4.8 NOISE

1. SUMMARY

Development of the Landmark Village site over a 54-month period would involve clearing and grading of the ground surface, trucks importing approximately 5.8 million cubic yards of fill material, 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 continuous 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 the off-site Travel Village Recreational Vehicle (RV) Park when construction activities occur.

Grading operations at the site and the off-site borrow sites would occur over a 46-week period. Because the Adobe Canyon borrow site is not in close proximity to existing sensitive receptors, grading operations at this site would not result in a significant noise impact. The construction noise would not be audible within the community of Val Verde due to intervening distances and topography.

On-site occupants who would have an uninterrupted line of sight to the construction noise sources could be exposed to increased noise levels during construction, resulting in potentially significant impacts unless mitigated. Noise impacts from these construction activities would be less than significant at the Travel Village RV Park. However, occupants of the RV Park could be exposed to excessive noise levels during utility corridor construction, resulting in significant impacts as construction activity occurs adjacent to the Park. Although mitigation is recommended to reduce these impacts, the resulting noise levels may continue to exceed the applicable thresholds, resulting in a significant and unavoidable impact. On-site construction noise would not be audible at the community of Val Verde due to distances between the site and the community of Val Verde, the intervening topography that would attenuate on-site noise, and traffic noise along State Route 126 (SR-126) that would "drown out" on-site construction noise to the south.

In the event construction of the Long Canyon Road Bridge requires pile driving into the bed of the Santa Clara River, the noise levels associated with these activities would be audible to occupants of on-site uses constructed prior to the bridge, and would exceed Los Angeles County (County) noise thresholds within 5,000 feet of the pile-driving activities. Therefore, if it is not feasible to complete the pile driving prior to occupancy of on-site noise sensitive residential uses located within 5,000 feet of the pile-driving activities, a short-term significant and unavoidable construction noise impact would occur. If pile drilling were utilized instead of pile driving, short-term noise impacts would be significant and unavoidable at noise sensitive uses located within 1,600 feet of the pile-drilling activities.

Sound levels from long-range traffic volumes along SR-126 and on the proposed "A" Street would exceed the thresholds of significance for noise sensitive uses proposed along these roadways within the project boundaries. With implementation of the recommended mitigation measures, noise impacts at these noise sensitive uses would be reduced to levels below significant.

The project would construct a fire station which would result in periodic use of sirens and air horns during emergency responses. However, given that the fire station is located in a commercial land use location (not adjacent to residential uses) and sirens and air horns are intermittent noise sources, no significant noise impacts are expected with the construction and operation of the fire station.

Upon buildout, the project would not result in mobile or point-source noise impacts to off-site locations. However, future traffic along SR-126, with and without the project, would cause mobile source noise levels at the Travel Village RV Park to exceed 70.0 decibels on an A-weighted scale (dB(A)) community noise equivalent level (CNEL) by 2010. Pursuant to Mitigation Measure 4.9-14 from the Newhall Ranch Specific Plan Program EIR, once noise levels reach 70 dB(A) CNEL at certain locations on the RV Park site, the project applicant will be required to mitigate highway noise levels at Travel Village to 70 dB(A) or less.

Point sources of noise from the proposed on-site parks would include 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 and observers, loud speakers, etc. Noise levels from these activities could exceed the County Noise Ordinance at residences within Landmark Village that are proposed in close proximity to the school and the public parks, resulting in a significant impact on the residents unless mitigated.

2. BACKGROUND

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

Section 4.9 of the Newhall Ranch Specific Plan Program EIR identified and analyzed the existing conditions, potential impacts, and mitigation measures associated with noise for the entire Newhall Ranch Specific Plan. The County in findings and in the 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 both the Newhall Ranch Specific Plan, adopted May 2003, and 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. **Section 4.8** discusses the existing noise conditions within the Landmark Village site, the project's potential noise impacts, 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 Landmark 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 noise that would occur with implementation of the Specific Plan. Specifically, the Newhall Ranch Specific Plan Program EIR, and related findings, determined that implementation of the adopted Specific Plan could expose on-site sensitive receptors to roadway and stationary noise levels that exceed County standards.

Development of the proposed Specific Plan 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 uses. Noise generated by this construction activity would primarily affect the occupants of on-site uses constructed in the earlier phases of development. Off-site residential uses that would be most sensitive to construction noise are located along the northern border of the Specific Plan site in the southern portion of Val Verde. The Newhall Ranch Specific Plan Program EIR concluded that any residential areas which would have an uninterrupted line-of-sight to the construction activity could be exposed to noise levels which would exceed the County's Noise Ordinance standards for residential land uses during that time. This was considered to be a significant impact if unmitigated.

The Program EIR also concluded that noise impacts would result from ongoing activities including vehicular traffic generated by future uses, as well as the 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 the Specific Plan would cause a significant increase in noise levels at the Travel Village RV Park along SR-126. 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 volumes generated by the Specific Plan or on-site activities within the Specific Plan site.

On a cumulative basis, the Program EIR determined that increased traffic on local roadways due to the proposed Specific Plan and other developments in the Santa Clarita Valley would cause a cumulatively

considerable increase in noise levels at the Travel Village RV Park. This impact was considered to be significant.

A number of feasible mitigation measures were identified that would mitigate the Specific Plan's noise impacts to a level below significant. These measures include a requirement for all future subdivisions to prepare an acoustical analysis assessing project and cumulative conditions. Based on the Newhall Ranch Specific Plan Program EIR and the entire record, the County's Board of Supervisors found that the significant impacts relating to noise identified in the Program EIR were mitigated to below a level of significance by adoption of the specified mitigation measures.[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, 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 CNEL 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. A greater than 5.0 dB(A) increase 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). Sound generated by a point source typically diminishes (attenuates) at a rate of 6.0 dB(A) for each doubling of distance from the source to the receptor at acoustically "hard" sites and 7.5 dB at acoustically

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1 See, Mitigation Measures 4.9-1 through 4.9-17 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 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.

"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 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 4.8-1, Noise Attenuation by Barriers and Elevation Differences**.

Wall/berm combinations may reduce noise levels by as much as 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 4.8-1, Outside to Inside Noise Attenuation**.

Table 4.8-1
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 *Ibid*. at 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.[7] 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 time period. However, the CNEL 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 penalties are applied to account for most people's increased noise sensitivity during the evening and nighttime hours.[8]

b. Methodology

The primary concern regarding on-site noise is the potential for proposed on-site and existing off-site noise sensitive land uses to be exposed to noise levels that exceed adopted or recommended thresholds (discussed later in this EIR section). In essence, the analysis of point and mobile source noise levels deals with the noise-related compatibility of proposed on-site and existing off-site land uses and activities with other on-site and nearby off-site land uses and activities.

(1) Point Source Noise

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. Point source noise associated with the project includes project construction and day-to-day activities at the site once it is built out.

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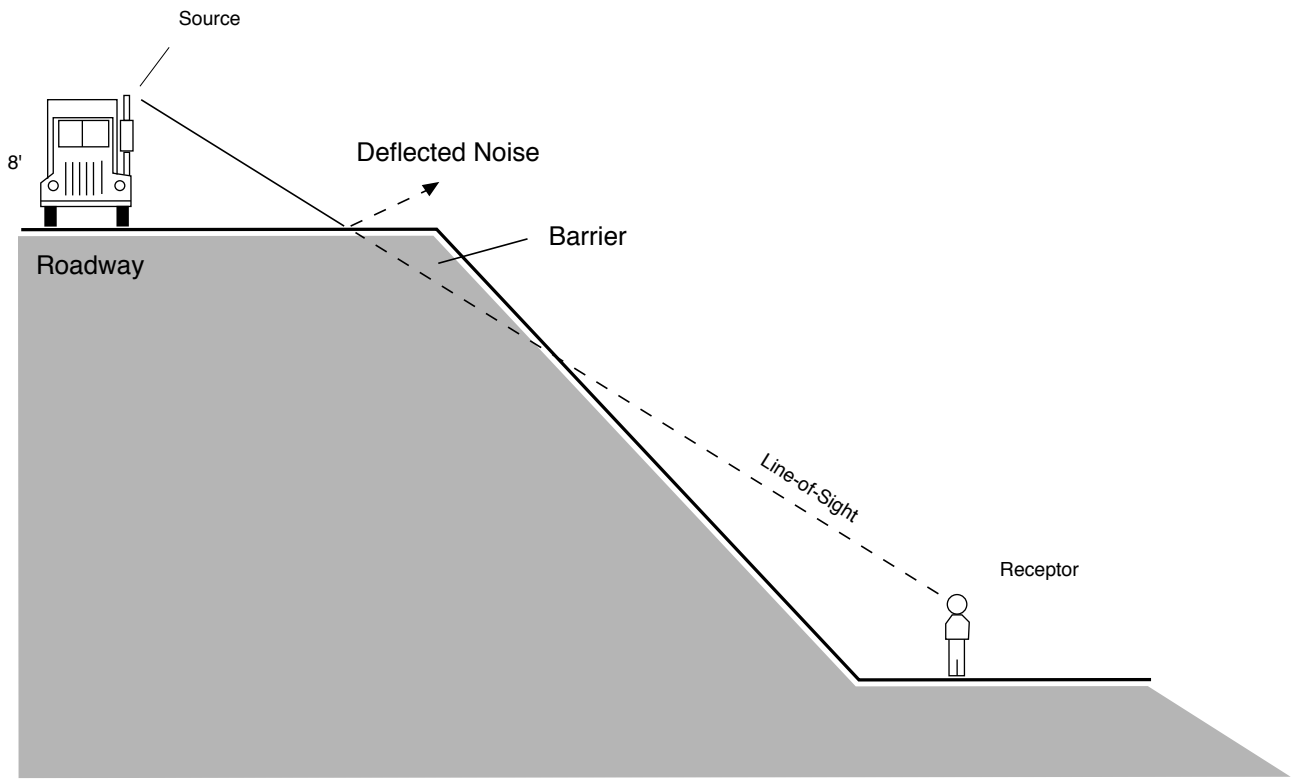
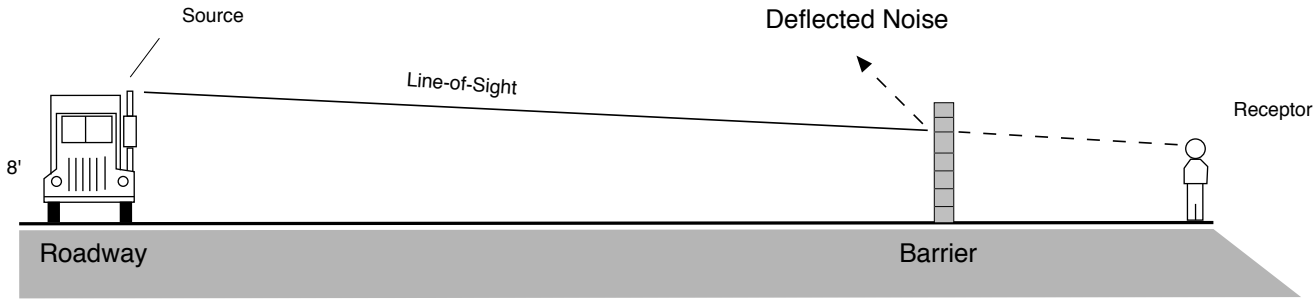
7 The Noise Element indicates considers both CNEL and L_{dn} equivalent for purposes of analysis. CNEL, however, is used for the noise impact analysis because it is more conservative than the L_{dn} and portrays a worst-case noise scenario, and it is commonly used throughout the State of California in noise impact analysis prepared for EIRs.

8 The logarithmic effect of adding these penalties 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}. 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 **4.8-1**

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 Landmark Village site and SR-126). In general, model inputs include future peak-hour speeds, volumes, and traffic mix on SR-126 along and through the site; elevations and geometrics of roadways; distances of proposed on-site sensitive uses 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 and terrain lines between the roadways and proposed sensitive uses that may attenuate noise; and roadway grade corrections, if necessary.[9] On-site highway traffic noise impacts were calculated for future traffic volumes on SR-126 at Santa Clarita Valley buildout in order to represent and mitigate for a worst-case scenario.

All existing and future roadways, barriers, and sensitive noise receptors for Landmark Village were defined in x, y, and z coordinates using a topographic map with a scale of 1 inch = 100 feet. Future roadway traffic volume data was obtained from the Landmark Village traffic report prepared by Austin-Foust Associates, Inc. (see Recirculated Draft EIR **Appendix 4.7**). The project traffic engineer provided peak-hour volumes on all roadways at project and Santa Clarita Valley buildout. 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. More realistic peak-hour speeds 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. Peak-hour vehicle mix in the project study area was derived from the California Department of Transportation's (Caltrans) data base and is assumed to be 85.7 percent passenger vehicles, 4.0 percent medium trucks, and 10.3 percent heavy trucks.[10] Finally, TNM was calibrated using data obtained from on-site noise measurements.[11]

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9 Sound32 does not account for pavement types and conditions; atypical vehicular noise conditions that do not reflect statewide averages per California Vehicle Noise Reference Energy Mean Emission Levels (Calveno); "transparent" shielding such as wood fences and heavy brush or trees; reflections off nearby buildings or structures; and meteorological conditions.

10 State of California Department of Transportation, *2001 Annual Average Daily Truck Traffic on the California State Highway System*, (Sacramento, California: California Department of Transportation, December 2002), p. 195.

Heavy trucks are all vehicles with three or more axles designed for the transportation of cargo; generally, the gross weight if greater than 12,000 kilograms (26,500 pounds [lbs.]). Medium trucks are all vehicles with two axles and six wheels designed for transportation of cargo. Generally, the gross vehicle weight is greater than 4,500 kg (10,000 lbs.) and less than 12,000 kg (26,500 lbs.). Finally, passenger vehicles are all vehicles with two axles and four wheels designed primarily for transportation of nine or fewer passengers (automobiles). Lightweight trucks with a gross vehicular weight of less than 4,500 kg (10,000 lbs.) also fall into this passenger vehicle category.

11 Model calibration was performed algebraically by adding a calibration constant derived from the difference between actual noise measurements taken at the site and noise levels at these locations as calculated by TNM.

(b) Off-Site Mobile Source Noise

Future off-site vehicular noise levels at Travel Village RV Park were calculated using the Caltrans highway noise prediction model, SOUND32, PC Version 1.41. This model was developed using the highway traffic noise prediction method specified in the FHWA *Highway Traffic Noise Prediction Model* (FHWA-RD-77-108). SOUND32 is based on a three-dimensional grid created for the modeled area (in this case, the modeled area includes the Landmark Village site and its immediate environs). In general, model inputs include future peak-hour speeds, volumes, and traffic mix on SR-126 through the modeled area[12]; 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 constructed barriers between the roadways and proposed noise-sensitive uses that may attenuate noise; and roadway grade corrections, if necessary.[13] 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.[14]

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, and (2) the State of California, Department of Health Services, Environmental Health Division *Guidelines for Noise and Land Use Compatibility* (the *Guidelines*).

a. County of Los Angeles Noise Ordinance

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

The County Noise Ordinance states that exterior noise levels caused by noise point sources shall not exceed the levels identified in **Table 4.8-2, County of Los Angeles Exterior Noise Standards for**

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12 Future roadway traffic volume data are from the Landmark Village traffic report prepared by Austin-Foust Associates, Inc. (see Recirculated Draft EIR **Appendix 4.7**).

13 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.

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

Stationary and Point Noise Sources, or the ambient noise level,[15] 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 point or stationary sources within multi-family residential units shall not exceed 45 dB(A) L_{eq} between 7 AM and 10 PM, and 40 dB(A) L_{eq} between 10 PM and 7 AM.[16] These standards would apply to the future residents and business owners within the Landmark Village project site.

Table 4.8-2
County of Los Angeles Exterior Noise Standards
for Stationary and Point Noise Sources

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval	Exterior Noise Level dB(A) L_{eq}[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 five 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 one 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. 4.*

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

15 Ambient noise is the existing background noise level at the time of measurement or prediction.

16 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 community noise equivalent level (CNEL). Both L_{dn} and CNEL utilize averaging, not single-event exposure.

The County 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.[17] 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 4.8-3, County of Los Angeles Construction Equipment Noise Restrictions**. 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.

Table 4.8-3
County of Los Angeles Construction Equipment Noise Restrictions

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) L_{eq}	80 dB(A) L_{eq}	85 dB(A) L_{eq}
Daily, 8:00 PM to 7:00 AM and all day Sunday and legal holidays	60 dB(A) L_{eq}	64 dB(A) L_{eq}	70 dB(A) L_{eq}
Stationary Equipment: Maximum noise level 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) L_{eq}	65 dB(A) L_{eq}	70 dB(A) L_{eq}
Daily, 8:00 PM to 7:00 AM and all day Sunday and legal holidays	50 dB(A) L_{eq}	55 dB(A) L_{eq}	60 dB(A) L_{eq}
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) L_{eq}		

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.*

17 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.

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. These are regulated by the state.

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*. The *Guidelines*, illustrated in **Figure 4.8-2, 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 Day-Night Average Sound Level [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 *Guidelines* when developing its general plan noise element and when determining acceptable noise levels within its community.[18]

According to the *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) 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 *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

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

unacceptable interior noise environments, additional noise insulation features, such as extra batting or resilient channels[19] 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.

6. EXISTING CONDITIONS

a. Roadway Line Source Noise

(1) On-Site Roadway Noise Levels

The Landmark Village tract map site is undeveloped and maintains no roadways open to the public. Private unpaved roadways traverse the site in order to provide access to the few agriculture-related structures on the site, to other portions of the Newhall Ranch Specific Plan site, and to the field crops currently cultivated on the site. These roadways carry small amounts of vehicular traffic and, therefore, do not generate an appreciable amount of roadway noise. Vehicular traffic on SR-126 is the dominant existing source of noise on, and in the vicinity of the tract map site. Noise from the small amount of traffic noise that is generated on the site, however, is masked by traffic noise on SR-126. Other sources of noise include agricultural activities on the northern portion of the site when equipment and workers are present.

