, changes in sediment transport, and changes in flooded areas when compared to the proposed project. Although the proposed project creates only minor hydraulic effects, which are insufficient to alter the amount, location, and nature of aquatic and riparian habitats in the project area and downstream, as well as insufficient to impact sensitive riparian species, including the unarmored threespine stickleback, arroyo toad, California red-legged frog, southwestern pond turtle and two-striped garter snake, Alternative 4 would result in similar impacts to the proposed project relative to floodplain modifications because it would result in similar hydraulic impacts.

(f) Visual Qualities

Development of the site under Alternative 4 or the proposed project would be subject to Development Regulations and Design Guidelines contained in the Specific Plan. These regulations and guidelines address grading, lighting, fencing, landscaping, signage, architecture, and site planning for subsequent subdivisions within the Newhall Ranch Specific Plan. Despite such features, significant visual impacts would result from the change in the visual character of the site from rural to urban. As with the proposed project, Alternative 4 would significantly alter the visual characteristics of the Santa Clara River/SR-126 corridor and the I-5 corridor, as existing open space views would be replaced with the images of residential and commercial development, roadways, and other human activity. Even though the number of residential units proposed under this alternative would be reduced, the overall reduction in visual impact of development on the project site would be negligible when compared to the proposed project.

Development under either the proposed project or Alternative 4 would introduce sources of outdoor illumination that do not presently exist. Outdoor lighting, such as streetlights and traffic signals, are essential safety features in development projects that involve new streets and intersections, and cannot be eliminated if the site is to be developed. In conclusion, Alternative 4 would result in similar impacts when compared to the proposed project relative to visual qualities.

(g) Traffic and Access

Implementation of Alternative 4 would reduce the number of vehicle trips generated by on-site uses when compared to the proposed project. Specifically, using ITE *Trip Generation Manual* factors, average daily trip generation for the proposed project is estimated at 58,452 average daily trips. In comparison, Alternative 4 would generate 51,249 trips, resulting in a reduction of 7,200 trips when compared to the proposed project. The proposed project represents a balanced land plan that contains neighborhood-serving commercial uses that are connected to the residential areas by paseos and trails, thereby promoting alternative means of travel and keeping vehicle trips internal to the project. Nevertheless, to the extent Alternative 4 would result in a reduced total number of vehicle trips when compared to the proposed project, Alternative 4 would result in fewer impacts than the proposed project with respect to traffic, as the total number of trips would be reduced when compared to the proposed project.

(h) Noise

Under either Alternative 4 or the proposed project, development of the property would involve clearing and grading of the ground surface, installation of utility infrastructure, and the building of the proposed improvements. These activities typically involve the temporary use of heavy equipment, smaller equipment, and motor vehicles, which generate both steady static and episodic noise. This noise would

primarily affect the occupants of on-site uses constructed in the earlier phases of the development (assuming that the site is occupied in sections as other portions are still under construction) and would be audible to occupants of Travel Village RV Park. Individuals who would have an uninterrupted line-of-sight to the construction noise sources could be exposed to noise levels, which would exceed the County's Noise Ordinance standards during construction regardless of the development alternative selected. However, because Alternative 4 reduces the amount of construction, there would be less construction noise when compared to the proposed project. For this reason, to the extent there would be less construction under Alternative 4 than the proposed project, Alternative 4 would result in fewer impacts than the proposed project with regard to construction noise.

With respect to operational impacts, under either Alternative 4 or the proposed project, building occupants and off-site land uses would be subject to traffic noise along off-site and internal roadways, as well as noise from day-to-day activities at the site and Magic Mountain Theme Park. However, to the extent Alternative 4 would reduce the number of vehicle trips and associated roadway noise when compared to the proposed project, there would be less off-site noise impacts, so this alternative would result in fewer impacts overall than the proposed project relative to noise.

(i) Air Quality

Under this alternative, short-term grading and construction-related air quality impacts would be reduced as compared to those of the proposed project, because under Alternative 4, 882 fewer residential units would be constructed.

As shown in **Table 5.0-2, Estimated Reduced Density Alternative Operational Emissions Without Mitigation**, long-term (i.e., operational) emissions from this alternative would also be reduced when compared to the proposed project as the number of operational traffic trips would be reduced because of the development of 882 fewer residential units.

However, both the proposed project and this alternative would result in SCAQMD air quality thresholds being exceeded in the summertime for CO, VOC, NO_X, and PM_{10}. Wintertime emissions also would result in air quality thresholds being exceeded for CO, VOC, NO_X, and PM_{10}. However, fewer emissions would be associated with this alternative. Consequently, based on this information, to the extent Alternative 4 would generate fewer emissions of criteria pollutants than the proposed project, Alternative 4 would result in fewer impacts than the proposed project relative to air quality.

(j) Water Service

The proposed project would generate a potable water demand of approximately 1,676 afy and a non-potable demand of 1,243 afy. Potable water would be supplied to the project by the Valencia Water Company from local groundwater supplies. The Newhall Ranch WRP, construction of which would likely begin simultaneously with the construction of the proposed project, would supply non-potable water to the project.

The potable water demand for Alternative 4 would be reduced by 20 percent (1,341 acre-feet potable and 994 acre-feet non-potable). Consequently, to the extent Alternative 4 would utilize less water than the proposed project, Alternative 4 would result in slightly fewer impacts to the proposed project with respect to water service.