Existing ambient noise levels at the tract map site were measured at four locations along the northern periphery of the site just south of SR-126 between 12:20 and 2:00 PM on November 24, 2003 using a Brüel and Kjaer Type 1 (Model 2238) sound level meter, which satisfies the American National Standards Institute (ANSI) for general environmental noise measurement instrumentation. Monitoring locations varied between 150 and 250 feet from the centerline of SR-126 and are shown in **Figure 4.8-3, On-Site Noise Monitoring Locations**. The sound meter was equipped with an omni-directional microphone, calibrated before the day's measurements, and set at 5 feet above ground. Weather conditions were cool and clear with little to no wind. Noise levels were monitored for 15 minutes at each location, with the average noise level ranging from 59.3 dB(A) L_{eq} to 68.9 dB(A) L_{eq}.[20] Maximum existing noise levels at the monitoring locations ranged from 68 dB(A) L_{eq} to 78 dB(A) L_{eq}. **Table 4.8-4**, **On-Site Noise Levels**, presents the findings of the monitoring at each location.

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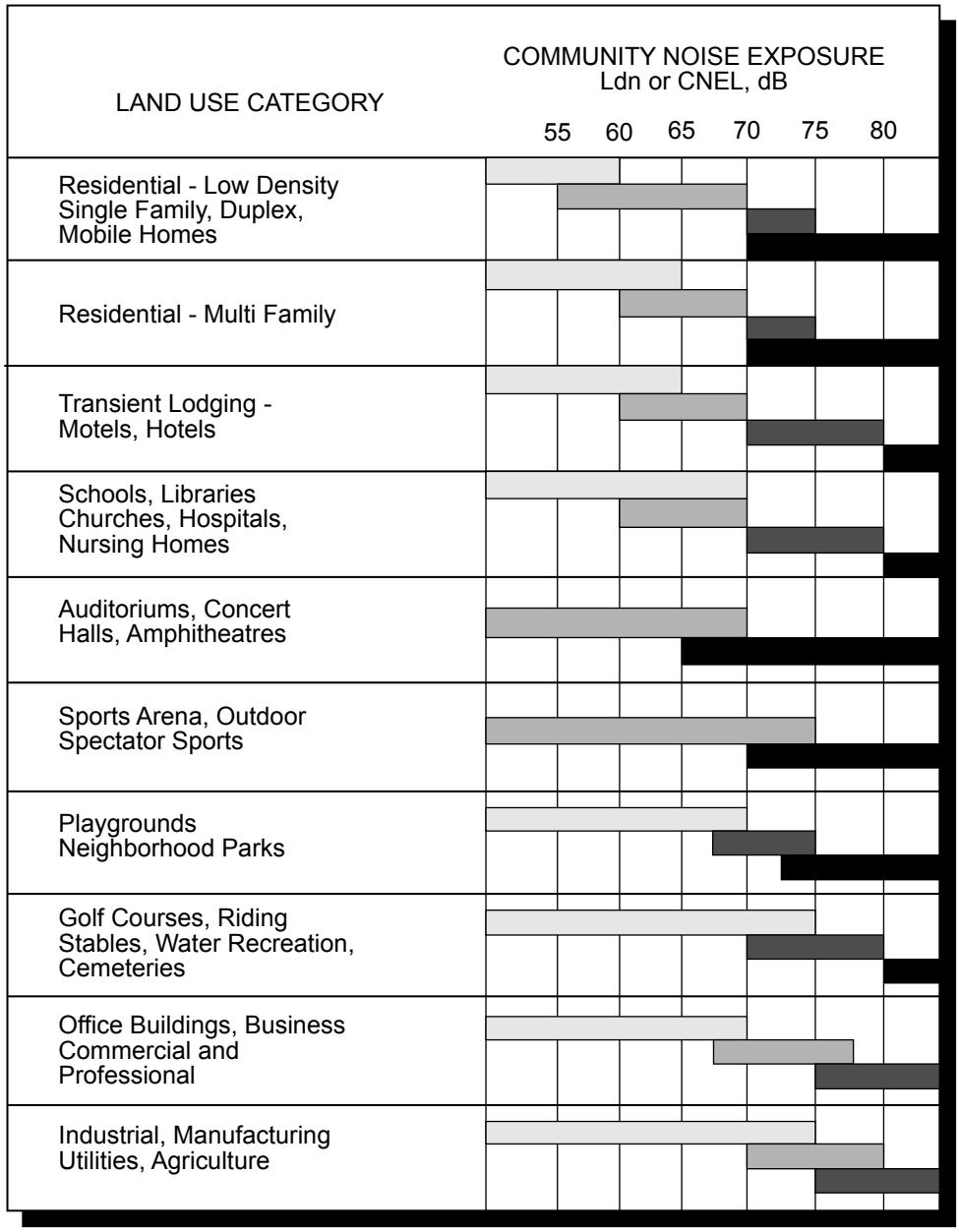
19 A resilient channel is a pre-formed section of sheet metal approximately 0.5-inch deep by 2.5 inches wide by 12 inches long that is installed between wallboard panels and framing to reduce sound transmission through walls. By preventing the wallboard from lying against the studs, the channel inhibits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

20 The noise exposure on the site depends upon the location of the receptor. For example, noise levels across from the intersection of Wolcott Way and SR-126 with a direct line of sight to the highway are greater than those taken approximately 2,000 feet to the west where the site is shielded by a natural berm just south of SR-126.



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.

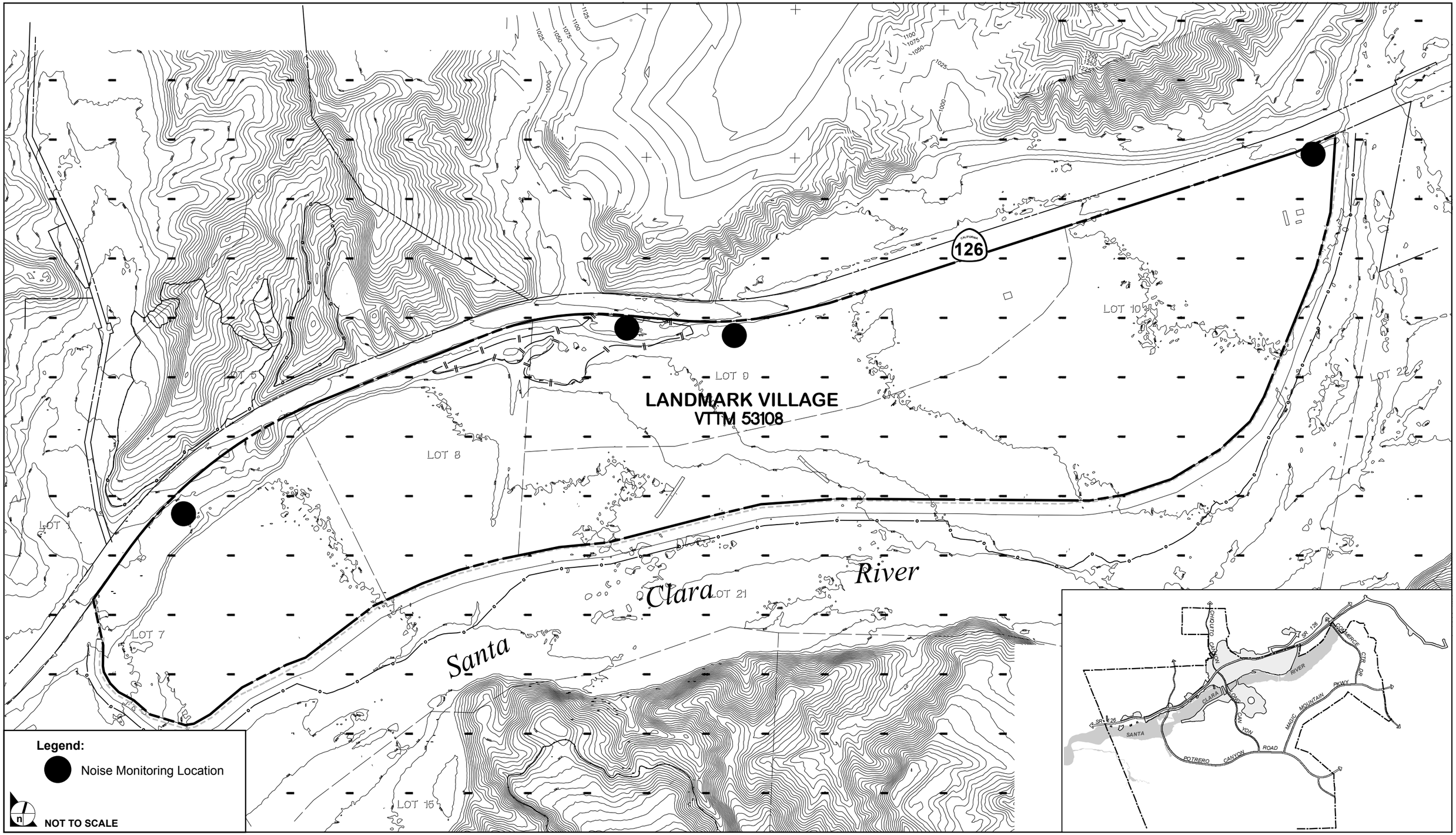
CLEARLY UNACCEPTABLE

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 **4.8-2**

Land Use Compatibility Guidelines for Noise



SOURCE: Impact Sciences, Inc. – October 2004

FIGURE **4.8-3**

On-Site Noise Monitoring Locations

32-92•01/09

Table 4.8-4
On-Site Noise Levels

Monitoring Location	Maximum dB(A) L_{eq}[1]	Average dB(A) L_{eq}
1	78.0	68.9
2	71.0	59.2
3	68.0	61.3
4	70.0	59.3

Source: Impact Sciences, Inc. Results of on-site monitoring are provided in Recirculated Draft EIR ***Appendix 4.8*** *(noise calculations).*
Results of maximum L_{eq} are rounded to the nearest decibel.

These noise levels do not represent peak noise hour conditions. Measurements during peak noise hour conditions would be represented by higher noise values.

(2) Off-Site Roadway Noise Levels

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 east of the Landmark Village site, and the Val Verde community located just north of the Newhall Ranch Specific Plan site along Chiquito Canyon Road. 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 (see Recirculated Draft EIR **Appendix 4.8** 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.

b. Point Sources of Noise

(1) On-Site Point Sources of Noise

With the exception of the few agricultural buildings and the agricultural activities on the site, there are no other point sources of noise on the tract map site. Existing agricultural operations generate very little 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 eastern edge of the Landmark Village site may be temporarily audible at Travel Village RV Park.

(2) Off-Site Point Sources of Noise

Due to the dominance of highway noise on the project site, there are no point sources of noise in the vicinity that are audible on the project site. This includes noise generated at the Chiquita Canyon Landfill located north of the proposed project site. Noise levels generated by operations at the Chiquita Canyon Landfill are very low (50 dB(A) or less) at the landfill property boundary and are imperceptible on the Landmark Village site. Most of the noise associated with landfill operations that affect noise levels on the Landmark Village site is generated by truck traffic to and from the landfill. This traffic noise is already included in the measured and calculated on-site traffic noise levels in this impact analysis.

7. PROJECT IMPACTS

a. Significance Threshold Criteria

According to Appendix G of the *California Environmental Quality Act (CEQA) Guidelines*, a project would have a significant noise impact if it would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- 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, would the project expose people residing or working in the project area to excessive noise levels; or
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.[21]

The following thresholds of significance were developed for this noise impact analysis based on the *State CEQA Guidelines* criteria set forth above and the plans and policies identified previously in this EIR

[21] The proposed project site is not located within an airport land use plan or within 2 miles of a public airport, nor is it located within the vicinity of a private airstrip. Therefore, *Guidelines* criteria (e) and (f) are not applicable to this project or this EIR's analysis of noise impacts.

section. These thresholds are consistent with those used in the Newhall Ranch Specific Plan Program EIR, and apply to both project and cumulative project impacts.

(1) Construction Noise Significance Thresholds

If occupants of the proposed project or occupants of off-site uses were 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 this threshold is 75 dB(A) L_{eq} for single family residences, 80 dB(A) L_{eq} for multi-family residences and 85 dB(A) L_{eq} for residences in commercial areas every day between 7:00 AM to 8:00 PM, except Sundays and legal holidays. At all other times, the noise thresholds for these uses would be 60, 65, and 70 dB(A) L_{eq}, respectively. For stationary source equipment, the threshold is 60 dB(A) L_{eq} for single-family residences, 65 dB(A) L_{eq} for multi-family residences and 70 dB(A) L_{eq} for residences in commercial areas every day between 7:00 AM to 8:00 PM, except Sundays and legal holidays. At all other times, the noise thresholds for these uses would be 50, 55, and 60 dB(A) L_{eq}, respectively. Because the duration of most construction activities at on- and off-site locations is unknown (e.g., the length of time construction equipment would operate west of Travel Village RV Park is unknown), the noise thresholds are applied to all construction activities assuming long-term duration, whether the activities are considered short or long term under the Noise Ordinance.

(2) Operational Noise Significance Thresholds

(a) On-Site Significance Thresholds

A significant on-site mobile source noise impact would occur if exterior frequent use areas[22] for noise-sensitive land uses on the tract map site were exposed to noise levels above the normally acceptable guidelines utilized by the County. These threshold levels are 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 4.8-2**. Residences located within mixed use/commercial areas would not have an exterior frequent use area (e.g., 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 point source noise levels originating on or off the site, which are above County Noise Ordinance standards identified in **Tables 4.8-2** and **4.8-3** for the types of uses proposed, a significant on-site noise impact would occur.

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22 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.

(b) Off-Site Significance Thresholds

Off-site noise impacts consider both the guidelines identified in **Figure 4.8-2**, 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, a significant off-site noise impact would occur if:

1. An increase of 5 dB(A) or greater in noise level occurs from project-related activities, even if levels remain within the same land use compatibility classification (e.g., noise levels remain within the normally acceptable range); or

2. 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

3. Any increase in noise levels occur where existing noise levels are already considered unacceptable under the *Guidelines*.

b. Construction Noise Impacts

Construction activities associated with the proposed project would generate noise from three locational sources —the Landmark Village tract map site, the off-site borrow and grading sites, and the proposed utility corridor. The noise generated by activities at each source, and the potential impacts to future on-site and existing off-site noise sensitive uses relative to each source, is addressed separately for each below.

(1) Landmark Village Tract Map Site

As discussed below, noise generated in connection with construction on the Landmark Village tract map site would be attributable to either stationary or mobile construction equipment.

(a) Stationary 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. Up to 5.8 million cubic yards of earthen material would be excavated from the Adobe Canyon borrow site located within the Specific Plan boundary and hauled by truck to the tract map site where it would be compacted and graded. Additional earthwork is required at the mouth of Chiquito Canyon. 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 Long Canyon Road 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 4.8-4, 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 50 feet. However, as previously noted, 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.

In general, the first and noisiest stage of construction is site preparation, which usually involves importing soil from off-site locations, earth moving, and compaction of soils. High noise levels created during this phase would be associated with the operation of heavy-duty 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.

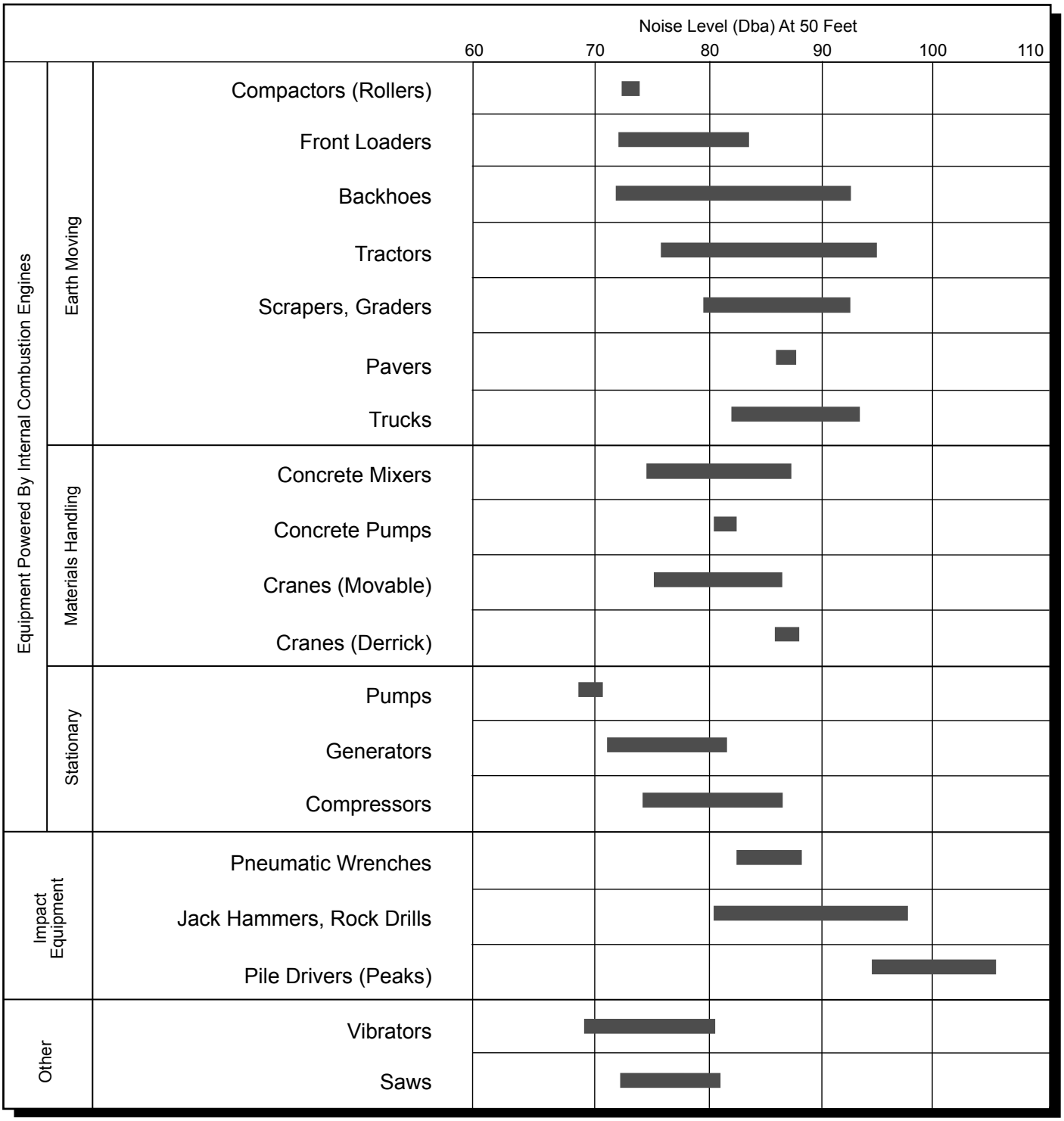
The third and fourth stages of construction consist of interior and exterior building construction, and site cleanup. Primary noise sources associated with the third phase include hammering, diesel generators, compressors, and light truck traffic. During this stage noise levels are typically in the 60 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 RV Park. Travel Village is located approximately 925 feet from the nearest proposed graded area on the tract map site (the location of Lot 391). Assuming the operation of a tractor with a decibel level of 95 dB(A) at 50 feet at the eastern boundary of the site (approximate location of Lot 391), the noise level at the westernmost boundary of Travel Village would be approximately 70 dB(A) assuming a drop-off 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 Landmark 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 SR-126 that would "drown" out construction noise, and intervening topography.

The Noise Ordinance (as presented in **Table 4.8-3**) does not include maximum construction noise levels for transient occupancy (i.e., Travel Village RV Park), but does specify a maximum daily construction noise level for semi-residential/commercial uses (i.e., residential used within a commercial area [see **Table 4.8-3**, above]) 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 noise levels are greater or equal to projected construction noise levels at Travel Village, no significant construction noise impacts to the RV park are anticipated. However, because on-site construction activities could cause the Noise Ordinance standards to be exceeded during short-term construction periods at future on-site residential uses, construction noise impacts are considered potentially significant without mitigation for such on-site areas.

Construction of the proposed Long Canyon Road Bridge may involve pile driving, which is considered a stationary source and subject to stationary source standards of the County Noise Ordinance (i.e., 60 and 65 dB(A) L_{eq} for single and multi-family residences, respectively, and 70 dB(A) for semi-residential, commercial uses, daily from 7:00 AM to 8:00 PM. except Sundays and legal holidays). Pile driving could generate short-term noise levels of approximately 105 dB(A) at 50 feet. If pile driving occurs after occupancy of proposed uses on the western side of the project site, it would cause noise levels to exceed 99.0 dB(A) at the residences closest to the activity (i.e., the apartment complex on Lot 354) for the duration of the pile driving. Residences located further away from the pile driving would experience less noise due to the greater distance from the construction, as well as to the shielding effect of future intervening structures; however, the noise levels could exceed 65 dB(A) and the County's noise ordinance for as much as 5,000 feet away from the source assuming no noise attenuation due to intervening terrain or structures. Because the Landmark Village tract map site is expected to develop in a pattern from east to west, with the western portion of the site nearest the pile-driving activity, the pile-driving activity is expected to be completed prior to the occupancy of dwelling units proposed nearest the Long Canyon Road Bridge. Therefore, no dwelling units located within 5,000 feet of the pile-driving site are anticipated to be occupied during the pile-driving activities. Consequently, no significant noise impacts



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 **4.8-4**

Noise Levels of Typical Construction Equipment

on future site residents from pile driving are expected. Pile driving may also be audible at off-site locations, such as Val Verde and the Travel Village RV Park. However, noise levels would not exceed applicable thresholds at Travel Village or the community of Val Verde. Pile-driving noise impacts, should they occur, would be significant within a 5,000-foot radius for the duration of the pile driving unless mitigated. Both the Travel Village and the Val Verde community are located more than 5,000 feet from the pile-driving site. Temporarily, vibration from the use of pile drivers could also be noticed by future residents of the Landmark Village project. If Landmark Village homes were to be occupied prior to bridge construction, impacts caused by vibration would be considered less than significant because of the relatively brief time period the pile drivers would be used, and the distance between the bridge site and the proposed homes. However, because the Landmark Village site is expected to develop in a pattern from east to west, with the western portion of the site nearest the pile-driving activity, the pile-driving activity is expected to be completed prior to the occupancy of dwelling units proposed nearest the Long Canyon Bridge. Consequently, no significant vibration impacts on future site residents from pile driving are expected. No other sources of excessive groundborne 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.[23] These restrictions do not, however, necessarily mitigate construction noise that would be in excess of the Noise Ordinance.

(b) Mobile Construction Equipment Source Noise

Heavy-duty trucks that would be used to move construction equipment onto the project site typically have a noise level of approximately 93 dB(A) at 50 feet.[24] 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

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23 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.

24 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.

and/or structures that may exist between them and the noise source. Because the main pieces of heavy equipment would be moved onto the site just once for each construction phase, this noise impact would be temporary and instantaneous in nature as the trucks pass by these receptors. Furthermore, 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 along highways and major arterials where less noise sensitive uses are located, is not expected to traverse through residential areas or past sensitive receptors, and is similar in nature to existing vehicle noise along SR-126. As such, short-term construction truck traffic 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 pick-up trucks, would not represent a substantial percentage of daily volumes in the area and would increase levels less than the 3 dB(A) threshold. Therefore, construction-worker traffic noise would be less than significant.

(2) Borrow Site Grading Activities

Because the Adobe Canyon borrow site is not in close proximity to existing sensitive receptors, grading operations at this site would not result in a significant noise impact. As stated above, when heavy 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. A 96 dB(A) noise level would attenuate to 72 dB(A) at 800 feet, which would be a less than significant mobile source noise impact under the County's Noise Ordinance. Noise from grading operations in Chiquito Canyon would likely not be audible at the community of Val Verde except to individuals with the most sensitive hearing. However, given the distance between the grading area and Val Verde, no significant impacts are expected from this source.

Approximately 145,000 heavy-truck trips would be required to haul up to 5.8 million cubic yards of fill material to the project site from Adobe Canyon. The number of truck trips traveling along the haul route will vary daily, depending on the nature of the construction activity. The haul route would traverse Long Canyon and cross the Santa Clara River at an existing agricultural crossing. These trucks would have noise levels up to 93 dB(A) along the route.[25] However, no significant impact would occur along this haul route as no sensitive receptors exist in this area.

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[25] Noise measurements of double capacity haul trucks at intersections are based on in-field measurements by Impact Sciences, Inc. staff at similar project locations.

(3) Utility Corridor and Water Tank Site

The utility corridor for the proposed project would extend from the existing Water Reclamation Plant on the Old Road located east of the Newhall Ranch Specific Plan to the proposed water reclamation plant, located west of the Landmark Village site within the Specific Plan. The corridor would also extend north of SR-126 up Chiquito Canyon and Wolcott Road to the proposed tank site. Within Landmark Village, the utility corridor would follow the easternmost tract boundary from SR-126 to the location of proposed Lot 323 (open space). From this point, the utility corridor would follow the alignment of proposed "A" Street to Long Canyon Road where it would turn southerly and then follow the southern and western perimeters of proposed Lots 403 (park), 354 (apartment), and 357 (mixed use commercial) to SR-126 where it would extend westerly south of SR-126, and then south to Round Mountain. The utility corridor through Landmark Village would be constructed prior to occupancy of the site, so noise from its construction would not have a noise impact on future uses on the project site. Its on- and off-site construction, however, would be audible at off-site locations.

Construction activity occurring within the utility corridor is expected to utilize concrete saws, scrapers, excavators/trenchers, cranes, pavers and other paving equipment, rollers, heavy-duty trucks, water and other heavy-duty trucks, signal boards (possibly diesel-fueled), and other construction equipment. The loudest of this equipment could generate noise levels up to 93 dB(A) at 50 feet.

Occupants of the RV park would be as close as 75 feet from that segment of the utility corridor located south of SR-126 and north of the RV Park. Guests of this facility could be exposed to noise levels of up to 93 dB(A) during utility corridor construction, which would be a significant mobile source construction noise impact absent mitigation. This noise level would be clearly audible over the traffic noise generated along SR-126 and would "drown out" the traffic noise during hours of corridor construction at this location.[26]

Within the Landmark Village site to the west of the RV Park, the corridor along the eastern tract boundary would be 950 feet from the closest inhabitable location within the RV Park. At 950 feet, a 93 dB(A) noise level would attenuate to approximately 65 dB(A). This noise level, when combined with the existing highway traffic noise level of 68.5 dB(A) CNEL in the RV Park, could be as high as 70.5 dB(A) during hours of corridor construction at this location, which would be a less than significant mobile

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26 When two noise sources have a 10-decibel or greater difference in noise levels, the higher noise level drowns out the lower noise level. California Department of Transportation, *Technical Noise Supplement; A Technical Supplement to the Traffic Noise Analysis Protocol*, (Sacramento, California: October 1998), p. N15.

source construction noise impact.[27] Given the distance from the utility corridor and Val Verde, no significant impacts would occur due to the noise source.

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- and off-site uses from the project's point source noise. Each of these potential noise impacts is discussed separately below.

(1) 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 41,900 average daily trips 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 Travel Village were calculated using the FHWA *Highway Traffic Noise Prediction Model*.[28] Roadway noise impacts on the Landmark Village site were calculated for the worst-case noise conditions. For SR-126 and proposed Wolcott Road, the worst-case noise conditions are represented by Santa Clarita Valley build-out traffic volumes and distribution conditions. For proposed Long Canyon Road and "A" Street, the worst-case conditions are represented by project build-out volumes and distribution conditions in Year 2010 rather than Santa Clarita Valley buildout. As Newhall Ranch builds out, traffic that would normally occur on these roadways would be redistributed on other future Newhall Ranch roadways, thereby reducing traffic volumes on Long Canyon Road and "A" Street.

Findings of the TNM analysis for proposed project conditions are presented in **Table 4.8-5, On-Site Noise Levels Under Proposed Plan at Santa Clarita Valley Buildout**. Multiple noise receptors were plotted on most lots along SR-126 through Landmark Village and along proposed Wolcott Road, Long Canyon Road, and "A" and "C" Streets within Landmark Village. Therefore, the modeling analyzes a range of locations along studied roadways. Wherever multiple sound levels were calculated in one lot,

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27 When two noise sources have a 2 to 3 decibel difference in noise levels, 2 decibels are added to the higher noise level. California Department of Transportation, *Technical Noise Supplement; A Technical Supplement to the Traffic Noise Analysis Protocol*, (Sacramento, California: October 1998), p. N15.

28 As previously discussed, the FHWA *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 sound levels were logarithmically averaged. The averaged sound levels are presented in **Table 4.8-5**. All of the calculated sound levels are available for review in Recirculated Draft EIR **Appendix 4.8**.

Findings of the TNM analysis indicate that certain single- and multi-family residential land uses proposed along or in close proximity to SR-126 and along "A" Street[29] would be exposed to traffic noise levels in excess of the *Guidelines* (i.e., traffic noise levels would exceed 60 dB(A) CNEL for single family residences and 65 dB(A) for multi-family residences), and, therefore, these uses would be significantly impacted. With respect to the proposed Mixed Use/Commercial lots, as indicated on **Table 4.8-5**, because development of these lots would not include exterior frequent use areas, any residential uses that may be constructed within this designation would be significantly impacted only if interior noise levels exceed 45 dB(A) between 7:00 AM and 10:00 PM.

Table 4.8-5
On-Site Noise Levels Under Proposed Plan
at Santa Clarita Valley Buildout

Lot No.	Proposed Land Use	TOS (CNEL)[1]	Predominant Vehicular Noise Source	CNEL SCV Buildout	Exceeds TOS By (dB)[3]
11*	Single Family	60	"A" Street	61	2
22*	Single Family	60	"A" Street	63	3
92	Single Family	60	SR-126	53	-7
98	Single Family	60	SR-126	54	-6
103	Single Family	60	SR-126	56	-4
105	Single Family	60	SR-126	57	-3
107	Single Family	60	SR-126	57	-3
110	Single Family	60	SR-126	58	-2
112	Single Family	60	SR-126	60	0
114	Single Family	60	SR-126	57	-3
115	Single Family	60	"A" Street	60	0
119*	Single Family	60	"A" Street	61	1
122*	Single Family	60	"A" Street	62	2
126*	Single Family	60	"A" Street	62	2
128*	Single Family	60	"A" Street	62	2
146*	Single Family	60	"A" Street	61	1
152*	Single Family	60	"A" Street	62	2

29 As Newhall Ranch Specific Plan builds out, traffic volumes along "A" Street would decrease as traffic becomes redistributed throughout the Specific Plan site; however, the noise impacts on these uses are based on 2007 traffic conditions on this roadway.

Lot No.	Proposed Land Use	TOS (CNEL)[1]	Predominant Vehicular Noise Source	CNEL SCV Buildout	Exceeds TOS By (dB)[3]
188*	Single Family	60	"A" Street	61	1
315*	Single Family	60	"A" Street	61	1
325*	Condominium	65	SR-126	70	5
326*	Condominium	65	SR-126	71	5
329	Condominium	65	"A" Street	63	-2
330	Recreation	70	"A" Street	66	-4
331	Condominium	65	"A" Street	65	0
332/333**	Mixed Use/ Commercial	45	Comb.	63	--
337	Park	70	"A" Street	63	-7
338	Condominium	65	"A" Street	65	0
339	Condominium	65	"A" Street	64	-1
340	Recreation	70	"A" Street	65	-5
341	Condominium	65	"A" Street	65	0
342	Condominium	65	"A" Street	64	-1
343*	Condominium	65	SR-126	68	3
343	Condominium	65	"A" Street	63	-2
344	Park	70	SR-126	66	-4
344	Park	70	"A" Street	62	-8
345	School	70	SR-126	67	-3
345	School	70	"A" Street	61	-9
346*	Condominium	65	SR-126	68	3
346	Condominium	65	"A" Street	63	-2
347**	Mixed Use	45	Combin.[2]	64	--
349	Apartment	65	"A" Street	65	0
349*	Apartment	65	SR-126	66	1
350	Condominium	65	"A" Street	65	0
350*	Condominium	65	SR-126	68	3
351**	Mixed Use/ Commercial	45	Long Canyon Rd	66	--
352**	Mixed Use/ Commercial	45	Long Canyon Rd	68	--
354	Apartment	65	SR-126 (facing River)	61	-4
354*	Apartment	65	SR-126	67	2
357**	Mixed Use/ Commercial	45	SR-126	68	--
361**	Mixed Use/ Commercial	45	SR-126	66	--
367**	Mixed Use/ Commercial	45	Long Canyon Rd	67	--

Lot No.	Proposed Land Use	TOS (CNEL)[1]	Predominant Vehicular Noise Source	CNEL SCV Buildout	Exceeds TOS By (dB)[3]
370**	Mixed Use/ Commercial	45	Long Canyon Rd	66	--
371**	Mixed Use/ Commercial	45	SR-126	65	--
375**	Mixed Use/ Commercial	45	"A" Street	61	--
376	Apartment	65	SR-126	67	2
376*	Apartment	65	"A" Street	64	-1
377*	Condominium	65	SR-126	69	4
377*	Condominium	65	"A" Street	67	2
384**	Mixed Use/ Commercial	45	SR-126	71	--
385**	Mixed Use/ Commercial	45	SR-126	72	--
388**	Mixed Use/ Commercial	45	SR-126	71	--
389**	Mixed Use/ Commercial	45	SR-126	71	--
403	Park	70	Long Canyon Rd	62	-8
416	Condominium	65	"A" Street	62	-3

Source: Impact Sciences, Inc. Noise calculations are presented in Recirculated Draft EIR ***Appendix 4.8****.*

TOS = threshold of significance

1 *The interior threshold of significance for mixed use commercial is 45 dB(A) CNEL because there is potential for multi-family uses to occur within this category.*

2 *Vehicular noise source is a combination of SR-126, Wolcott Road, and "A" Street.*

3 *No numeric value is given for Mixed Use Commercial uses because interior noise levels are based upon building construction and location of residences within the commercial centers.*

* *Noise level would exceed the normally acceptable levels of the* Guidelines for Noise and Land Use Compatibility, *unless mitigated.*

** *No exterior frequent use areas for sensitive receptors (e.g., parks) would be provided in lots designated for mixed use commercial; therefore, residential units that may occur on these lots would be significantly impacted only if interior noise levels would exceed 45 dB(A) between 7:00 AM and 10:00 PM, unless mitigated.*

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

Travel Village RV Park is the only noise-sensitive use in the Project Study Area[30] that could potentially be significantly impacted by project-generated noise. Potential noise increases at this location due to future on-site activities and the addition of project-related traffic along SR-126 were modeled both with and

30 The geographic limits of the Project Study Area are defined in the *Landmark Village Traffic Impact Analysis* provided in **Appendix 4.7** of this EIR.

without the project's traffic volumes to determine if the project would cause a significant noise impact at this location.

The impact of Landmark Village traffic on the existing Travel Village RV Park is represented by the difference between noise generated by the traffic volumes on SR-126 east of proposed Wolcott Road under existing conditions, and noise generated at project buildout in year 2010. Approximately 22,200 project trips[31] would pass by the RV Park at project buildout. The addition of the project's 22,200 trips to this roadway segment would increase the existing noise level at the RV Park from 68.5 dB(A) CNEL to 71.8 dB(A) CNEL, which would be a 3.3-decibel increase and is considered to be a significant impact.