Table 5.0-2
Estimated Reduced Density Alternative Operational Emissions Without Mitigation

	Emissions in Pounds per Day					
Emissions Source	**VOC**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Summertime Emissions						
Point Sources	3	—	—	—	1	1
Mobile Sources	189	195	1,929	4	629	122
Area Sources						
Natural Gas	5	62	31	0	< 1	< 1
Hearth (Natural Gas Fireplaces)	—	—	—	—	—	—
Landscape Maintenance	7	1	47	0	< 1	< 1
Consumer Products	148	—	—	—	—	—
Architectural Coatings	17	—	—	—	—	—
Area Source Subtotal	176	63	78	0	< 1	< 1
Summertime Emission Totals:	368	257	2,008	4	630	124
Recommended Threshold:	55	55	550	150	150	55
Spineflower Alternative Exceeds Threshold?	**YES**	**YES**	**YES**	NO	**YES**	**YES**
Wintertime Emissions						
Point Sources	3	—	—	—	1	1
Mobile Sources	198	234	1,830	3	629	122
Area Sources						

Emissions Source	Emissions in Pounds per Day					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Natural Gas	5	62	31	0	< 1	< 1
Hearth (Natural Gas Fireplaces)	1	21	9	< 1	2	2
Landscape Maintenance	—	—	—	—	—	—
Consumer Products	148	—	—	—	—	—
Architectural Coatings	17	—	—	—	—	—
Area Source Subtotal	171	83	41	< 1	2	2
Wintertime Emission Totals:	372	317	1,870	3	631	125
Recommended Threshold:	55	55	550	150	150	55
Alternative Exceeds Threshold?	**YES**	**YES**	**YES**	NO	**YES**	**YES**

*Source: Impact Sciences, Inc. Emissions calculations are provided in **Appendix 5.0**.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.

(k) Wastewater Disposal

Wastewater generation for this alternative would be approximately 0.88 million gallons per day (mgd), which represents a decrease of 0.24 mgd when compared to the proposed project. As with the proposed project, this waste would be treated by the Newhall Ranch WRP. The treatment capacity of the Newhall Ranch WRP would be 6.8 mgd, with a maximum flow of 13.8 mgd. Until the development of the Newhall Ranch WRP is complete, there are generally two options available for the temporary conveyance and treatment of wastewater generated by the proposed project. One option is to construct an initial phase of the Newhall Ranch WRP to serve the proposed project, with buildout of the WRP occurring over time as demand for treatment increases. Under this scenario, collector sewers, pumps and force mains would collect and convey effluent to the west in the proposed Utility Corridor (parallel to the SR-126 right-of-way), where it would connect to the Newhall Ranch WRP. The second option is to construct a lift or pump station near the northerly abutment of Commerce Center Drive where wastewater would be pumped to the existing Valencia WRP, which is located approximately 0.5 mile north and east of the project site along The Old Road. Wastewater from the proposed project would continue to be pumped to the Valencia WRP until the first phase of the Newhall Ranch WRP is constructed. When the Newhall Ranch WRP is operational, connection to the utility corridor would be provided and the pump station near the northerly abutment would be eliminated. Based on CSDLAC future wastewater generation estimates and the planned expansion of the Saugus and Valencia WRPs, the Valencia WRP would have sufficient capacity to temporarily accommodate the project's predicted wastewater generation of 1.13 mgd, so the 0.88 mgd generated under Alternative 4 could also be accommodated. For these reasons,

Alternative 4 would result in impacts similar to the proposed project with respect to wastewater generation and treatment despite the fact that Alternative 4 would generate less effluent.

(l) Solid Waste Services

The proposed project would generate 8,451 tons of solid waste per year. In comparison, Alternative 4 would generate 7,353 tons of solid waste per year resulting in a decrease of 1,098 tons per year of solid waste generated compared to the proposed project. To the extent Alternative 4 would generate less solid waste than the proposed project, this alternative would result in fewer impacts than the proposed project relative to solid waste services.

(m) Sheriff Services

The proposed project would result in a resident population of approximately 10,802 persons, which would increase the demand for law enforcement related services on the project site and the local vicinity in terms of personnel and equipment. The proposed project would require the services of an additional 11 sworn officers. In comparison, Alternative 4 would result in a population of 8,643 persons. Given the Sheriff Department ratio of 1 officer per 1,000 persons, Alternative 4 would require the services of 9 officers, which is approximately two officers less than the proposed project.

The project applicant has entered into negotiations with the Sheriff's Department for the provision of a Sheriff station site within the Newhall Ranch Specific Plan boundary to serve the buildout of uses within the Newhall Ranch Specific Plan. In addition, increased revenues generated by the project as it builds out (via motor vehicle registration fees paid by new on-site residents and businesses), would be available for funding for additional staffing and equipment for the Sheriff and CHP to meet future demands. While Alternative 4 would reduce the demand for law enforcement equipment and personnel, there would be a concomitant reduction in tax revenue to fund ongoing law enforcement efforts. Overall, therefore, from a sheriff services standpoint, Alternative 4 would result in impacts similar to the proposed project with respect to law enforcement.

(n) Fire Protection Services

The proposed project site is located in an area that has been designated as a Very High Fire Hazard Severity Zone (formerly called Fire Zone 4) by the County's Fire Department, which denotes the County Forester's highest fire hazard potential. Any land use constructed on the site would be required to meet all County codes and requirements relative to providing adequate fire protection services to the site during both the construction and operational stages of the project.

Since the number of housing units and square footage of commercial uses would be reduced under this alternative, the number of fire protection service calls to the project site presumably would also be reduced relative to the proposed project. However, this alternative would provide less tax revenue to fund ongoing fire protection services.

The project applicant is currently in discussions with the County's Fire Department on an MOU for the entire Newhall Ranch Specific Plan. At this time, a fire station has been proposed within the project site near the intersection of Magic Mountain Parkway and Westridge Parkway. The fire station would be constructed under Alternative 4, as well. As a result, site development under either the proposed project or Alternative 4 would not diminish the staffing or the response times of existing fire stations in the Santa Clarita Valley, nor would it create a special fire protection requirement on the site that would result in a decline in existing service levels. Based on this information, Alternative 4 would result in impacts similar to the proposed project with respect to fire protection services.

(o) Education

The proposed project would generate an estimated 969 elementary students, 187 middle school students, and 321 senior high school students for the three affected school districts at build out. Because Alternative 4 would reduce the number of dwelling units by 882 compared to the proposed project, fewer students would be generated by on-site uses under this alternative.