Without the proposed project, the Year 2010 noise level at Travel Village would be 71.0 dB(A) CNEL at 100 feet from the highway centerline. Adding the project's 22,200 trips to this segment of SR-126 would increase the noise level at this location to 73.1 dB(A) CNEL, which represents a 2.1-decibel increase. Because noise levels at the RV park would be in excess of normally acceptable noise levels under the *Guidelines* without the project, the 2-decibel project-related noise increase at the RV park would also be considered a significant impact. Because the noise level at the RV park would be greater than 70 dB(A) CNEL by 2010, 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.

Approximately 0.3 percent of Landmark Village traffic (130 average daily trips [ADT]) would travel to and from Ventura County (130 trips at the Los Angeles/Ventura County line/41,900 project ADTs = 0.003) on SR-126 between the County line and the City of Fillmore. West of the City of Fillmore, project traffic would be primarily distributed further along SR-126 and along State Route 23 (SR-23), with less than 10 of the 130 Landmark Village ADT traveling south from Fillmore on SR-23 to the City of Moorpark.[32] The Newhall Ranch Specific Plan 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) and single-family homes north of Casey Road in Moorpark. While there are other sensitive locations along these roadways, these are worst-case representations of all noise sensitive receptors located in proximity to these highway segments. The Program EIR indicates that the Specific Plan's 1,038 ADTs along this roadway would increase future noise levels along SR-126 between Newhall Ranch and Fillmore by 0.9 dB(A) CNEL, which is less than the threshold of significance of 3.0 dB(A) and barely perceptible. Given that Landmark Village traffic volumes would represent 12.5 percent (130/1,038 = 0.125) of Newhall Ranch's traffic

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31 This number is derived by multiplying total project trips by 53 percent, which is the percentage of project trips assumed to travel east on SR-126 (41,900 * .53 = 22,207).

32 See, EIR **Section 4.7**, **Traffic/Access, Table 4.7-23**, **2010 Ventura County ADT Volumes**. Any project-related contribution of traffic to roadways other than SR-126 and SR-23 in Ventura County would be extremely limited and would not have the potential to result in a significant traffic noise impact.

volumes, the noise impact of Landmark Village traffic along this roadway segment would be considerably less and is similarly considered to be less than significant. Nonetheless, Landmark 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 Newhall Ranch Specific Plan Program EIR.

In conclusion, if the Landmark Village project were to be constructed and fully occupied today, it would result in a significant noise impact at the RV Park because it would increase noise levels at the RV Park by more than 3 decibels and would result in a change in land use compatibility classification at the RV Park from normally acceptable to conditionally acceptable. Project-related traffic noise would cause a 2-decibel noise increase at the RV Park in year 2010 which would normally be less than significant; however, because noise levels at the RV Park would be greater than 70 dB(A) CNEL and greater than normally acceptable noise levels for transient lodging, project-related noise impacts would be significant. Because year 2010 noise levels at the RV Park would exceed 70 dB(A) CNEL, the project is required to construct a noise abatement barrier to reduce noise levels at the RV Park to 70 dB(A) CNEL or less under Mitigation Measure 4.9-14 contained in the Newhall Ranch Specific Plan Program EIR.

The project would cause a less than significant noise impact at residences in Val Verde and in Ventura County under existing and year 2010 conditions. However, under Mitigation Measures 4.9-15 and 4.9-16 of the Specific Plan Program EIR, the project is required to mitigate its contribution to cumulative noise impacts at specific sensitive receptors in Ventura County.

(3) Point Source Noise Impacts on On-Site and Off-Site Uses

Future residents of Landmark Village would generate and be exposed to point source noise, 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 their distances from Travel Village, it is unlikely that point source noise at Landmark Village would be audible at that location.

Future residents with direct lines-of-sight 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 at odd 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 4.8-2**. As a result, they are considered less than significant at locations on or off the Landmark 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 employee parking 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. As a result, cleaning operations are activities that could be heard by nearby residents during nighttime hours and could be considered an annoyance, or even significant impacts if they exceed the County Noise Ordinance standards identified in **Table 4.8-2** and are not mitigated.

Fire trucks and paramedic units leaving the fire station site will use, on occasion, sirens and air horns. Information provided by the Los Angeles County Fire Department indicates that sirens are typically sounded, in emergency situations, when fire apparatus leave the fire stations and continue until they arrive at their destination. Sirens currently utilized by the Fire District are manufactured by Federal Signal, Model Q2B. This siren has been measured to have a noise level of 123 dB at 10 feet. Los Angeles County Noise Ordinance No. 11743, Section 12.08.570 exempts warning devices such as police, fire and ambulance sirens, and train horns that are necessary for the protection of public safety from standard noise decibel thresholds. Consequently, there would be no significant impacts from noise sources associated with the fire station and associated vehicles.

Point sources of noise from the parks could be 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 and observers, loud speakers, etc. Noise levels from these activities could exceed the County Noise Ordinance at residences within Landmark Village that are proposed in close proximity to the school and the public parks, resulting in a significant impact on the residents unless mitigated.

Specific residential lots that could be adversely affected by commercial and recreational activities on the site are depicted on **Table 4.8-6, On-Site Uses Potentially Impacted By On-Site Commercial and Recreational Activities**.

Table 4.8-6
On-Site Uses Potentially Impacted
By On-Site Commercial and Recreational Activities

Lots	Proposed Use	Point-Source Noise Generator
188–192, 310–315	Single Family Residential	Public Park on Lot 337
339, 343	Condominiums	Public Park on Lot 344
346	Condominiums	Mixed Use/Commercial uses proposed west of Wolcott Road
349	Apartments	Mixed Use/Commercial uses proposed west of Wolcott Road
354	Apartments	Mixed Use/Commercial uses proposed west of Long Canyon Road
376	Apartments	Mixed Use/Commercial uses proposed east of Long Canyon Road
416	Condominiums	Mixed Use/Commercial uses proposed east of Long Canyon Road

As previously mentioned, noise levels generated by operations at the Chiquita Canyon Landfill are very low (50 dB(A) or less) at the landfill property boundary and are imperceptible on the Landmark Village site. No other off-site point source noises would be audible at the Landmark Village site due to the on-site traffic noise from SR-126.

8. MITIGATION MEASURES

Although the proposed Landmark Village project may result in potential noise impacts absent mitigation, 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 noise, 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). In addition, this EIR identifies recommended mitigation measures specific to the Landmark 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 Landmark Village project to ensure that future development of the project site would not result in 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 Landmark Village Project

The following mitigation measures (Mitigation Measure Nos. 4.9-1 through 4.9-17, 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 noise impacts associated with the proposed Landmark Village project. These measures are preceded by "SP," which stands for Specific Plan.

(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, Section 12.08.440 as identified in [*Newhall Ranch 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.

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 4.8**, and the accompanying noise calculations presented in Recirculated Draft EIR **Appendix 4.8**, provide the acoustic 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 4.8**, and the accompanying noise calculations presented in Recirculated Draft EIR **Appendix 4.8**, provide the acoustic 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 4.8**, and the accompanying noise calculations presented in Recirculated Draft EIR **Appendix 4.8**, provide the acoustic 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, Section 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, Section 12.08.390 as identified in 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, Section 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 Section 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 Section 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. (*This mitigation measure is not applicable to the Landmark Village project because the project does not include lots located with direct lines-of-sight to the Magic Mountain Theme Park.*)

SP 4.9-14 After the time that occupancy of uses on the Newhall Ranch Specific Plan site occurs, AND when noise levels at the Travel Village RV Park 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 the RV Park to 70 dB(A) CNEL or less.

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 ADTs on SR-126 at the Little Red School House (numerator) to the total projected cumulative ADT increase at that location (denominator).[33] The total projected cumulative ADT increase shall be determined by subtracting the existing trips on SR-126[34] 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. (Prior to the issuance of building permits for Landmark Village, the project applicant shall calculate and pay to the Santa Clara Elementary School District the pro-rata share of the cost to construct the subject sound wall.) See, EIR Section 4.5, which determined that the Landmark Village project at buildout in 2010 would generate 105 ADTs on SR-126 at the Little Red School House (EIR **Table 4.7-22**). Section 4.5 also determined that the 2010 ADT on SR-126 at the Little Red School House would be 35,000 (EIR **Table 4.7-22**).

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33 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.

34 25,165 ADT using linear extrapolation from Table 1 of Topical Response 5 – Traffic Impacts to State and Local Roads in Ventura County.

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 ADTs on SR-23 north of the intersection of SR-23 and Casey Road (numerator) to the total projected cumulative ADT increase at that location (denominator).[35] The total projected cumulative ADT increase shall be determined by subtracting the existing trips on SR-23 north of Casey Road[36] 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. *(Prior to the issuance of building permits for Landmark Village, the project applicant shall calculate and pay to the City of Moorpark noise attenuation program the project's pro rata share of the estimated cost of attenuation.) See, EIR Section 4.5, which determined that the Landmark Village project at buildout in 2010 would generate 10 ADTs on SR-23 north of Casey Road (EIR* ***Table 4.7-22****). Section 4.5 also determined that the 2010 ADT on SR-23 at north of Casey Road would be 8,000 (EIR* ***Table 4.7-22****).*

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. *(****Section 4.8*** *of this EIR and the accompanying noise calculations (Recirculated Draft EIR* ***Appendix 4.8****) 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

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35 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).

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

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. (*This mitigation measure is not applicable to the Landmark Village project because the project site does not contribute to significant unmitigated cumulative noise impacts and no jurisdiction-wide noise programs have been adopted by the County.*)

b. Additional Mitigation Measures Proposed by this EIR

The following project-specific mitigation measures are recommended to mitigate the potentially significant noise impacts that may occur with implementation of the Landmark 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 Landmark Village project, each measure is preceded by "LV," which stands for Landmark Village.

(1) Construction Mitigation Measures

LV-4.8-1 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.

LV-4.8-2 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.

LV-4.8-3 Prior to construction of the utility corridor north of the Travel Village RV Park, the project applicant or its designee shall erect solid construction and continuous temporary noise barriers south of the utility corridor north of the RV Park without blocking ingress/egress at the Park. Prior to issuance of the construction permit for the utility corridor, a qualified acoustic consultant shall be retained to specify the placement and height of the noise barriers in order to maximize their effectiveness in attenuating noise levels. Construction activities

north of the RV Park shall comply with the Los Angeles County Noise Ordinance; stationary construction equipment shall be placed as far away from occupied spaces within the RV Park, and equipment shall not be permitted to idle. A qualified acoustic consultant shall be retained to monitor construction noise once a month at occupied RV spaces to ensure noise levels are in compliance with the County's Noise Ordinance for the duration of the construction.

LV-4.8-4 To the extent feasible, the project developer shall utilize cast-in-place drilled-hole piles in lieu of pile driving if residential units are constructed within 5,000 feet of the Long Canyon 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.[37] Therefore, pile drilling generally produces noise levels approximately 10 to 15 decibels lower than pile driving.

(2) Operational Mitigation Measures

LV-4.8-5 To mitigate noise impacts on Lots 8 to 12 and Lots 20 to 24 from traffic along "A" Street, the project applicant or its designee shall, prior to occupancy, construct a minimum 6-foot wall along the northern property lines of these lots.

LV-4.8-6 To mitigate noise impacts on Lots 115 to 128, 146 to 152, 188, and 313 from traffic along "A" Street, the project applicant or its designee shall, prior to occupancy, construct a minimum 5-foot wall along the northern property lines of these lots. The 5-foot wall shall wrap around the entire length of the eastern boundary of Lot 152.

LV-4.8-7 To mitigate noise impacts on Lots 325, 326, 349, and 350 (condominiums and apartments east of Wolcott Road) from traffic along SR-126, the project applicant or its designee shall, prior to occupancy, construct a 7-foot berm/solid wall at top of slope along northern edge of Lots 326, 325, 349 and350, to the northwestern corner of Lot 349. The berm/wall shall be continuous with no breaks or gaps.

LV-4.8-8 To mitigate noise impacts on Lots 343 and 377 (condominium) and on Lot 376 (apartment east of Long Canyon Road) from SR-126, the project applicant or its designee shall, prior to

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

occupancy, construct an 8-foot berm/solid wall along the northern edge of Lots 380, 381, 379, and 360. The berm/wall shall be continuous with no openings or gaps.

LV-4.8-9 Prior to occupancy of Lot 346 (condominiums), the project applicant or its designee shall construct an 8-foot berm/solid wall along the eastern boundary of Lot 345 (school) to mitigate any delivery truck/garbage truck/school bus noise impacts on Lot 346 to the east.

LV-4.8-10 To mitigate noise impacts on Lot 346 (condominiums west of Wolcott Road) from SR-126 the project applicant or its designee shall, prior to occupancy, construct a 10-foot berm/solid wall along the northern edge of Lot 346 from its northeastern corner to a point approximately 325 feet to the west along the lot line. From this point, a 10-foot berm/ solid wall shall be constructed through Lot 383 (open space) to the edge of the Caltrans right-of-way where the wall shall continue westerly to the northwestern corner of Open Space Lot 383. The wall shall be continuous with no openings or gaps.

LV-4.8-11 Prior to occupancy of Lot 346 (condominium west of Wolcott Road), the project applicant or its designee, shall construct an 8-foot berm/solid wall along the eastern boundary of Lot 346 to mitigate delivery truck traffic noise from Lot 347 (mixed use commercial).

LV-4.8-12 To mitigate delivery truck and other noises from the commercial center west of Long Canyon Road on Lot 354 (apartments west of Long Canyon Road), the project applicant or its designee shall, prior to occupancy, construct an 8-foot berm/solid wall along the eastern perimeter of Lot 354.

LV-4.8-13 To mitigate noise impacts on Lot 354 (apartments west of Long Canyon Road) from SR-126, the project applicant or its designee shall, prior to occupancy, construct a 9-foot berm/solid wall along the northern boundary of Lot 354, and along the northern 200 feet of the western lot line. To preserve views of the Santa Clara River, 5/8-inch Plexiglas or transparent material with equivalent or better acoustic value may be incorporated into the wall design. In lieu of constructing the 9-foot berm/solid wall, the parcel shall be developed so that frequent use areas, including balconies, are placed towards the interior of the lot and fully shielded from noise from SR-126 by the apartment structure.

LV-4.8-14 To mitigate noise impacts on Lot 376 (apartments east of Long Canyon Road) from delivery truck and other noise from the commercial center proposed east of Long Canyon Road, the project applicant or its designee shall, prior to occupancy, construct an 8-foot berm/solid wall along the western boundary of Lot 376.

Table 4.8-7, On-Site Noise Levels with Recommended Sound Wall Mitigation at Santa Clarita Valley Buildout, presents the noise levels on selected on-site lots with implementation of **Mitigation Measures LV-4.8-5** through **LV-4.8-14**. In order to ensure the measures mitigate worst-case noise conditions, the noise levels in **Table 4.8-7** are calculated for traffic noise associated with Santa Clarita Valley build-out conditions for SR-126 and for project build-out conditions for "A" Street.

Table 4.8-7
On-Site Noise Levels with Recommended Sound Wall Mitigation at Santa Clarita Valley Buildout

Lot No.	Recom. Barrier	Proposed Land Use	TOS (CNEL)	Predominant Vehicular Noise Source	CNEL SCV Buildout	Exceeds TOS By (dB) [3]
11	6'	Single Family	60	"A" Street	59	-1
22	6'	Single Family	60	"A" Street	57	-3
92	None	Single Family	60	SR-126	52	-8
98	None	Single Family	60	SR-126	54	-6
103	None	Single Family	60	SR-126	55	-5
105	None	Single Family	60	SR-126	56	-4
107	None	Single Family	60	SR-126	56	-4
110	None	Single Family	60	SR-126	58	-2
112	None	Single Family	60	SR-126	60	0
114	None	Single Family	60	SR-126	56	-4
115	6'	Single Family	60	"A" Street	56	-4
119	6'	Single Family	60	"A" Street	57	-3
122	6'	Single Family	60	"A" Street	57	-3
126	6'	Single Family	60	"A" Street	58	-2
128	6'	Single Family	60	"A" Street	58	-2
146	6'	Single Family	60	"A" Street	57	-3
152	6'	Single Family	60	"A" Street	59	-1
188	6'	Single Family	60	"A" Street	57	-3
315	6'	Single Family	60	"A" Street	58	-2
325	7'	Condominium	65	SR-126	65	0
326	7'	Condominium	65	SR-126	64	-2
329	None	Condominium	65	"A" Street	63	-2
330	None	Recreation	70	"A" Street	66	-4
331	None	Condominium	65	"A" Street	65	0
332/333	None	Mixed Use	45	Comb.	63	--
337	None	Park	70	"A" Street	63	-7
338	None	Condominium	65	"A" Street	64	-1

Lot No.	Recom. Barrier	Proposed Land Use	TOS (CNEL)	Predominant Vehicular Noise Source	CNEL SCV Buildout	Exceeds TOS By (dB) [3]
339	None	Condominium	65	"A" Street	63	-2
340	None	Recreation	70	"A" Street	64	-6
341	None	Condominium	65	"A" Street	64	-1
342	None	Condominium	65	"A" Street	63	-2
343	8'	Condominium	65	SR-126	65	0
343	None	Condominium	65	"A" Street	62	-2
344	None	Park	70	SR-126	66	-4
344	None	Park	70	"A" Street	62	-8
345	None	School	70	SR-126	67	-3
345	None	School	70	"A" Street	62	-8
346	10′	Condominium	65	SR-126	65	0
346	None	Condominium	65	"A" Street	63	-2
347	None	Mixed Use/ Commercial	45	Combin.[2]	64	--
349	None	Apartment	65	"A" Street	65	0
349	7'	Apartment	65	SR-126	64	-1
350	None	Condominium	65	"A" Street	65	0
350	7'	Condominium	65	SR-126	62	-3
351	None	Mixed Use/ Commercial	45	Long Canyon Rd	66	--
352	None	Mixed Use/ Commercial	45	Long Canyon Rd	68	--
354	None	Apartment	65	SR-126 (facing river)	61	-4
354	9'	Apartment	65	SR-126	65	0
357	None	Mixed Use/ Commercial	45	SR-126	68	--
361	None	Mixed Use/ Commercial	45	SR-126	67	--
367	None	Mixed Use/ Commercial	45	Long Canyon Rd	67	--
370	None	Mixed Use/ Commercial	45	Long Canyon Rd	66	--
371	None	Mixed Use/ Commercial	45	SR-126	65	--
375	None	Mixed Use/ Commercial	45	"A" Street	61	--
376	8'	Apartment	65	SR-126	64	-1
376	None	Apartment	65	"A" Street	63	-2
377	8'	Condominium	65	SR-126	65	0
377	None	Condominium	65	"A" Street	64	-1

Lot No.	Recom. Barrier	Proposed Land Use	TOS (CNEL)	Predominant Vehicular Noise Source	CNEL SCV Buildout	Exceeds TOS By (dB) [3]
384	None	Mixed Use/ Commercial	45	SR-126	71	--
385	None	Mixed Use/ Commercial	45	SR-126	72	--
388	None	Mixed Use/ Commercial	45	SR-126	71	--
389	None	Mixed Use/ Commercial	45	SR-126	71	--
403	None	Park	70	Long Canyon Rd	62	-8
416	None	Condominium	65	"A" Street	62	-3

Source: Impact Sciences, Inc. Noise calculations are presented in Recirculated Draft EIR ***Appendix 4.8*** *of this EIR.*
TOS = threshold of significance
[1] *The threshold of significance for residences in mixed use commercial is 45 dB(A) CNEL.*
[2] *Vehicular noise source is a combination of SR-126, Wolcott Road, and "A" Street.*
[3] *No numeric value is given for Mixed Use Commercial uses because interior noise levels are based upon building construction and location of residences within the commercial centers. For lots designated mixed use commercial, only the residential units that may occur within these lots would be significantly impacted if interior noise levels exceed 45 dB(A) between 7:00 AM and 10:00 PM with the windows in their normal seasonal confirmation.*

The locations of proposed sound attenuation barriers are illustrated on **Figure 4.8-5, Recommended Noise Wall Locations**. **Table 4.8-7** shows that noise levels on some lots would decrease compared to the without mitigation noise levels shown in **Table 4.8-5** even though no sound walls are proposed. The noise reductions are due to intervening noise walls recommended for lots to the north that would also attenuate noise in other locations within Landmark Village. Noise levels at these locations also have the potential to be further reduced after buildings, which would act as structural noise barriers, between SR-126 and these locations are constructed.