Development of either the proposed project or Alternative 4 would be subject to the funding agreements established between the applicant and the affected school districts. Given that all future development, including the proposed project or Alternative 4, must comply with existing school facilities funding agreements and other mechanisms (e.g., SB 50, the Valley-Wide Joint Fee Resolution, and/or new school facilities funding agreements), Alternative 4 would result in impacts similar to the proposed project with respect to education.

(p) Parks and Recreation

The proposed project includes a 20-acre Community Park, 5-acre neighborhood park, 6.9-acre private Community Recreation Center, 4.6 acres of private recreation area and 2.9 acres of private park area. The proposed project also includes 18,980 linear feet (9.3 acres) of community trails, 12,900 linear feet of local trails, and 9,200 linear feet acres of pathways. Implementation of these project components results in a parkland dedication equivalent to approximately 9.4 acres per 1,000 persons, which is greater than the Los Angeles County (County) and Quimby Act requirements of 3.0 acres per 1,000 persons.

In comparison, development of Alternative 4 also would provide a 20-acre community park, 5-acre neighborhood park, and approximately 8.8 acres of community trails. Implementation of these components would result in a parkland dedication equivalent to approximately 9 acres per 1,000 persons. This figure exceeds the County and Quimby Act requirements of 3.0 acres per 1,000 persons. Alternative 4 would result in fewer acres of trails when compared to the proposed project, and consequently results in greater impacts.

(q) Library Services

Based on the adopted County library planning guideline of 0.50 square foot of library facilities per capita and the adopted County library planning standard of 2.0 library books per capita for new libraries, development of the proposed project would require a total of 5,401 square feet of library facilities and 21,605 items (books, magazines, periodicals, etc.). In comparison, Alternative 4 would require a total of 4,322 square feet of library facilities with 17,286 additional volumes of books for the library system's collection. This results in a decrease in demand of 1,080 square feet of library facilities and 4,319 library books when compared to the proposed project.

As part of the County's approval of the Newhall Ranch Specific Plan, the County adopted library mitigation requiring that the developer provide funding for the construction and development of library facilities on the Specific Plan site. This requirement would apply equally to Alternative 4, as well as to the proposed project. Therefore, while Alternative 4 would result in less demand for space and items than would the proposed project, Alternative 4 would result in impacts similar to the proposed project because, under either the proposed project or Alternative 4, the demand for space and items would be met by construction and operation of the new libraries, as required by the Specific Plan mitigation.

(r) Agricultural and Forest Resources

Development of the project site under this alternative would result in the loss of prime agricultural land and agricultural production. Although fewer housing units would be built, the development footprint would remain the same as the proposed project. Therefore, like the proposed project, Alternative 4 would convert 160.7 acres of Prime Farmland, 30.1 acres of Unique Farmland, and 0.6 acre of Farmland of Statewide Importance to non-agricultural land uses. With respect to forest resources, Alternative 4 would convert approximately 10.6 acres of native trees to urban uses, similar to the proposed project. Consequently, Alternative 4 would result in impacts similar to the proposed project with respect to agricultural and forest resources.

(s) Utilities

Uses proposed by both the proposed project or Alternative 4 are within the maximum permitted by the Newhall Ranch Specific Plan and the demand for energy was previously analyzed in the Newhall Ranch Specific Plan Program EIR. Since less development is planned under Alternative 4, energy use associated with this alternative would be less than that identified for the proposed project. However, projections for energy supply and demand by Southern California Edison and the Southern California Gas Company indicate that the utilities would have sufficient electricity and natural gas supply to serve the project site regardless of the development type selected. In addition, all development on the property would be required to comply with Title 24 and AB 970 energy conservation measures. Based on the above, Alternative 4 would result in impacts similar to the proposed project with respect to utilities.

(t) Mineral Resources

Alternative 4 would result in the same development footprint when compared to the proposed project. As such, the potential for disturbance or over covering of any potential mineral resource deposits during site development would be the same when compared to the proposed project. For this reason, Alternative 4 would result in similar impacts to the proposed project with respect to mineral resources.

(u) Environmental Safety

The potential environmental safety impacts relative to development of the proposed project site include soil contamination attributable to past and present agricultural activities, on-site petroleum (i.e., oil and natural gas) drilling and pipeline activities, and the disposal of on-site hazardous material debris. Future residents of either the proposed project or Alternative 4 could be subjected to these potential hazards unless remediated. For these reasons, Alternative 4 would result in impacts similar to the proposed project with respect to environmental safety.

(v) Cultural/Paleontological Resources

This alternative would result in the same development footprint when compared to the proposed project. As such, the potential for disturbance to known archaeological and paleontologic resources during construction activities would be the same as the proposed project. For this reason, Alternative 4 would result in similar impacts to the proposed project with respect to cultural/paleontological resources.

(w) Global Climate Change

Alternative 4 would result in a smaller development footprint (i.e., 20 percent less residential units) than the proposed project. As such, Alternative 4 would result in fewer greenhouse gas emissions than the

proposed project. Although the proposed project and Alternative 4 are both consistent with the emission trajectories required to return California to its 1990 emission levels by 2020, Alternative 4 would result in fewer impacts (i.e., less emissions) than the proposed project because of its smaller size.

(x) Conclusion on Environmental Analyses

Generally, under Alternative 4, impacts associated with hydrology, traffic/access, air quality, noise, water resources, solid waste services, mineral resources, and global climate change would be reduced when compared to the proposed project because fewer dwelling units would be constructed. On balance, therefore, Alternative 4 would result in fewer impacts than the proposed project. A summary comparison of impacts associated with the project alternatives is provided later in this section in **Table 5.0-3, Alternatives Impact Comparison Matrix**.

(2) Analysis of Project Objectives

While Alternative 4 is considered environmentally superior to the proposed project, Alternative 4 does not meet several of the basic project objectives, which are set forth in this EIR at **Section 1.0**. Project objectives not fully met or impeded by Alternative 4 are listed below.

(a) Land Use Planning Objectives

Land Use Planning Objective No. 2 states, "… Accommodate projected regional growth in a location that is adjacent to existing and planned infrastructure, urban services, transportation corridors, and major employment centers and that avoids leapfrog development." Because Alternative 4 would reduce the number housing units to be developed, and, therefore, reduce the number of housing units available to accommodate projected regional growth, this alternative is not consistent with this project objective when compared with the proposed project.

Land Use Planning Objective No. 5 states, "Establish land uses that permit a wide range of housing densities, types, styles, prices, and tenancy (for sale and rental)." Alternative 4 is inconsistent with this project objective, as it would result in a substantial reduction in residential units (approximately 20 percent reduction), thereby reducing housing options for the site.

(b) Economic Objectives

Economic Objective No. 1 states "Provide a variety of residential homes, which would respond and adjust to changing economic and market conditions." Alternative 3 does not meet this project objective as the alternative results in a substantial reduction in residential units, thereby accommodating less housing for regional growth purposes.

Economic Objective No. 2 states "Provide a tax base to support public services and facilities." Alternative 4 is inconsistent with this project objective as it would cause a substantial reduction in residential land uses on site, resulting in a substantial reduction in tax base to support the public facilities and services within the project area.

(3) Previous Findings Related to this Alternative

As noted above, the County's Board of Supervisors already considered Specific Plan alternatives, one of which reduced development by 20 percent (Alternative 4). The Board rejected this alternative as infeasible, in part, because such alternative did not achieve many of the basic objectives of the Specific Plan, including the significant public benefits associated with implementation of such a plan.

e. Alternative 5: Cluster Alternative

As shown on **Figure 5.0-3, Alternative 5 – Cluster Alternative**, the Cluster Alternative creates a smaller development footprint but retains all of the other aspects of the proposed project development. Given the increased densities, there is a possibility, that 20-story residential complexes could be built. (Note: The Newhall Ranch Specific Plan has a maximum height of 55 feet for high-density units). This alternative would not reduce the number of residential units, commercial square footage or other improvements proposed by the project. Consequently, the cluster alternative would result in higher densities of multi-family units. The Cluster Alternative would retain the 9-acre elementary school, 20-acre community park, 5-acre neighborhood park, library, and fire station. Bank stabilization would continue to be required as proposed by the project.

(1) Potential Impacts

The following discussion compares the potential environmental impacts of the Cluster Alternative, Alternative 5, to those associated with implementation of the proposed project.

(a) Geotechnical and Soil Resources

Implementation of this alternative would result in less grading because of the reduced development footprint on the tract map site. However, all improvements constructed on the site would be subjected to the forces of ground movement during seismic events similar to the proposed project and would also be subject to the same construction requirements as the proposed project. Because there would be the same development under this alternative as under the proposed project, geotechnical hazards would not be reduced, and, therefore, Alternative 5 would result in similar impacts to the proposed project with respect to geology and soils.

(b) Hydrology

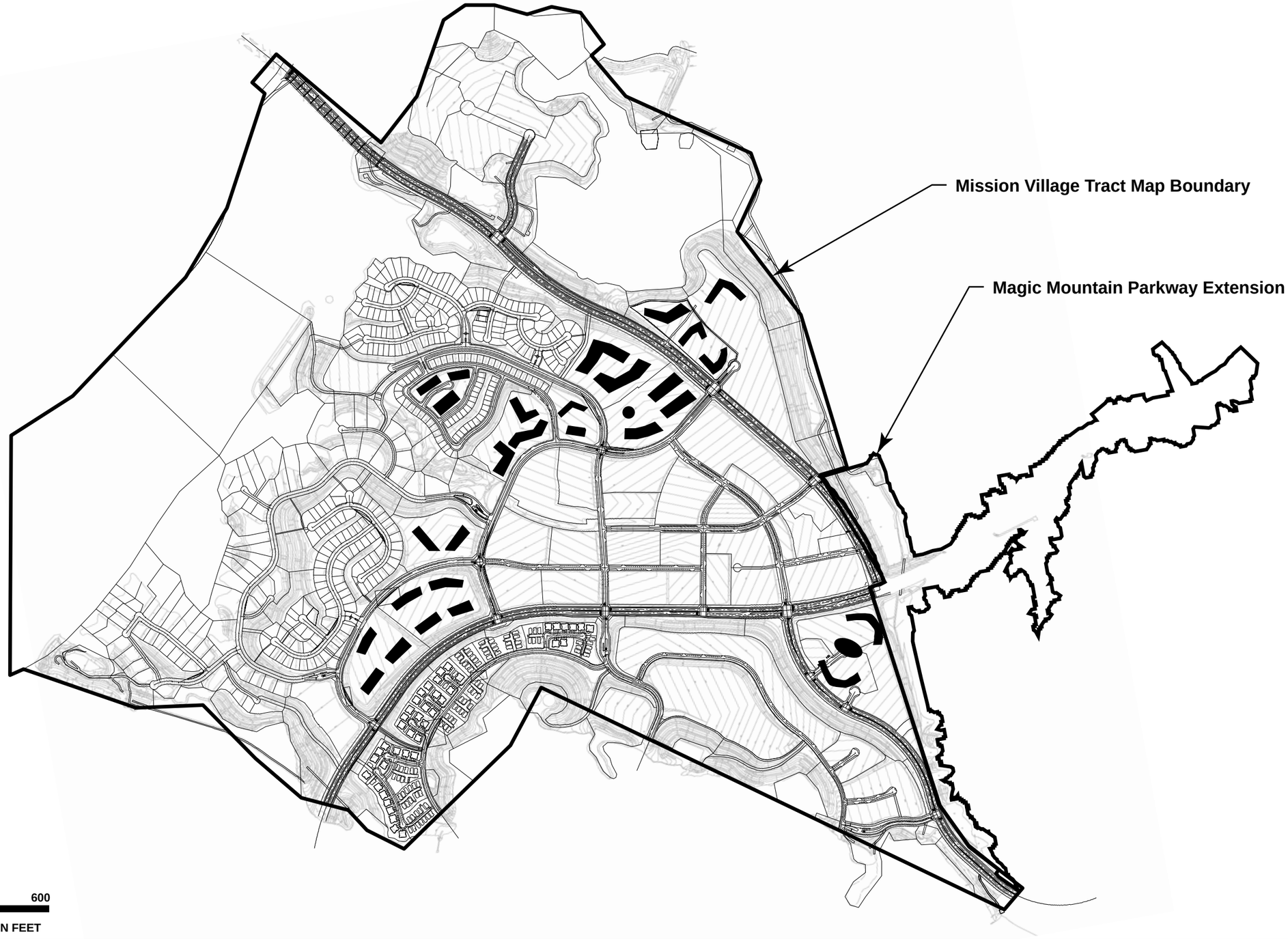
Implementation of this alternative would result in slightly less storm runoff and more infiltration than the proposed project because less area would be developed resulting in more open area. Also, it is likely the landscape irrigation needs of Alternative 5 would be greater than the proposed project due to more landscaped acreage. The urban runoff from impervious surfaces that would be generated under this alternative would be conveyed and discharged into the Santa Clara River in a similar manner as the proposed project. Consequently, to the extent Alternative 5 would result in reduced storm runoff and increased infiltration, this alternative would result in fewer impacts from a hydrology perspective than the proposed project.