As shown in the **Table 4.8-7**, noise impacts on all single- and multi-family residential lots would be reduced to less than significant levels with implementation of the recommended mitigation measures. With respect to the lots designated Mixed Use/Commercial, because there is the potential for residential uses to occur on these lots, the following additional mitigation measures are recommended to ensure that interior noise levels will be reduced to levels below 45 dB(A) between the hours of 7:00 AM and 10:00 PM.

LV-4.8-15 Residences within mixed-use commercial areas shall be discouraged within 500 feet of the centerline of SR-126. Residences that do occur within mixed use commercial lots shall be set back as far as possible from SR-126, Wolcott Road, Long Canyon Road, and "A" Street in order to minimize the need for acoustic insulation of the units. When the plot plan for the

commercial centers are complete, acoustic analyses shall be conducted by a qualified acoustic consultant to ensure that interior noise levels of any residences within the commercial centers can be feasibly reduced to 45 dB(A).

LV-4.8-16 Balconies with direct lines of sight to SR-126, Wolcott Road, Long Canyon Road, and/or "A" Street 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.

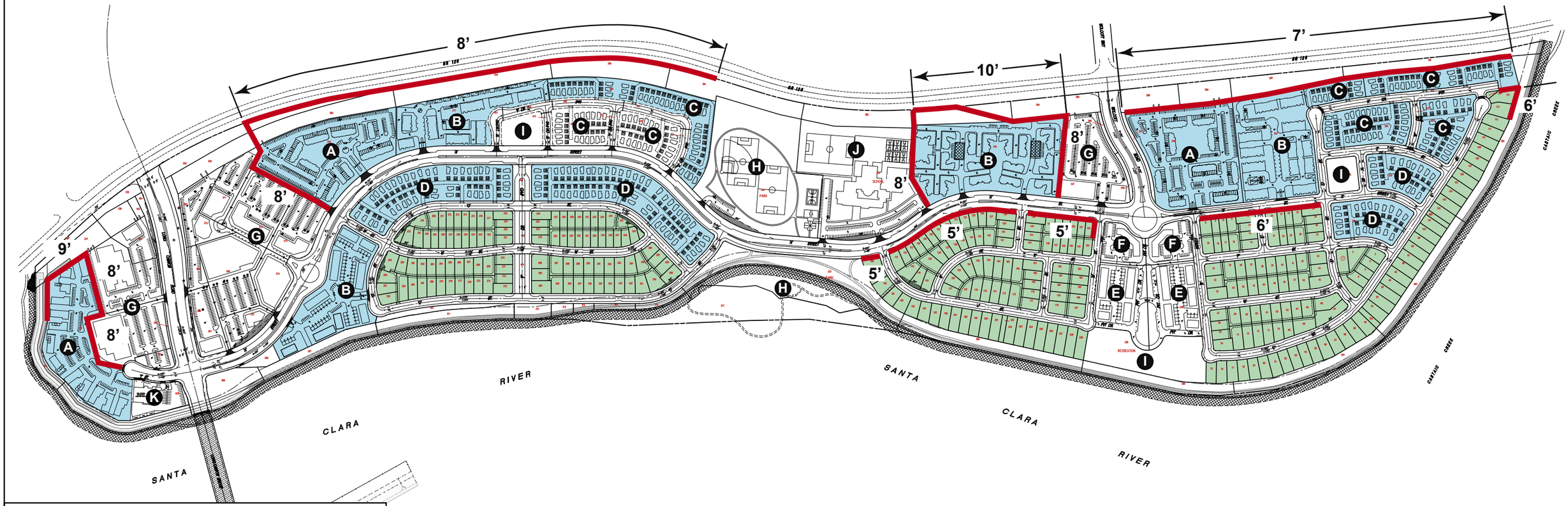
LV-4.8-17 All single family and multi-family structures, including multi-family units incorporated into commercial centers, within 500 feet of SR-126 and all residential units with direct lines of sight to SR-126 and/or "A" Street shall incorporate the following into the exterior wall that faces onto 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.

LV-4.8-18 Air conditioning units shall be installed to serve all living areas of all residences incorporated into commercial centers, and those with direct lines of sight to SR-126 and/or "A" Street so that windows may remain closed without compromising the comfort of the occupants.



Legend:

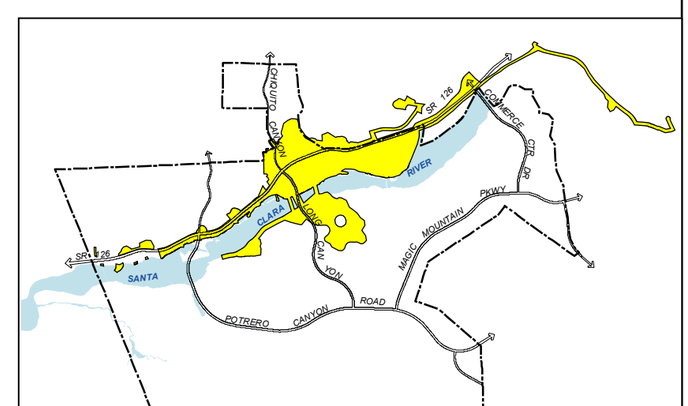
- Noise Walls
- Single-Family Detached
- Multi-Family Attached and Detached

Land Use:

- A Apartment – 3 Story
- B Condominium – 3 Story
- C Detached Condominium – 2 Story (32' MDE-Condo 1)
- D Detached Condominium – 2 Story (38' MDE-Condo 2)
- E Mixed Use/Condominium – 2 Story
- F Mixed Use/Commercial – 2 Story
- G Commercial
- H Park
- I Recreation
- J School
- K Fire Station

600 300 0 600

APPROXIMATE SCALE IN FEET



SOURCE: PSOMAS – August 2004, Impact Sciences, Inc. – September 2006

FIGURE **4.8-5**

Recommended Noise Wall Locations

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9. CUMULATIVE IMPACTS

Cumulative noise impacts would primarily occur as a result of increased traffic on SR-126 and on local roadways due to the proposed project and other developments in the Santa Clarita Valley. As previously noted, the only noise sensitive uses in the project study area is the Travel Village RV Park. As discussed above, the noise impact at Travel Village in 2010 without the project would be 71.0 dB(A) CNEL. With buildout of the Landmark Village project, the noise impact would be 73.1 dB(A) CNEL. Because existing noise levels at Travel Village RV Park would already exceed the *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. Cumulative 2010 traffic noise impacts at the residences northwest of Chiquito Canyon Road/SR-126 would be less than significant.

Although the Landmark Village project would not cause significant cumulative noise impacts in Ventura County, Landmark 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 program. 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 for in the Newhall Ranch Specific Plan Program EIR under Mitigation Measure 4.9-14. A noise impact analysis for the RV Park was performed using SOUND32/2000 and it was determined that a 5-foot solid wall along the northern property line of the Park would reduce noise impacts from traffic along SR-126 at sensitive receptors in the Park to less than significant at Santa Clarita Valley buildout. No other cumulative mitigation measures are required.

11. SIGNIFICANT UNAVOIDABLE IMPACTS

a. Project-Specific 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 Long Canyon Road Bridge instead of pile drilling, and should the project applicant not find it feasible to complete the pile driving prior to occupancy of on-site noise-sensitive uses within 5,000 feet of the pile driving, a short-term significant unavoidable construction noise impact would occur. Noise impacts from the pile driving

would be unavoidably significant within 5,000 feet of the pile driving for the duration of the pile driving. Short-term noise impacts from pile drilling would also be significant at noise sensitive uses within 1,600 feet of the pile drilling. Furthermore, construction within the utility corridor immediately north of Travel Village RV Park could expose occupants of the RV Park to up to 93 dB(A) during its construction. Mitigation is recommended to reduce this noise impact to less than significant; however, even with the mitigation measures in place if individuals are exposed to noise impacts greater than permitted under the County's Noise Ordinance, the project would result in a significant unavoidable temporary noise impact during construction activities in the utility corridor north of Travel Village RV Park.

b. Cumulative Impacts

Construction of the recommended 5-foot solid wall to reduce traffic noise levels from SR-126 at the Travel Village RV Park to 70 dB(A) CNEL or less, as required under the Newhall Ranch Specific Plan Program EIR, would mitigate the significant cumulative noise level increase at this location to a level below significant. With its construction, no significant unavoidable noise impacts would result from cumulative development.

4.9 AIR QUALITY

1. SUMMARY

Implementation of the Landmark 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 carbon monoxide (CO), volatile organic compounds (VOC), and oxides of nitrogen (NO_x) would exceed the thresholds of significance recommended by the South Coast Air Quality Management District (SCAQMD) for all but one construction subphase. The analysis of local significance threshold (LST) impacts suggests that fine particulate matter (PM_{10}) emissions could exceed the limitations in SCAQMD Rule 403. While the nitrogen dioxide (NO_2) concentrations exceed the LST thresholds, the California Ambient Air Quality Standards (CAAQS) would be exceeded only if (1) the actual background concentrations were as high as those on which the LSTs are based during the worst-case construction day; (2) the amount of construction activity (e.g., number and types of equipment, hours of operation) assumed in this analysis actually occurred; and (3) the meteorological conditions in the data set used in the dispersion modeling analysis occurred in the vicinity of the project site on the worst-case construction day.

At project buildout, operational emissions of CO, VOC, NO_x, and PM_{10} would exceed SCAQMD thresholds, primarily due to mobile source emissions in the summertime and to mobile source and wood-burning fireplace emissions in the wintertime.

No project land use would be exposed to CO hotspots and the project would not cause a CO hotspot at other locations of sensitive receptors in the project study area. In addition, population growth attributed to the project is consistent with the approved Newhall Ranch Specific Plan and is within growth forecasts contained in the 2001 Regional Transportation Plan (2001 RTP) prepared by the Southern California Association of Governments (SCAG).[1] The 2001 RTP forms the basis for the land use and transportation control portions of the 2003 Air Quality Management Plan (2003 AQMP). Because the project is within the growth forecasts for the region, it would, consequently, be consistent with the 2003 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 (Basin).

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1 The 2001 RTP was updated by SCAG in April 2004. The 2004 RTP includes the approved Newhall Ranch Specific Plan within its growth forecasts. Since the 2004 RTP was prepared after the 2003 AQMP was adopted, this EIR section relies on the 2003 AQMP and, therefore, the 2001 RTP.

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 CO, VOC, NO_x, or PM_{10} to below the SCAQMD's recommended thresholds of significance.[2] *No feasible mitigation exists to reduce the project's operational emissions of CO, VOC, NO_x, or PM_{10} to less than significant. Therefore, the project's construction-related and operation-related emissions would be considered significant and unavoidable.*

The SCAQMD's criteria of annual emission reductions of one percent for CO, VOC, NO_x, PM_{10}, and Sulfur Oxide (SO_x), were used to assess cumulative air quality impacts. Through site planning, proposed design features, and with implementation of the mitigation measures recommended in this section, the project would reduce wintertime emissions for CO, VOC, NO_x, and PM_{10} by 37.8, 83.1, 14.0, and 45.4 percent, respectively. During the summer, these emissions would be reduced by 9.7, 15.5, 12.0, and 9.6 percent, respectively. Therefore, cumulative air quality impacts would not be significant given the cumulative project thresholds of significance found in the SCAQMD's California Environmental Quality Act (CEQA) Air Quality Handbook,[3] *and the fact that the project's population forecast is consistent with the SCAQMD's 2003 AQMP. However, because the project's operational-related CO, VOC, NO_x, and PM_{10} emissions would exceed the SCAQMD's project-specific thresholds of significance, even with all feasible mitigation, project implementation would result in cumulatively significant and unavoidable air quality impacts. This is considered a conservative and "worst-case" approach for estimating the project's cumulative air quality impacts.*

All citations to sources and source materials 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 4.10 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. The Newhall Ranch Specific Plan mitigation program was adopted by the County in findings and in revised Mitigation Monitoring Plans for both the Specific Plan

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2 CO emissions would only exceed SCAQMD's threshold of significance for six weeks during the 54-month construction period, and PM_{10} emissions would only exceed the thresholds of significance during project on- and off-site grading operations.

3 The *CEQA Air Quality Handbook* is in the process of being revised and replaced by an *Air Quality Analysis Guidance Handbook* (*Air Quality Guidance Handbook*). As of May 2006, the SCAQMD has revised Chapters 1-9 (www.aqmd.gov/ceqa/hdbk.html), but it is not yet completed.

and Water Reclamation Plant (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 has indicated that subsequent project-specific development plans and tentative subdivision maps must employ all feasible operational emission reduction measures contained in the SCAQMD *CEQA Air Quality Handbook*, and be consistent with both the Newhall Ranch Specific Plan, adopted May 2003, 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. **Section 4.9** describes the Landmark Village project's existing conditions, analyzes the project's impacts on local and regional air quality, and identifies the applicable mitigation measures from the Newhall Ranch Specific Plan Program EIR, as well as mitigation measures recommended by this EIR for the Landmark Village project.

3. SUMMARY NEWHALL RANCH SPECIFIC PLAN PROGRAM EIR FINDINGS

The Specific Plan's construction and operational emissions were considered significant and unavoidable. The recommended mitigation measures were found to reduce the magnitude of the Specific Plan's construction and operational emissions to some extent.[4] However, no feasible mitigation existed that would have reduced these emissions to below the SCAQMD's recommended thresholds of significance.

While the Specific Plan's air emissions would be significant, Newhall Ranch was designed to reduce vehicle miles traveled (VMT) when compared to more conventional, or non-village, designs. The Specific Plan is also consistent with SCAQMD's 2003 AQMP, and, based on SCAQMD methods of analysis, its emissions would 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 Specific Plan's significant cumulative air quality impact remains significant and unavoidable.

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4 See Mitigation Measures 4.10-1 through 4.10-14 in both the certified Newhall Ranch Specific Plan Program EIR and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

4. AIR QUALITY BACKGROUND

The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-County Basin (Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties), the Riverside County portions of the Salton Sea Air Basin (SSAB), and Mojave Desert Air Basin (MDAB). The project site is located within the Basin, which is bound by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east (see **Figure 4.9-1, South Coast Air Basin**). The project site is not located within either the SSAB or the MDAB.

The Basin consistently generates the highest levels of smog in the United States and is considered to have the worst air quality in the nation. The factors that influence this determination are discussed below.

a. Smog and Its Causes

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 VOC and NO_x, undergo photochemical reactions in sunlight to form ozone (O_3). O_3 is a gas that, in the upper atmosphere, helps to shield the earth from harmful radiation. However, in the lower atmosphere where people live, O_3 poses health risks and damages crops, rubber, and other materials. Particulates, such as soil and dust materials, and vehicle exhaust particulates often mix with O_3, CO, and other compounds and create a brownish haze in the air. "Smog episode" warnings are issued when an occurrence of high concentrations of O_3 is predicted that could endanger or cause harm to the public.[5]

The topography and climate of the Basin combine to make it an area of high smog potential. 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 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 or more, there will be no important smog effects. A summary of local climatic conditions is provided later in this section.[6]

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5 SCAQMD, *CEQA Air Quality Handbook*, (Diamond Bar, California: SCAQMD, April 1993), p. G1s-7.