(c) Water Quality

Under either this alternative or the proposed project, PDFs incorporated into the development to address water quality and hydrologic impacts would include site design, source control, treatment control, and hydromodification control BMPs. In addition, flow control BMPs would be incorporated into the PDFs in order to comply with the Los Angeles Countywide SUSMP and County Interim Peak Flow Standard. The flow control BMPs for either development of the proposed project or Alternative 5 would include both source control and detention. The PDFs combined with the implementation of recommended mitigation measures would reduce water quality and hydromodification impacts to less than significant levels under either development scenario. For this reason, Alternative 5 would result in similar impacts to the proposed project from a water quality perspective.

(d) Biota

Alternative 5 would result in fewer impacts to resources subject to California Department of Fish and Game (CDFG) and United States Army Corps of Engineers (USACE) jurisdiction, and a reduction in land disturbance on the tract map site. Consequently, Alternative 5 would reduce the direct biological impacts compared to the proposed project. Significant indirect impacts such as increased light and glare, increased non-native plant species and increased human and domestic animal presence would be similar to the proposed project because, although multi-family residential units would increase in density, there would still be the same number of residential units proposed as the project. For these reasons, Alternative 5 would result in fewer direct impacts than the proposed project relative to biota.



SOURCE: PSOMAS – December 2004

FIGURE **5.0-3**

Alternative 5 - Cluster Alternative

(e) Floodplain Modifications

It can be expected that floodplain modifications associated with construction and operation of Alternative 5 would result in fewer impacts on sensitive aquatic/riparian resources in the Santa Clara River corridor as this alternative would create slightly less increase in flows, water velocities, water depth, changes in sediment transport and changes in flooded areas. Although the proposed project creates only minor hydraulic effects, which are insufficient to alter the amount, location, and nature of aquatic and riparian habitats in the project area and downstream, as well as insufficient to impact sensitive riparian species, including the unarmored threespine stickleback, arroyo toad, California red-legged frog, southwestern pond turtle and two-striped garter snake, Alternative 5 would result in fewer impacts than the proposed project relative to floodplain modifications because it would create fewer hydraulic impacts.

(f) Visual Qualities

Development of the site under Alternative 5 or the proposed project would be subject to Development Regulations and Design Guidelines contained in the Specific Plan. These regulations and guidelines address grading, lighting, fencing, landscaping, signage, architecture, and site planning for subsequent subdivisions within the Newhall Ranch Specific Plan. Despite such features, significant visual impacts would result from the change in the visual character of the site from rural to urban. As with the proposed project, Alternative 5 would significantly alter the visual characteristics of the Santa Clara River/SR-126 and I-5 corridors, as existing open space views would be replaced with the images of residential development, roadways, and other human activity. Alternative 5 creates high-rise multi-family residential units; which, when compared to the proposed project, would create greater visual impacts, given the potential for 20-story heights of the multi-family structures.

Development under either the proposed project or Alternative 5 would introduce sources of outdoor illumination that do not presently exist. Outdoor lighting, such as streetlights and traffic signals, are essential safety features in development projects that involve new streets and intersections, and cannot be eliminated if the site is to be developed. In conclusion, Alternative 5 would result in greater impacts than the proposed project relative to visual qualities because it would increase the height of the multi-family units and affect almost all viewsheds to the project site.

(g) Traffic and Access

Implementation of Alternative 5 would not affect the number of vehicle trips generated by on-site uses when compared to the proposed project, because although the development footprint is reduced, the development parameters are the same as the proposed project. Consequently, traffic impacts associated with Traffic and Access under Alternative 5 would be the same as the proposed project.

(h) Noise

Under either Alternative 5 or the proposed project, development of the property would involve clearing and grading of the ground surface, installation of utility infrastructure, and the building of the proposed improvements. These activities typically involve the temporary use of heavy equipment, smaller equipment, and motor vehicles, which generate both steady static and episodic noise. This noise would primarily affect the occupants of on-site uses constructed in the earlier phases of the development (assuming that the site is occupied in sections as other portions are still under construction) and would be audible to occupants of Travel Village RV Park. Individuals who would have an uninterrupted line-of-sight to the construction noise sources could be exposed to noise levels, which would exceed the County's Noise Ordinance standards during construction regardless of the development alternative selected. However, because Alternative 5 proposes high-rise structures, there could be additional pile driving occurring at the project site. For this reason, Alternative 5 would result in greater impacts than the proposed project with regard to construction noise.

With respect to operational impacts, under either Alternative 5 or the proposed project, building occupants would be subject to traffic noise along off-site and internal roadways, noise from Magic Mountain Theme Park, as well as noise from day-to-day activities at the site. The number of traffic trips would be the same as the proposed project; therefore, roadway noise impacts would be similar.

However, because Alternative 5 would introduce the potential for more pile driving on the project site due to the construction of high-rise residential structures, this alternative would have greater impacts than the proposed project relative to noise.

(i) Air Quality

Under this alternative, short-term grading and construction-related air quality impacts would be the same as the proposed project. Because development parameters are the same for both the project and Alternative 5, operational emissions would be the same as the proposed project.

(j) Water Service

The proposed project would generate a potable water demand of approximately 1,676 afy and a non-potable demand of 1,243 afy. Potable water would be supplied to the project by the Valencia Water Company from local groundwater supplies. The Newhall Ranch WRP, construction of which would likely begin simultaneously with the construction of the proposed project, would supply non-potable water to the project. The potable and non-potable water demands for Alternative 5 would be the same as

the proposed project. Consequently, Alternative 5 would result in similar impacts when compared to the proposed project relative to water service.

(k) Wastewater Disposal

Because the uses proposed under Alternative 5 are the same as the proposed project, wastewater generation usage under Alternative 5 would be similar to the proposed project. For these reasons, Alternative 5 would result in impacts similar to the proposed project with respect to wastewater generation and treatment.

(l) Solid Waste Services

The project would generate 8,451 tons of solid waste per year. Because Alternative 5 proposes the same uses and development parameters as the proposed project, solid waste generation amounts would be the same. Therefore, Alternative 5 would result in similar impacts when compared to the proposed project relative to solid waste services.

(m) Sheriff Services

The proposed project would result in a resident population of approximately 10,802 persons, which would increase the demand for law enforcement and traffic-related services on the project site and the local vicinity in terms of personnel and equipment. The proposed project would require the services of an additional 11 additional deputies. In comparison, Alternative 5 also would result in a population of 10,802 persons. Given the Sheriff Department ratio of 1 officer per 1,000 persons, Alternative 5 would require the same number of law enforcement personnel as the proposed project because proposed uses and development parameters are the same. Therefore, Alternative 5 would result in impacts similar to the proposed project with respect to sheriff services.

(n) Fire Protection Services

The Mission Village project site is located in an area that has been designated as a Very High Fire Hazard Severity Zone (formerly called Fire Zone 4) by the County's Fire Department, which denotes the County Forester's highest fire hazard potential. Any land use constructed on the site would be required to meet all County codes and requirements relative to providing adequate fire protection services to the site during both the construction and operational stages of the project. Since the number of housing units and square footage of commercial uses would be the same under this alternative as under the proposed project, the number of fire protection service calls to the project site presumably would also be the same.

The project applicant is currently in discussions with the County's Fire Department on an MOU for the entire Newhall Ranch Specific Plan site. At this time, a fire station has been proposed within the project site near the intersection of Magic Mountain Parkway and Westridge Parkway. The fire station would be constructed under Alternative 5, as well. As a result, site development under either the proposed project or Alternative 5 would not diminish the staffing or the response times of existing fire stations in the Santa Clarita Valley, nor would it create a special fire protection requirement on the site that would result in a decline in existing service levels. Based on this information, Alternative 5 would result in impacts similar to the proposed project with respect to fire protection services.

(o) Education

The proposed project would generate an estimated 969 elementary students, 187 middle school students, and 321 senior high school students for the three affected school districts at build out. Because Alternative 5 would retain the same number of dwelling units as the proposed project, the same number of students would be generated by on-site uses.

Development of either the proposed project or Alternative 5 would be subject to the funding agreements established between the applicant and the affected districts. Given that all future development, including the proposed project or Alternative 5, must comply with existing school facilities funding agreements and other mechanisms (e.g., SB 50, the Valley-Wide Joint Fee Resolution, and/or new school facilities funding agreements), Alternative 5 would result in impacts similar to the proposed project with respect to education.

(p) Parks and Recreation

The proposed project includes a 20-acre Community Park, 5-acre neighborhood park, 6.9-acre private Community Recreation Center, 4.6 acres of private recreation area and 2.9 acres of private park area. The proposed project also includes18,980 linear feet (9.3 acres) of community trails, 12,900 linear feet of local trails, and 9,200 linear feet acres of pathways. Implementation of these project components results in a parkland dedication equivalent to approximately 9.4 acres per 1,000 persons, which is greater than the Los Angeles County (County) and Quimby Act requirements of 3.0 acres per 1,000 persons.

Even though Alternative 5 would provide for the same amount of development on a smaller area, dedication of parkland area would remain the same as the project. For this reason, Alternative 5 would result in similar impacts to the proposed project with respect to parks and recreation.

(q) Library Services

Based on the adopted County library planning guideline of 0.50 square feet of library facilities per capita and the adopted County library planning standard of 2.0 library books per capita for new libraries, development of the proposed project would require a total of 5,401 square feet of library facilities and 21,605 items (books, magazines, periodicals, etc.). Alternative 5 proposes the same amount of development as the proposed project and would require, therefore, the same additional library facilities and materials.

As part of the County's approval of the Newhall Ranch Specific Plan, the County adopted library mitigation requiring that the developer provide funding for the construction and development of library facilities on the Specific Plan site. This requirement would apply equally to Alternative 5, as well as to the proposed project. Alternative 5 would result in impacts similar to the proposed project because, under either the proposed project or Alternative 5, the demand for space and items would be met by construction and operation of the new libraries, as required by the Specific Plan mitigation.

(r) Agricultural and Forest Resources

Development of the project site under this alternative would result in the loss of prime agricultural land and agricultural production. Although the development footprint would be smaller than the proposed project, the number and uses of development proposed under Alternative 5 are the same as the proposed project. Even with the reduced development footprint, like the proposed project, Alternative 5 would convert 160.7 acres of Prime Farmland, 30.1 acres of Unique Farmland, and 0.6 acre of Farmland of Statewide Importance to non-agricultural urban land uses. In addition, as to forest resources, Alternative 5 would convert approximately 10.6 acres of native trees to urban uses, similar to the proposed project. Consequently, Alternative 5 would result in impacts similar to the proposed project with respect to agricultural and forest resources.