6 SCAQMD, *Air Quality Guidance Handbook*, (Diamond Bar, California: SCAQMD, November 2001), pp. 3-17–3-18. This document may be reviewed on-line at http://www.aqmd.gov/ceqa/hdbk.html.

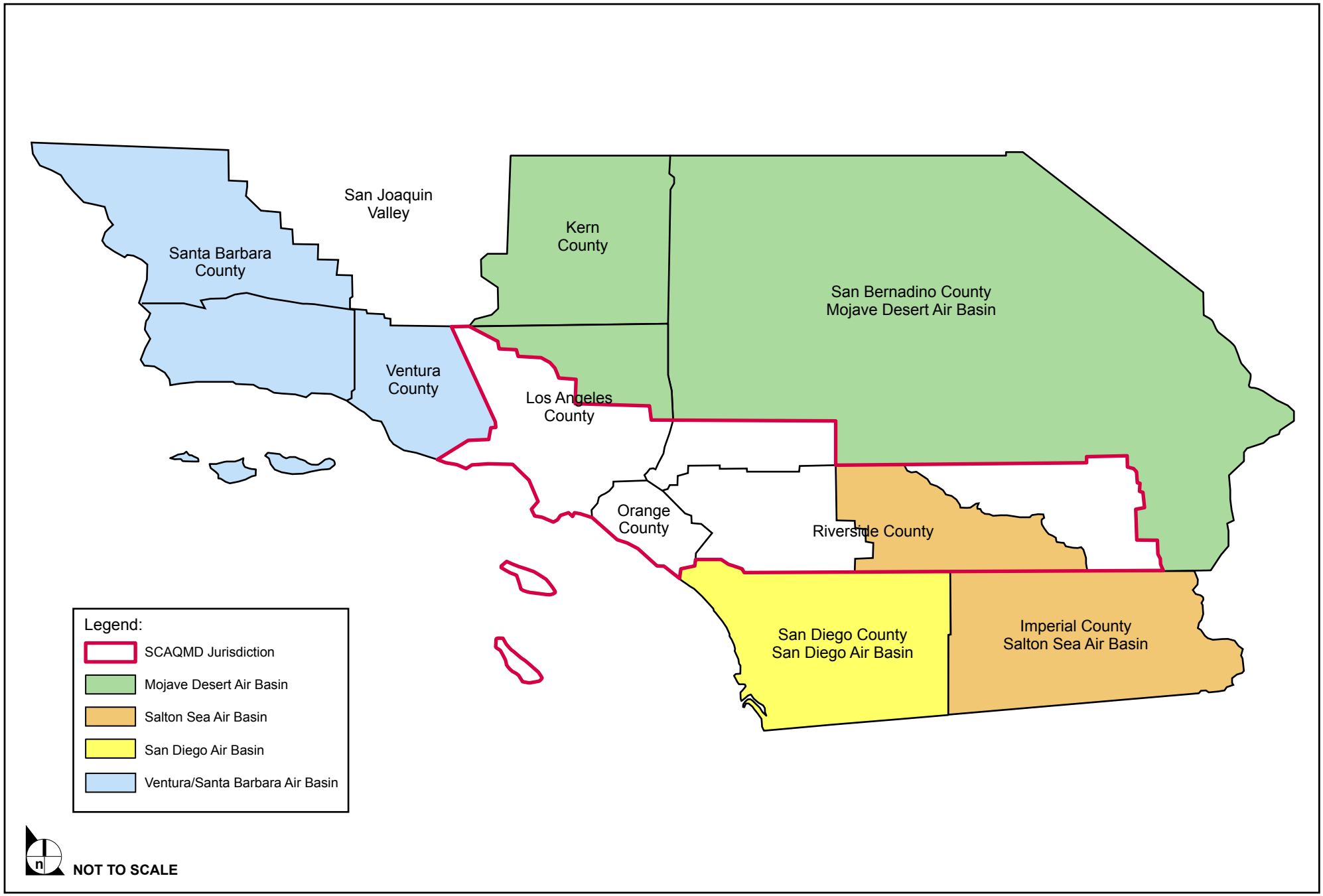

FIGURE **4.9-1**

South Coast Air Basin

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The air pollutants within the Basin are generated by both stationary and mobile sources. One type of stationary source is known as a "point source," which has one or more emission sources at a single facility. The other type of stationary source is the "area source," which is widely distributed and produces many small emissions.

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. Examples of area sources include residential water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products, such as barbecue lighter fluid or hair spray. "Mobile sources" refer to operational and evaporative emissions from motor vehicles,[7] account for nearly 99 percent of the CO emissions, approximately 77 percent of the SO_x emissions, 88 percent of the NO_x emissions, and 65 percent of the VOC found within the Basin.[8]

b. Regulatory Agencies and Responsibilities

Air quality within the Basin 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. The agencies primarily responsible for improving the air quality within the Basin are discussed below along with their individual responsibilities.

(1) U.S. Environmental Protection Agency (U.S. EPA)

The U.S. EPA is responsible for enforcing the federal Clean Air Act (CAA) and the National Ambient Air Quality Standards (NAAQS). The NAAQS standards identify levels of air quality for seven "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The seven criteria pollutants include O_3, CO, NO_2 (a form of NO_x), SO_2 (a form of SO_x), PM_{10}, $PM_{2.5}$, and lead (Pb).[9]

In response to its enforcement responsibilities, the U.S. EPA requires each state to prepare and submit a State Implementation Plan (SIP) that describes how the state will achieve the federal standards by specified dates, depending on the severity of the air quality within the state or air basin. The Basin is

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7 *Ibid.*, p. 3-2.

8 *Ibid.*, p. 3-17.

9 *Ibid.*, p. 2-2.

classified by the U.S. EPA as a severe-17 nonattainment area for the 8-hour O_3 standard,[10,11] a serious nonattainment area for PM_{10},[12] a nonattainment area for $PM_{2.5}$,[13] and a serious nonattainment area for CO.[14]

Under the compliance timetables in the 1990 Amendments to the CAA that pertain to O_3, the Basin was originally to achieve attainment status for O_3 within 20 years (i.e., by November 15, 2010). To do so, the Basin was to show a 15 percent reduction from its 1990 Basin-wide emissions inventory within six years from the enactment date of the CAA, and a 3 percent annual reduction thereafter for the remainder of the 20 years. In July 1997, the U.S. EPA announced new health-based standards for O_3. The former 1-hour O_3 standard was revoked on June 15, 2005, and attainment is no longer required. The SCAQMD now has until June 15, 2021 at the latest to meet the 8-hour O_3 standard. For the other nonattainment pollutants, the Basin must achieve attainment status by the most expeditious date that can be achieved, but no later than five years from the date the area was designated nonattainment. If the Basin experiences difficulty doing so, the U.S. EPA may extend the period for attainment for an additional 10 years. According to the 2003 AQMP, the Basin has met the federal standards for both NO_2 and CO. In May 2007, the U.S. EPA redesignated the Basin as attainment for CO.

In addition, in 1997, the U.S. EPA announced a new standard for particulate matter under the NAAQS: $PM_{2.5}$. A subset of PM_{10}, $PM_{2.5}$ refers to particulate matter that is 2.5 micrometers or smaller in size, or approximately 1/30 the diameter of a human hair. 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 SO_2, NO_2, and VOC (all of which are also products of fuel combustion), are transformed in the air by chemical reactions. Fine particles are of concern because they can be deeply inhaled and can put human health at

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10 U.S. Environmental Protection Agency. "8-Hour Ozone Areas Listed by Category/Classification as of March 2, 2006." [Online] 22 May 2006. <http://www.epa.gov/air/oaqps/greenbk/gnc.html>. On April 30, 2004, the EPA published designations of nonattainment areas with respect to the 8-hour ozone standard. The Basin was designated as "severe-17" nonattainment for the purposes of this standard. Severe-17 nonattainment areas have an attainment date of June 15, 2021 (17 years after the effective date of the designation) to comply with the 8-hour ozone standard. This designation commences a new round of planning to demonstrate compliance with the 8-hour standard.

11 U.S. Environmental Protection Agency. "Green Book 8-Hour Ozone Nonattainment Areas." [Online] 22 May 2006. <http://www.epa.gov/air/oaqps/greenbk/ca8.html>.

12 U.S. Environmental Protection Agency. "Particulate Matter Nonattainment Area Map." [Online] 22 May 2006. <http://www.epa.gov/air/oaqps/greenbk/mappm10.html>.
U.S. Environmental Protection Agency. "Particulate Matter Nonattainment Areas as of March 2, 2006." [Online] 22 May 2006. http://www.epa.gov/air/oaqps/greenbk/pntc.html.

13 U.S. Environmental Protection Agency. "Counties Designated Nonattainment for PM-2.5." [Online] August 17, 2007. <http://www.epa.gov/air/oaqps/greenbk/mappm25.html>.

14 U.S. Environmental Protection Agency. "Carbon Monoxide Nonattainment Area Map." [Online] 22 May 2006. <http://www.epa.gov/air/oaqps/greenbk/losangc.html>.

risk, particularly the health of children. The standards that the U.S. EPA set for $PM_{2.5}$ in 1997 include an annual-average standard of 15 micrograms per cubic meter ($\mu g/m^3$) and a 24-hour standard of 65 $\mu g/m^3$. The SCAB is currently classified by the U.S. EPA as a nonattainment area with respect to the $PM_{2.5}$ standard.[15] The SCAQMD has until 2015 at the latest to meet the federal $PM_{2.5}$ standard.

No model to predict emissions of $PM_{2.5}$ from future development project exists and the SCAQMD has not established emission-based threshold of significance for $PM_{2.5}$ at the time of this writing. Because no model is currently available to assess potential $PM_{2.5}$ impacts from new land development projects, they cannot be assessed separately from the impacts of PM_{10} emissions as a whole.[16] However, because $PM_{2.5}$ is a subset of PM_{10}, as described above, the project's $PM_{2.5}$ emissions are inherently calculated along with PM_{10} emissions.

(2) California Air Resources Board

The California Air Resources Board (ARB), a department of the California Environmental Protection Agency (CalEPA), oversees air quality planning and control throughout California. It is primarily responsible for ensuring implementation of the 1989 amendments to the California Clean Air Act (CCAA), responding to the federal CAA requirements to establish state ambient air quality standards, and for regulating emissions from motor vehicles and consumer products within the state. The ARB has established emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. It also sets passenger vehicle fuel specifications to further reduce vehicular emissions.[17]

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

In 1997, after receiving the new U.S. EPA standards, the ARB and Office of Environmental Health Hazard Assessment staff reviewed the scientific literature on the health effects of exposure to particulate matter, and recommended lowering the existing state standard for PM_{10} and adopting a lower standard for

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15 U.S. Environmental Protection Agency. "Particulate Matter (PM-2.5) Nonattainment Areas as of March 2, 2006." [Online] 22 May 2006. <http://www.epa.gov/air/oaqps/greenbk/qnc.html>.

16 Telephone conversation with Patrick Gaffney, Air Pollution Specialist, California Air Resources Board, Planning and Technical Support, Inventory Branch, March 11, 2003.

17 SCAQMD, *Air Quality Guidance Handbook*, (Diamond Bar, California: SCAQMD, November 2001), p. 2-2. This document may be reviewed on-line at http://www.aqmd.gov/ceqa/hdbk.html.

$PM_{2.5}$.[18] Staff specifically recommended that the annual-average standard for PM_{10} be lowered from 30 μg/m^3 to 20 μg/m^3 (the 24-hour-average standard of 50 μg/m^3 for PM_{10} would be retained), and that the new annual-average standard for $PM_{2.5}$ in California be established at 12 μg/m^3, which is less than the federal standard of 15 μg/m^3 (17 Cal.CodeRegs. Section 70200). These standards were adopted by the ARB in June 2002, approved by the Office of Administrative Law (OAL) on June 5, 2003, and became effective on July 5, 2003. The ARB also will consider establishing a 24-hour $PM_{2.5}$ state standard in the future; however, the timing of the adoption of this latter standard is currently unknown.

Health and Safety Code Section 39607(e) requires the ARB to establish and periodically review area designation criteria. These designation criteria provide the basis for the ARB to designate areas of the state as "attainment," "nonattainment," or "unclassified" for the state standards. In addition, Health and Safety Code Section 39608 requires the ARB to use the designation criteria to designate areas of California and to annually review those area designations. The ARB makes area designations for 10 criteria pollutants: O_3, CO, NO_2, SO_2, $PM_{2.5}$, PM_{10}, sulfates, Pb, hydrogen sulfide, and visibility-reducing particles.[19] Currently, the ARB has not established area designations for vinyl chloride;[20] however, the ARB has identified vinyl chloride as a Toxic Air Contaminant (TAC) with an undetermined threshold level of exposure for adverse health effects. Therefore, vinyl chloride is addressed on a project-by-project basis. As discussed below, this project is not expected to emit vinyl chloride or other criteria pollutants, such as sulfates, Pb, hydrogen sulfide, and visibility-reducing particles.

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18 California Air Resources Board. "Review of the Ambient Air Quality Standards for Particulate Matter and Sulfates; Standards Review Schedule." [Online] 16 June 2003. <http://www.arb.ca.gov/research/aaqs/std-rs/std-rs.htm>.

19 California Air Resources Board. "Area Designations (Activities and Maps)." [Online] 22 December 2003. <http://www.arb.ca.gov/desig/desig.htm>. Written communication with Marcy Nystrom, California Air Resources Board, December 24, 2003, stating that state law requires the ARB to make area designations for pollutants with state standards listed in Title 17 of the California Code of Regulations, Section 70200. However, vinyl chloride is not included in this section of the California Code of Regulations; therefore, the ARB does not make area designations for vinyl chloride.

20 *Ibid.*

The ARB has designated the Basin as an attainment area for CO[21] and sulfates,[22] unclassified for hydrogen sulfide,[23] and an attainment or unclassified area for NO_2, SO_2, Pb, and visibility-reducing particles.[24] The ARB has not established area designations for vinyl chloride. The ARB has designated the Basin as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. For areas classified as nonattainment, the CCAA requires that the SCAQMD prepare an air quality management plan with specific emission reduction strategies, and to meet specified milestones in implementing emission controls to achieve more healthful air. New control strategies are to include an indirect and area source control program, best available retrofit control technology for existing sources, a program to mitigate all 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 or methanol-powered 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.

The ARB approved staff recommendations to amend the ozone standard on April 28, 2005, by adding a new 8-hour standard. On April 17, 2006, the state's 8-hour ozone standard was approved by the OAL, and became effective May 17, 2006. The new 8-hour state standard of 0.070 parts per million (ppm) is more stringent than the 8-hour federal standard of 0.08 ppm.

In the early 1980s, the ARB established one of the nation's first comprehensive state air toxics programs. The Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807–1983), Health and Safety Code Section 36950, et seq., created California's program to reduce the health risks from air toxics. This law expanded the ARB's authority to evaluate and control air toxics.

An additional state law, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588–1987), 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 (Senate Bill [SB] 1731; Health and Safety Code Section 44390, et seq.) requires that the risk be reduced from these significant sources.

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21 California Air Resources Board. "State Area Designation Map: CO." [Online] 22 May 2006. <http://www.arb.ca.gov/desig/adm/s_co.htm>.

22 California Air Resources Board. "State Area Designation Map: Sulfates." [Online] 22 May 2006. <http://www.arb.ca.gov/desig/adm/s_sulfates.htm>.

23 California Air Resources Board. "State Area Designation Map: Hydrogen Sulfide." [Online] 22 May 2006. <http://www.arb.ca.gov/desig/adm/s_h2s.htm>.

24 California Air Resources Board. "Area Designation Maps/State and Federal." [Online] 22 May 2006. <http://www.arb.ca.gov/desig/adm/adm.htm>.

The goal of the ARB's Air Toxics Program is to protect the public health. It does this by reducing TACs that pose the highest risk to Californians. The ARB's program involves two separate steps. During the first step, risk assessment, the ARB identifies the highest risk substances (i.e., TACs). In the second or risk management step, the ARB and local air pollution control districts (APCD), such as the SCAQMD, investigate and adopt measures requiring air sources of TACs to minimize risk to public health.

The ARB maintains summaries and historical trends of TACs throughout the state, including the Basin.[25]

(3) Southern California Association of Governments (SCAG)

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.

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 Basin'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 its 2001 RTP,[26] which was used by the SCAQMD in the preparation of its 2003 AQMP,[27] discussed below.

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25 California Air Resources Board. "Air Quality Data Statistics." [Online] 22 December 2003. http://www.arb.ca.gov/adam/welcome.html.

26 The 2001 RTP, which was used as the basis for the 2003 AQMP, is available for public inspection and review at the County of Los Angeles Department of Regional Planning, as stated above, and incorporated by this reference. As noted above, the 2001 RTP was revised and replaced by SCAG in 2004.

27 SCAQMD. 2003 Air Quality Management Plan. [Online] 22 December 2003. <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, 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."

(4) South Coast Air Quality Management District (SCAQMD)

The management of air quality in the Basin is the responsibility of the SCAQMD. This responsibility was given to SCAQMD by the California Legislature's adoption of the 1977 Lewis-Presley Air Quality Management Act (Health and Safety Code Section 40400, et seq.), which merged four County air pollution control bodies into one regional district. Under the Act, SCAQMD is responsible for bringing air quality in the areas under its jurisdiction into conformity with federal and state air quality standards. Specifically, SCAQMD is responsible for monitoring ambient air pollutant levels throughout the Basin and for developing and implementing attainment strategies to ensure that future emissions will be within federal and state standards.

(a) SCAQMD 2003 AQMP

As discussed previously, the federal and state CAAs require the preparation of plans to bring air emissions within healthful levels. The SCAQMD has responded to this requirement by preparing a series of air quality management plans,[28] the most recent of which was adopted by the governing board on August 1, 2003. The purpose of the 2003 AQMP for the Basin (and those portions of the SSAB under the SCAQMD's jurisdiction) is 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 is 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.[29] The 2003 AQMP has been approved by the ARB, and it has been submitted to the U.S. EPA for review and approval as a SIP revision.