(s) Utilities

Uses proposed by both the proposed project and Alternative 5 are within the maximum permitted by the Newhall Ranch Specific Plan and the demand for energy was previously analyzed in the Newhall Ranch Specific Plan Program EIR. Since the same amount of development is planned under Alternative 5 as under the proposed project, energy use associated with this alternative would be the same as that identified for the proposed project. Projections for energy supply and demand by Southern California Edison and the Southern California Gas Company indicate that the utilities would have sufficient electricity and natural gas supply to serve the project site regardless of the development type selected. In addition, all development on the property would be required to comply with Title 24 and AB 970 energy

conservation measures. Based on the above, Alternative 5 would result in impacts similar to the proposed project with respect to utilities.

(t) Mineral Resources

Alternative 5 would result in a smaller development footprint and requires less off-site grading than does the proposed project. As such, the potential for disturbance or over covering of any potential mineral resource deposits during site development would be reduced when compared to the proposed project. For this reason, Alternative 5 would result in fewer impacts than the proposed project with respect to mineral resources.

(u) Environmental Safety

The potential environmental safety impacts relative to development of the proposed project site include soil contamination attributable to past and present agricultural activities, on-site petroleum (i.e., oil and natural gas) drilling and pipeline activities, and the disposal of on-site hazardous materials debris. Future residents of either the proposed project or Alternative 5 could be subjected to these potential hazards unless remediated. For these reasons, Alternative 5 would result in impacts similar to the proposed project with respect to environmental safety.

(v) Cultural/Paleontological Resources

Alternative 5 would result in a smaller development footprint and requires less grading than does the proposed project. As such, the potential for disturbance to known archaeological and paleontologic resources during construction activities would be reduced when compared to the proposed project. For this reason, Alternative 5 would result in fewer impacts than the proposed project with respect to cultural/paleontological resources.

(w) Global Climate Change

Because development parameters (i.e., the number of residential units and amount of non-residential square footage) are the same for the proposed project and Alternative 5, the amount of greenhouse gases generated by construction- and operational-related sources would be comparable. Consequently, Alternative 5 would result in impacts similar to the proposed project with respect to global climate change.

(x) Conclusion on Environmental Analyses

Generally, under Alternative 5, impacts associated with hydrology, biota, cultural/paleontological resources, mineral resources, and floodplain modifications would be reduced when compared to the proposed project. On the other hand, this alternative would have greater impacts associated with visual qualities and noise. However, on balance, Alternative 5 would result in fewer impacts than the proposed project. A summary comparison of impacts associated with the project alternatives is provided in **Table 5.0-3**, **Alternatives Impact Comparison Matrix**.

(2) Analysis of Project Objectives

While Alternative 5 is considered environmentally superior to the proposed project, Alternative 5 does not meet several of the basic project objectives, which are set forth in this EIR, at **Section 1.0**. Project objectives not fully met or impeded by Alternative 5 are listed below.

(a) Land Use Planning Objectives

Land Use Planning Objective No. 4 states, "Provide development and transitional land use patterns that do not conflict with surrounding communities and land uses." Alternative 5 would create very high density residential units which would conflict with surrounding communities and land uses (proposed Landmark Village and Westridge) and, therefore, does not meet this project objective.

Land Use Planning Objective No. 5 states, "Establish land uses that permit a wide range of housing densities, types, styles, prices, and tenancy (for sale and rental)." Alternative 5 is inconsistent with this project objective, as it would result in creating very high density units which would be mostly contained in high rise structures which would reduce multi-family housing options for the site.

(b) Economic Objectives

Economic Objective No. 1 states, "Provide a variety of residential homes, which would respond and adjust to changing economic and market conditions." Alternative 3 does not meet this project objective as it would require increased densities and, thereby, potentially limit the type of residences that could be built on the project site.

Economic Objective No. 2 states, "Provide a tax base to support public services and facilities." Alternative 3 is inconsistent with this project objective as it would cause a limitation in the types of multi-family residential units on site, which may be difficult to market to the consumer, resulting in a reduction in tax base to support the public facilities and services within the project area.

(3) Previous Findings Related to this Alternative

As noted above, the County's Board of Supervisors already considered Specific Plan alternatives, one of which (Alternative 3) clustered the same amount of development on a smaller footprint and which eliminated development within the Santa Clara River, including the 100-year floodplain. The Board rejected this alternative as infeasible, in part, because such alternative did not achieve many of the basic objectives of the Specific Plan, including the significant public benefits associated with implementation of such a plan.

f. Alternatives Impact Comparison Matrix

A summary comparison of impacts associated with the project alternatives is provided in **Table 5.0-3**, **Alternatives Impact Comparison Matrix**. The table lists each of the project alternatives, each of the environmental impact categories, and notes whether the respective alternative's impacts are greater than, similar to, or lesser than those of the proposed project.