Success of the 2003 AQMP requires the cooperation of all levels of government: local, regional, state, and federal. Each level is represented in the 2003 AQMP by the appropriate agency or jurisdiction that has the authority over specific emissions sources, and for which each has specific planning and implementation responsibilities.[30]

The overall control strategy for the 2003 AQMP is designed to meet applicable state and federal requirements, including attainment with ambient air quality standards. The focus of the 2003 AQMP was

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28 For example, the SCAQMD amended the 1997 AQMP in 1999 to address the U.S. EPA's proposed disapproval of the 1997 Ozone State Implementation Plan (SIP) revision and to ensure that the 1997 AQMP complied with or exceeded federal requirements. The 1999 AQMP amendments to the 1997 AQMP were subsequently approved by the U.S. EPA into the SIP in April 2000. The SCAQMD updated the PM_{10} portion of the 1997 AQMP for both the Basin and Coachella Valley in 2002, as part of the district's request to extend the PM_{10} attainment date from 2001 to 2006 for these areas as allowed under the federal CAA. The U.S. EPA approved the 2002 update on April 18, 2003. See, SCAQMD. 2003 AQMP. [Online] 22 December 2003. http://www.aqmd.gov/aqmp/AQMD03AQMP.htm, p. 1-1.

29 *Ibid.*, p. 1-1.

30 *Ibid.*

to demonstrate attainment with the federal PM_{10} ambient air quality standard by 2006, and with the federal 1-hour ozone standard in 2010, while making expeditious progress toward attainment of state standards and upcoming new federal standards. Although the 2003 AQMP does not specifically address the new federal 8-hour ozone and $PM_{2.5}$ standards, it is designed to make continued progress toward meeting these standards. The 2003 AQMP relies upon the most recent planning assumptions and the best available information, such as the ARB's EMFAC2002 for on-road mobile source emissions inventory, ARB's off-road model for off-road mobile source emission inventory, latest point source and improved area source inventories, as well as the use of the 1997 O_3 episodes, expanded air quality modeling analysis, and SCAG's forecast assumptions based on its 2001 RTP.[31]

The 2003 AQMP was prepared to ensure compliance with the federal O_3 and PM_{10} standards, to accommodate growth, to reduce the high levels of criteria pollutants within the Basin, to meet state and federal air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. Principal control policies and measures for improving the Basin's air quality include extensive use of clean fuels, transportation control measures, market incentives, and facility permitting. Many of these policies and measures have been adopted as rules by the SCAQMD Governing Board or may be adopted as rules in the future.

The air quality levels projected in the 2003 AQMP are based on several assumptions. For example, the 2003 AQMP has assumed that development associated with general plans, specific plans, residential projects, and wastewater facilities will be constructed in accordance with population growth projections identified by SCAG in its 2001 RTP. The 2003 AQMP also has assumed that such development projects will implement strategies to reduce emissions generated during the construction and operational phases of development. The project's consistency with the 2003 AQMP is discussed later in this EIR section.

(b) SCAQMD Rules and Regulations

The SCAQMD is responsible for limiting the amount of emissions that can be generated throughout the Basin by various stationary, area, and mobile sources. Specific rules and regulations have been adopted by the SCAQMD Governing Board that limit 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

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31 SCAQMD. 2003 Air Quality Management Plan. [Online] 22 December 2003. http://www.aqmd.gov/aqmp/AQMD03AQMP.htm, p. 4-1. http://www.aqmd.gov/aqmp/AQMD03AQMP.htm.

and state criteria pollutants, but also TACs and acutely hazardous materials.[32] The rules are subject to ongoing refinement by SCAQMD.

In particular, stationary emissions sources subject to these rules are regulated through SCAQMD's permitting process. Through this permitting process, SCAQMD also monitors the amount of stationary emissions being generated and uses this information in developing the AQMP. The proposed project would be subject to SCAQMD rules and regulations to reduce specific emissions and to mitigate potential air quality impacts.

(c) SCAQMD's *CEQA Air Quality Handbook*

In April 1993, the SCAQMD prepared the *CEQA Air Quality Handbook* to assist local government agencies and consultants in preparing air quality impact analyses for projects subject to CEQA. It was later updated in November 1993 and is presently being updated by the district. The *CEQA Air Quality Handbook* is an advisory document and local jurisdictions are not required to utilize the methodology outlined therein, but it does describe the criteria that SCAQMD uses when reviewing and commenting on the adequacy of environmental documents, such as this EIR. It recommends thresholds for determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies mitigation measures to avoid or reduce air quality impacts. Although the *CEQA Air Quality Handbook* has been adopted by the Governing Board of the SCAQMD, it does not, nor does it intend to, supersede a local jurisdiction's CEQA procedures.

The *CEQA Air Quality Handbook*, last published in November 1993, is currently undergoing revision. The updated and revised document is referred to by the SCAQMD as the *Air Quality Analysis Guidance Handbook*. As of May 2006,[33] several sections of the *Air Quality Analysis Guidance Handbook* had been prepared, including revised significance thresholds and emission factors, air toxics analysis methodologies, and recommended mitigation measures. This EIR section was prepared following the recommendations of the SCAQMD found in the *CEQA Air Quality Handbook* and the revised sections of

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32 Assembly Bill 1807 (AB 1807) (Stats. 1983, Ch. 1047; Health and Safety Code Section 39650, et seq., Food and Agriculture Code Section 14021, et seq.), enacted in September 1983, sets forth a procedure for the identification and control of toxic air contaminants (TAC) in California. According to those statutes, the ARB is responsible for the identification and control of TACs, as discussed above. AB 1807 defines a TAC as an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health (Health and Safety Code Section 39655a). California Air Resources Board. "Toxic Air Contaminant Staff Report/Executive Summaries." [Online] 2 February 2004. <http://www.arb.ca.gov/toxics/summary/summary.htm>.

33 The most recently prepared and revised sections of the *Air Quality Analysis Guidance Handbook* are available for public inspection and review at the County of Los Angeles Department of Regional Planning, and incorporated by this reference.

the *Air Quality Analysis Guidance Handbook*, as well as more current recommendations for air quality modeling.[34]

(d) Santa Clarita Subregional Analysis

In November 2004, SCAQMD prepared a subregional analysis for the Santa Clarita Valley. The purpose of the 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, 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, simulated annual PM_{10} impact is projected to increase up to 5 micrograms per cubic meter;
- The maximum regional annual average PM_{10} impact is projected to occur near Newhall Ranch; and
- Future development would not cause violations of the federal annual average PM_{10} standard, but could cause possible violations of the state standard.
- 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 three percent of the County total and 2 percent of the basin total.

(5) Local Governments

Local governments, such as the County of Los Angeles, have the authority and responsibility to reduce air pollution through their police power 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 2003 AQMP. The 2003 AQMP assigns local governments certain responsibilities to assist the Basin in meeting air quality goals and policies. In general, a first step toward implementing a local government's responsibility is accomplished by identifying air quality goals, policies, and implementation measures in its General Plan. 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. In accordance with CEQA requirements and the CEQA review process, local governments assess the air quality impacts of projects they undertake or that occur within their

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34 SCAQMD recommends use of URBEMIS2002 as an alternative air quality model. Personal communication with Charles Blankson, Ph.D., SCAQMD, Diamond Bar, California, 8 November 2002.

jurisdictions, require mitigation of potential air quality impacts by conditioning discretionary permits, and monitor and enforce implementation of such mitigation.[35]

5. EXISTING CONDITIONS

a. Regional Climate[36]

The regional climate significantly influences the air quality in the Basin. Temperature, wind, humidity, precipitation, and even the amount of sunshine influence the quality of the air. In addition, the Basin is frequently subjected to an inversion layer that traps air pollutants. Temperature has an important influence on Basin wind flow, pollutant dispersion, vertical mixing, and photochemistry.

Annual average temperatures throughout the Basin 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.

Although the climate of the Basin can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of Basin climate. Humidity restricts visibility in the Basin, and the conversion of SO_2 to SO_4 is heightened in air with high relative humidity. The marine layer is an excellent environment for that conversion process, especially during the spring and summer months. The annual average relative humidity is 71 percent along the coast, and 59 percent inland. Because the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90 percent of the Basin's rainfall occurs from November through April (see **Table 4.9-1**, **Average Monthly Temperatures and Precipitation for Los Angeles International Airport, CA, 1961–1990**). 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

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35 SCAQMD, *CEQA Air Quality Handbook*, (Diamond Bar, California: SCAQMD, April 1993), p. 2-2; *Air Quality Guidance Handbook* (July 1999) pp. 2-8–2-10. The *Air Quality Guidance Handbook* may be reviewed online at http://www.aqmd.gov/ceqa/hdbk.html.

36 The information contained in this section, unless otherwise noted, primarily is derived from Appendix 8 to the *CEQA Air Quality Handbook*.

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 4.9-1
Average Monthly Temperatures and Precipitation for Los Angeles International Airport, CA, 1961–1990

Month	Mean Daily Temperatures (°F)		Mean Monthly Precipitation
	Maximum	Minimum	
January	65	47	2.40
February	66	49	2.51
March	65	50	1.98
April	68	53	0.72
May	69	56	0.14
June	72	60	0.03
July	75	63	0.01
August	76	64	0.15
September	76	63	0.31
October	74	59	0.34
November	71	52	1.76
December	66	48	1.66
	110 (high)	23 (low)	12.01 (total)

Source: 1999 Local Climatological Data, Annual Summary with Comparative Data, Los Angeles, California, International Airport.

Due to the generally clear weather, about 75 percent of available sunshine is received in the Basin. 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.[37] 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.

[37] 1999 Local Climatological Data, Annual Summary with Comparative Data, Los Angeles, California, International Airport. National Oceanic and Atmospheric Administration.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of air pollutants. During the late autumn to early spring rainy season, the Basin is subjected to wind flows associated with traveling storms moving through the region from the northwest. This period also brings 5 to 10 periods of strong, dry offshore winds (locally termed "Santa Anas") each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over Southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the Basin is the "Catalina Eddy," a low-level cyclonic (counterclockwise) flow centered over Santa Catalina Island, which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

The vertical dispersion of air pollutants in the Basin 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 Basin, 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 Basin. 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 Basin 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.

Conditions possibly affecting regional climate conditions include global warming. As discussed in Chapter 3 of the AQMD Guidelines:

> *Stratospheric ozone depletion" refers to the slow destruction of naturally occurring ozone, which lies in the upper atmosphere (called the stratosphere) and which protects Earth from the damaging effects of solar ultraviolet radiation. Figure 3-4 illustrates these reactions.*
>
> *Certain compounds, including chlorofluorocarbons (CFCs,) halons, carbon tetrachloride, methyl chloroform, and other halogenated compounds, accumulate in the lower atmosphere and then gradually migrate into the stratosphere. In the stratosphere, these compounds participate in complex chemical reactions to destroy the upper ozone layer. Destruction of the ozone layer increases the penetration of ultraviolet radiation to the Earth's surface, a known risk factor that can increase the incidence of skin cancers and cataracts, contribute to crop and fish damage, and further degrade air quality.*
>
> *Some gases in the atmosphere affect the Earth's heat balance by absorbing infrared radiation. This layer of gases in the atmosphere functions much the same as glass in a greenhouse (i.e., both prevent the escape of heat). This is why global warming is also known as the "greenhouse effect." Gases responsible for global warming and their relative contribution to the overall warming effect are carbon dioxide (55 percent), CFCs (24 percent), methane (15 percent), and nitrous oxide (6 percent). It is widely accepted that continued increases in greenhouse gases will contribute to global warming although there is uncertainty concerning the magnitude and timing of the warming trend.*
>
> *Global warming gases and ozone-depleting gases include, but are not limited to, the following:*
>
> - *Carbon dioxide. Carbon dioxide is caused by fossil fuel combustion in stationary and mobile sources. It contributes to the greenhouse effect, but not to stratospheric ozone depletion. In the Basin, approximately 48 percent of carbon dioxide emissions come from transportation, residential and utility sources contribute approximately 13 percent each, 20 percent come from industry, and the remainder come from a variety of other sources.*
>
> - *CFCs (chlorofluorocarbons). CFCs are emitted from blowing agents used in producing foam insulation. They are also used in air conditioners and refrigerators and as solvents to clean electronic microcircuits. CFCs are primary contributors to stratospheric ozone depletion and to global warming. Sixty-three percent of CFC emissions in the Basin come from the industrial sector (SCAQMD 1991).*

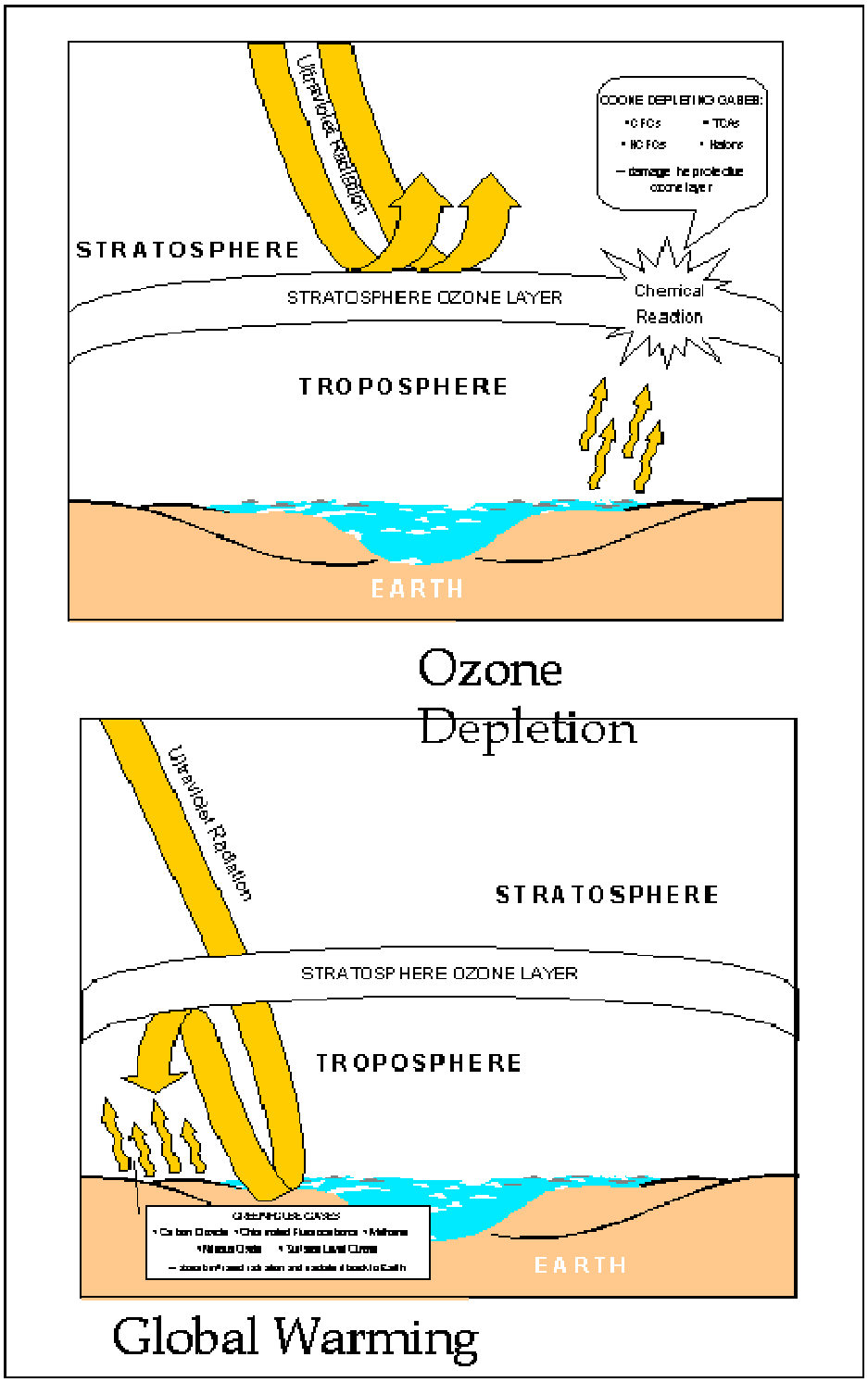

Figure 3-4
Stratospheric Ozone Depletion and Global Warming

- *Halons. Halons are used in fire extinguishers and behave as both ozone-depleting and greenhouse gases.*

- *HCFCs (Hydro-chlorofluorocarbons). HCFCs are solvents, similar in use and chemical composition to CFCs. The hydrogen component makes HCFCs more chemically reactive than CFCs, allowing them to break down more quickly in the atmosphere.*

- *Methane. Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, and leaks in natural gas pipelines. It is a greenhouse gas and traps heat 40-70 times more effectively than carbon dioxide. In the Basin, more than 50 percent of human-induced methane emissions come from natural gas pipelines, while landfills contribute 24 percent.*

- *1,1,1,-trichloroethane. 1,1,1,-trichloroethane or methyl chloroform is a solvent and cleaning agent commonly used by manufacturers. It is less destructive of the environment than CFCs or HCFCs, but its continued use will contribute to global warming and ozone depletion.*

b. Regional Air Quality

In this subsection, year 2001 regional air quality in the Basin monitored by the SCAQMD is compared to state and federal ambient air quality standards.[38] The following information, unless otherwise noted, is primarily derived from the SCAQMD's 2003 AQMP, Chapter 2 – Air Quality and Health Effects, and Appendix II – Current Air Quality.[39]

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 (those for which health standards have been set), and TACs (those that cause cancer or have adverse human health effects other than cancer).

(1) Criteria Pollutants

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

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38 According to the SCAQMD's 2003 AQMP, complete data for the year 2002 was not available at the time the AQMP was prepared. SCAQMD. *2003 Air Quality Management Plan*. [Online] 22 December 2003. <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Chapter 2, p. 2-1, fn.1.