Table 5.0-3
Alternatives Impact Comparison Matrix

Environmental Topic	Alternative 1 No Project/No Development	Alternative 2 No Project/Future Development	Alternative 3 Expanded Spineflower Preserve	Alternative 4 20% Reduction in the Number of Dwelling Units	Alternative 5 Same number of Units as the Project, Smaller Development Footprint
Geotechnical and Soil Resources	L	S	L	S	S
Hydrology	L	S	L	L	L
Traffic/Access	L	S	L	L	S
Air Quality	L	S	L	L	S
Noise	L	S	L	L	G
Biota	L	S	L	S	L
Cultural/Paleontological Resources	L	S	L	S	L
Visual Qualities	L	S	L	S	G
Water Service	L	S	S	L	S
Wastewater Disposal	L	S	G	S	S
Solid Waste Services	L	S	L	L	S
Education	L	S	S	S	S
Library Services	L	S	S	S	S

Environmental Topic	Alternative 1 No Project/No Development	Alternative 2 No Project/Future Development	Alternative 3 Expanded Spineflower Preserve	Alternative 4 20% Reduction in the Number of Dwelling Units	Alternative 5 Same number of Units as the Project, Smaller Development Footprint
Fire Protection Services	L	S	S	S	S
Parks and Recreation	L	S	S	G	S
Water Quality	S	S	S	G	S
Agricultural and Forest Resources	L	S	S	S	S
Sheriff Services	L	S	S	S	S
Environmental Safety	L	S	S	S	S
Mineral Resources	L	S	L	S	L
Floodplain Modifications	L	S	L	S	L
Utilities	L	S	S	S	S
Global Climate Change	L	S	L	L	S

KEY
(Level of Impact in Comparison to the Proposed Project):
G = *Alternative Produces Greater Level of Impact.*
S = *Alternative Produces Similar Level of Impact.*
L = *Alternative Produces Lesser Level of Impact.*

5. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 5.0-3 provides a summary comparison of the alternatives discussed in this section in relation to environmental impacts. Based on the information in this section, the No Project/No Development Alternative would not result in significant (or beneficial) effects and, therefore, the No Project/No Development Alternative is the environmentally superior alternative. However, the No Project/No Development Alternative is not consistent with the policies and goals of the Specific Plan and fails to meet the basic project objectives.

As specified in the *State CEQA Guidelines* (Section 15126(d)(2)), if the No Project/No Development Alternative is the environmentally superior alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. Of the other alternatives considered, Alternative 3, the Expanded Spineflower Preserve Alternative, would be the environmentally superior alternative because this alternative entails the least amount of development relative to the proposed project and other alternatives and, correspondingly, would have the least amount of developmental impacts. This alternative also is environmentally superior in that it would increase the amount of area used for spineflower preserves. However, as described above Alternative 3 does not meet several of the basic project objectives.

6.0 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

1. PURPOSE

The use of nonrenewable resources during the initial and continued phases of a proposed project may be irreversible if a large commitment of these resources makes their restoration thereafter unlikely. According to Section 15126.2(c) of the California Environmental Quality Act (CEQA) Guidelines*, the irretrievable commitment of such resources is to be evaluated in the EIR to ensure that their consumption by a proposed project is justified. In addition, the analysis also must identify any irreversible damage that can result from environmental accidents associated with the proposed project.*

2. DISCUSSION

The certified Newhall Ranch Specific Plan Program EIR fully evaluated the significant irreversible environmental changes associated with buildout of the entire Specific Plan. The certified EIR concluded that buildout of the Specific Plan would commit presently undeveloped lands to urbanized uses and contribute to the incremental depletion of resources, including renewable, slowly renewable, and/or non-renewable resources. The certified EIR also concluded that no unique hazards are found on the Newhall Ranch Specific Plan site, including the Water Reclamation Plant site, and that the site does not contain any uniquely hazardous uses that could result in irreversible damage from environmental accidents associated with the Specific Plan. No changes in the Specific Plan or the circumstances under which it will be implemented have occurred since the Newhall Ranch Specific Plan Program EIR was certified in May 2003. In light of this fact, and given that the proposed Mission Village project is consistent with the land uses identified in the Specific Plan, the prior Newhall Ranch Specific Plan Program EIR adequately addresses the significant irreversible environmental changes associated with the Newhall Ranch Specific Plan, including the Mission Village project; and, the Mission Village project would not have any effects that were not previously examined in that certified EIR. Consistent with *State CEQA Guidelines* Sections 15152, 15168, and 15385, this analysis incorporates by reference the discussions and analysis contained in the certified Newhall Ranch Specific Plan Program EIR, and no further evaluation is required.

7.0 GROWTH-INDUCING IMPACTS

1. PURPOSE

Section 15126.2(d) of the California Environmental Quality Act (CEQA) Guidelines *requires that an EIR include a discussion of the ways in which a project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this discussion are projects that would remove obstacles to population growth; increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Such discussion also should include the characteristics of a project that may encourage and/or facilitate other activities that, either individually or cumulatively, could significantly affect the environment. CEQA emphasizes that growth in an area should not be considered beneficial, detrimental, or of little significance. The purpose of this section is to evaluate the growth-inducing potential of the proposed Mission Village project.*

2. GROWTH-INDUCEMENT POTENTIAL

The certified Newhall Ranch Specific Plan Program EIR fully evaluated the growth-inducing impacts of buildout of the entire Newhall Ranch Specific Plan. The analysis concluded that the Specific Plan could potentially induce growth within Ventura County, the Santa Clara River Valley, and the Santa Clarita Valley due to the construction of supporting infrastructure and increased demand for goods and services. No changes in the Specific Plan or the circumstances under which it will be implemented have occurred since the Newhall Ranch Specific Plan Program EIR was certified in May 2003. In light of this fact, and given that the proposed Mission Village project is consistent with the land uses identified in the Specific Plan, the prior Newhall Ranch Specific Plan Program EIR adequately addresses the growth-inducing impacts of the Newhall Ranch Specific Plan, including the Mission Village project; and, the Mission Village project would not have any growth inducing impacts that were not previously examined in that certified EIR. Consistent with *State CEQA Guidelines* sections 15152, 15168, and 15385, this analysis incorporates by reference the discussions and analysis contained in the certified Newhall Ranch Specific Plan Program EIR pertaining to the growth-inducing potential of the Specific Plan, and no further evaluation is required.

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9.0 REFERENCES

The documents listed below are incorporated by this reference and are available for public review and inspection upon request to either: (1) Samuel Dea, Los Angeles County, Department of Regional Planning, 320 W. Temple Street, 13th Floor, Los Angeles, California 90012-3225, (213) 974-6461; or (2) Tom Worthington, Impact Sciences, Inc., 803 Camarillo Springs Road, Suite A-1, Camarillo, California 93012, (805) 437-1900.

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