39 SCAQMD. *2003 Air Quality Management Plan*. [Online] 22 December 2003. <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>.

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 Pb. These standards were established to protect exposed sensitive receptors from adverse health effect with a margin of safety. The California standards are more stringent than the federal standards, and in the case of PM_{10} and SO_2, the 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 4.9-2, Ambient Air Quality Standards**.

Table 4.9-2
Ambient Air Quality Standards1

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects[2]
	State Standard	Federal Primary Standard	
Ozone	0.070 ppm, 8-hr avg. 0.09 ppm, 1-hr. avg.	0.08 ppm, 8-hr avg. 0.12 ppm, 1-hr avg. (revoked 6/15/05)	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals, (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: 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; (c) Vegetation damage; (d) Property damage.
Carbon Monoxide	9.0 ppm, 8-hr avg. 20 ppm, 1-hr avg.	9 ppm, 8-hr avg. 35 ppm, 1-hr avg.	(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; (d) Possible increased risk to fetuses.
Nitrogen Dioxide	0.25 ppm, 1-hr avg.	0.0534 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; (c) Contribution to atmospheric discoloration.
Sulfur Dioxide	0.04 ppm, 24-hr avg. 0.25 ppm, 1-hr. avg.	0.030 ppm, annual arithmetic mean 0.14 ppm, 24-hr avg.	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
Suspended Particulate Matter (PM_{10})	20 $\mu g/m^3$, annual arithmetic mean 50 $\mu g/m^3$, 24-hr avg.	50 $\mu g/m^3$, annual arithmetic mean 150 $\mu g/m^3$, 24-hr avg.	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children.
Suspended Particulate Matter ($PM_{2.5}$)	12 $\mu g/m^3$, annual arithmetic mean	15 $\mu g/m^3$, annual arithmetic mean 65 $\mu g/m^3$, 24-hr avg.	(a) Increased hospital admissions and emergency room visits for heart and lung disease; (b) Increased respiratory symptoms and disease; and (c) Decrease lung functions and premature death.

Air Pollutant	Concentration/Averaging Time		Most Relevant Health Effects[2]
	State Standard	Federal Primary Standard	
Sulfates	25 μg/m^3, 24-hr avg.	None	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardiopulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage.
Lead*	1.5 μg/m^3, 30-day avg.	1.5 μg/m^3, calendar quarterly average	(a) Increased body burden; (b) Impairment of blood formation and nerve conduction.
Visibility-Reducing Particles	In sufficient amount to reduce the visual range to less than 10 miles at relative humidity less than 70%, 8-hour avg. (10 AM–6 PM)	None	Visibility impairment on days when relative humidity is less than 70 percent.
Hydrogen Sulfide	0.03 ppm (42 μg/m^3), 1-hr avg.	None	Odor annoyance.
Vinyl Chloride*	0.01 ppm (26 μg/m^3), 24-hr avg.	None	Known carcinogen.

Sources:

[1] *California Air Resources Board. "Air Quality Standards." [Online] [May 15, 2003]. <http://www.arb.ca.govaqs aqs.htm>.*

[2] *South Coast Air Quality Management District. Final Program Environmental Impact Report to the 2003 Draft AQMP (Diamond Bar, California: SCAQMD, August 2003), Table 3.1-1, p. 3.1-2. This report may be reviewed on the SCAQMD website at http://ww.aqmd.gov/ceqa/documents/2003/aqmd/finalEA/aqmp/AQMP_FEIR.html*

μg/m^3 = microgram per meter cubed.

ppm = parts per million.

* *The ARB has identified lead and vinyl chloride as "toxic air contaminants" TACs 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.*

Air quality of a region is considered to be in attainment of the state standards if the measured ambient air pollutant levels for O_3, CO, SO_2 (1- and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility reducing particles are not exceeded, and all other standards are not equaled or exceeded at any time in any consecutive 3-year period. As stated above, in May 2007, the U.S. EPA redesignated the Basin as attainment for CO. The NAAQS (other than O_3, PM_{10}, $PM_{2.5}$, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant.

In 2001, the Basin exceeded the federal standards for O_3, PM_{10} and $PM_{2.5}$ on a total of 58 days overall. Despite the substantial improvement over historical air quality in the past few decades, some areas in the Basin still exceeded the 1-hour federal standard for O_3 more frequently than any other area of the U.S. In 2001, 9 out of 10 locations in the nation that exceeded the standard most frequently were located in the Basin.[40]

40 *Ibid.*, Chapter 2, p. 2-1, fn.1.

(a) Current Air Quality Summary

The following information is derived primarily from the SCAQMD's 2003 AQMP, Chapter 2 – Air Quality and Health Effects, and Appendix II – Current Air Quality, and presents a regional overview of the Basin's air quality status. The project is located in Source Receptor Area 13, Santa Clarita Valley, in northwest Los Angeles County. Ambient Air Monitoring Station No. 090 monitors pollutant concentrations for this Source Receptor Area.[41] As will be demonstrated later on in this EIR section, the Santa Clarita Valley area, did not register any of the maximum pollutant concentrations measured for the Basin in 2001.

> *In 2001, the maximum ozone, PM_{10}, and $PM_{2.5}$ concentrations exceeded federal standards by wide margins. Maximum 1-hour and 8-hour average ozone concentrations recorded (0.190 ppm in East San Gabriel Valley and 0.144 ppm in Central and East San Bernardino Valley areas) were 152 and 169 percent of the federal standard, respectively. Maximum 24-hour average and annual average PM_{10} concentrations (219 $\mu g/m^3$ recorded in Banning Airport area and 63.1 $\mu g/m^3$ recorded in the Metropolitan Riverside County area) were 146 and 125 percent of the federal 24-hour and annual average standards, respectively. Maximum 24-hour average and annual average $PM_{2.5}$ concentrations (98.0 $\mu g/m^3$ and 31.1 $\mu g/m^3$, both recorded in Metropolitan Riverside County area) were, respectively, 150 and 201 percent of the federal 24-hour and annual average standards. CO concentrations did not exceed the standards in 2001.[42] The highest 8-hour average CO concentration recorded (7.71 ppm in the South Central Los Angeles County area) was 81 percent of the federal 8-hour CO standard.*
>
> *Concentrations of other pollutants remained below the standards. The maximum annual average nitrogen dioxide NO_2 concentration (0.0419 ppm recorded in the East San Fernando Valley area) was 78 percent of the federal standard, and the maximum annual average sulfur dioxide (SO_2) concentration (0.0031 ppm recorded in Southwest Coastal Los Angeles County area) was 10 percent of the federal standard. The maximum sulfate concentration recorded (20.6 $\mu g/m^3$ in Southwest Coastal Los Angeles County area) was 82 percent of the state sulfate standard. The maximum quarterly average lead concentration recorded at any SCAQMD air monitoring station was 8 percent of the federal standard. However, higher concentrations of lead (32 percent of the standard) were recorded at special monitoring sites immediately adjacent to stationary sources (in Central Los Angeles area).*
>
> *The federal ozone standard was exceeded on a maximum of 26 days (seven percent of days in the Central San Bernardino Mountains area). Exceedances of the federal 24-hour PM_{10} standard were recorded on a maximum of one day (two percent of days sampled at each of the locations in Banning Airport and Southwest San Bernardino Valley area), and the federal 24-hour $PM_{2.5}$*

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41 *Ibid.*, Appendix III, Table A-3, Figure A-1.

42 Preliminary data from 2002 indicates one violation of CO, which is allowed under the CAA for attainment classification purpose.

standard was exceeded on a maximum of 19 days (6 percent of days sampled, in Metropolitan Riverside County area).[43]

The following sections present summary information on health effects and how frequently, and by how much of a margin, different areas of the Basin exceeded the federal and state ambient air quality standards in 2001.

(b) Ozone (O_3) Specific Information

O_3 is a highly reactive and unstable gas capable of damaging the respiratory tract. Please see the discussion of O_3, above in the **Subsection 4.a., Smog and Its Causes**, for more information and **Table 4.9-2, Ambient Air Quality Standards**, for a discussion of most relevant health effects.

(1) Air Quality

Regularly monitored O_3 concentrations at 28 locations in the Basin in 2001 were below the stage 1 episode level (0.20 ppm), but the maximum concentrations in the Basin exceeded the health advisory level (0.15 ppm). **Table 4.9-3, 2001 Maximum 1-Hour Ozone Concentrations by County**, and **Table 4.9-4, 2001 Maximum 8-Hour Ozone Concentrations by County**, shows maximum 1-hour and 8-hour O_3 concentrations by County, respectively.

Table 4.9-3
2001 Maximum 1-Hour Ozone Concentrations by County

County	Maximum 1-Hr Avg. (ppm)	Percent of Federal Standard	Area
Los Angeles	0.190	152	East San Gabriel Valley
Orange	0.125	100	Saddleback Valley
Riverside	0.152	122	Perris Valley
San Bernardino	0.184	147	Central San Bernardino Valley

Source: SCAQMD, 2003 AQMP (Diamond Bar, California: SCAQMD) August 1, 2003, Chapter 2, p. 2-9. This document is also available for review at http://www.aqmp.gov/aqmp/AQMD03AQMP.htm.

43 SCAQMD. 2003 AQMP. [Online] 22 December 2003. <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, pp. 2-5–2-6.

Table 4.9-4
2001 Maximum 8-Hour Ozone Concentrations by County

County	Maximum 8-Hr Avg. (ppm)	Percent of Federal Standard	Area
Los Angeles	0.135	159	East San Gabriel Valley
Orange	0.098	115	Saddleback Valley
Riverside	0.136	160	Perris Valley
San Bernardino	0.144	169	Central San Bernardino Valley, East San Bernardino Valley

Source: SCAQMD, 2003 AQMP (Diamond Bar, California: SCAQMD) August 1, 2003, Chapter 2, p. 2-9. This document is also available for review at http://www.aqmd.gov/aqmp/AQMD03AQMP.htm.

> *The number of days exceeding the federal standard varied widely by area. Areas along or nearby the coast did not exceed the federal standard, due in large part to the prevailing sea breeze which transports polluted air inland before high ozone concentrations can be reached. The standard was exceeded most frequently in the inland valleys extending from East San Gabriel Valley through the Riverside-San Bernardino area, and in the adjacent mountains. The Central San Bernardino Mountains area recorded the greatest number of exceedances of the state standard (88 days), federal standard (26 days) and health advisory level (12 days).*
>
> *The number of exceedances of the 8-hour federal ozone standard was also lowest at the coastal areas, increasing to a peak in the Riverside-San Bernardino Valley and adjacent mountain areas.*[44]

(c) Carbon Monoxide (CO) Specific Information

"CO is a colorless, odorless gas. It results from the incomplete combustion of carbon-containing fuels such as gasoline or wood, and is emitted by a wide variety of combustion sources."[45] Please see **Table 4.9-2, Ambient Air Quality Standards**, for a discussion of most relevant health effects.

(1) Air Quality

CO concentrations were measured at 23 locations in the Basin in 2001. **Table 4.9-5, 2001 Maximum Carbon Monoxide Concentrations by County**, shows the 2001 maximum 8-hour average concentrations of CO by County.

44 *Ibid.*, pp. 2-9–2-10.

45 California Air Resources Board. "Carbon Monoxide." [Online] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/co/co.htm>.

Table 4.9-5
2001 Maximum Carbon Monoxide Concentrations by County

County	Maximum 8-Hr Avg. (ppm)	Percent of Federal Standard	Area
Los Angeles	7.7	81	South Central L.A. County
Orange	4.7	49	Central Orange County, North Orange County
Riverside	4.5	47	Metropolitan Riverside County
San Bernardino	3.3	35	Central San Bernardino Valley

Source: SCAQMD, 2003 AQMP (Diamond Bar, California: SCAQMD) August 1, 2003, Chapter 2, p. 2-13. This document is also available for review at http://www/aqmd.gov/aqmp/AQMD03AQMP.htm.

Regarding the maximum 8-hour average CO concentrations in the Basin in 2001, higher concentrations were limited to the areas of the County where vehicular traffic is most dense, with the maximum concentration (7.71 ppm) recorded in the South Central Los Angeles County area. The Basin recorded the 6th highest maximum 8-hour average CO concentration in the nation in 2001. However, the Basin met the CO standards in 2002, and in May 2007, the U.S. EPA redesignated the Basin as "attainment" for CO.

(d) Particulate Matter (PM_{10} and $PM_{2.5}$) Specific Information

> *Suspended particulate matter (PM) is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. 'Inhalable' PM consists of particles less than 10 microns in diameter, and is defined as 'suspended particulate matter' or 'PM_{10}.' Fine particles are less than 2.5 microns in diameter ($PM_{2.5}$) [and can significantly contribute to regional haze and reduction of visibility in California].*[46]

Please see **Table 4.9-2, Ambient Air Quality Standards**, for a discussion of most relevant health effects.

(1) Air Quality, PM_{10}

The SCAQMD monitored PM_{10} concentrations at 18 locations in 2001. Maximum 24-hour and annual average concentrations are shown in **Table 4.9-6, 2001 Maximum 24-hour Average PM_{10} Concentrations by County**, and **Table 4.9-7, 2001 Maximum Annual Average PM_{10} Concentrations by County**, respectively.

46 California Air Resources Board. "Particulate Matter." [Online] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/pm/pm.htm>.

Table 4.9-6
2001 Maximum 24-Hour Average PM_{10} Concentrations by County

County	Maximum 24-Hr Avg. ($\mu g/m^3$)	Percent of Federal Standard	Area
Los Angeles	106	70	East San Gabriel Valley
Orange	93	62	Central Orange County
Riverside	219	146	Banning Airport
San Bernardino	166	110	Southwest San Bernardino Valley

Source: SCAQMD, 2003 AQMP (Diamond Bar, California: SCAQMD) August 1, 2003, Chapter 2, p. 15. This document is also available for review at http://www.aqmd.gov/aqmp/AQMD03AQMP.htm.
**Adjusted for high-wind days in accordance with U.S. EPA's Natural Event Policy.*

Table 4.9-7
2001 Maximum Annual Average PM_{10} Concentrations by County

County	Annual Average ($\mu g/m^3$)	Percent of Federal Standard	Area
Los Angeles	45.3	90	East San Gabriel Valley
Orange	36.0	79	Central Orange County
Riverside	63.1	125	Metropolitan Riverside County
San Bernardino	52.4	104	Southwest San Bernardino Valley

Source: SCAQMD, 2003 AQMP (Diamond Bar, California: SCAQMD) August 1, 2003, Chapter 2, p. 15. This document is also available for review at http://www.aqmd.gov/aqmp/AQMD03AQMP.htm.
Adjusted for the high-wind days in accordance with U.S. EPA's Natural Event Policy.

As would be expected, higher concentrations of PM_{10} associated with high winds in the inland valley areas were recorded in San Bernardino and Riverside Counties. Data for samples collected on these high-wind days were excluded from overall monitoring data in accordance with U.S. EPA's Natural Event Policy.

> *The federal annual PM_{10} standard was exceeded at only a few locations in the [SCAQMD] in the areas of Riverside and San Bernardino Counties in and around the Metropolitan Riverside County area and further inland in San Bernardino Valley areas. The federal 24-hour standard was also exceeded at two locations in Riverside and San Bernardino counties. The much more stringent state standards were exceeded in all areas of the Basin monitored in 2001.*[47]

(2) Air Quality $PM_{2.5}$

The SCAQMD began regular monitoring of $PM_{2.5}$ in 1999 following the EPA's adoption of the national $PM_{2.5}$ standards in 1997. In 2001, $PM_{2.5}$ concentrations were monitored at 18 locations throughout the SCAQMD. Maximum 24-hour and annual average concentrations are shown in **Table 4.9-8, 2001 Maximum 24-hour Average $PM_{2.5}$ Concentrations by County**, and **Table 4.9-9, 2001 Maximum Annual Average $PM_{2.5}$ Concentrations by County**, respectively. Both 24-hour and annual $PM_{2.5}$ standards were exceeded at most locations in the Basin.[48]

Table 4.9-8
2001 Maximum 24-Hour Average $PM_{2.5}$ Concentrations by County

County	Maximum 24-Hr Avg. ($\mu g/m^3$)	Percent of Federal Standard	Area
Los Angeles	94.7	145	East San Fernando Valley
Orange	70.8	108	Central Orange County
Riverside	98.0	150	Metropolitan Riverside County
San Bernardino	78.5	120	Central San Bernardino Valley

Source: SCAQMD, 2003 AQMP (Diamond Bar, California: SCAQMD) August 1, 2003, Chapter 2, p. 2-16. This document is also available for review at http://www.aqmd.gov/aqmp/AQMD03AQMP.htm.

47 *Ibid.*

48 *Ibid.*

Table 4.9-9
2001 Maximum Annual Average $PM_{2.5}$ Concentrations by County

County	Annual Average (μg/m³)	Percent of Federal Standard	Area
Los Angeles	26.1	168	South San Gabriel Valley
Orange	22.4	145	Central Orange County
Riverside	31.1	201	Metropolitan Riverside County
San Bernardino	26.2	169	Southwest San Bernardino Valley, Central San Bernardino Valley

Source: SCAQMD, 2003 AQMP (Diamond Bar, California: SCAQMD) August 1, 2003, Chapter 2, p. 2-16. This document is also available for review at http://www.aqmd.gov/aqmp/AQMD03AQMP.htm.

$PM_{2.5}$ concentrations were higher in the inland valley areas of San Bernardino and Metropolitan Riverside counties, but were also high in Los Angeles County and central Orange County. The high $PM_{2.5}$ concentrations in Los Angeles and Orange Counties are due to the secondary formation of smaller particulates generated by mobile and stationary source activities. PM_{10} concentrations are normally higher due to windblown and fugitive dust emissions.[49]

(e) Nitrogen Dioxide (NO_2) Specific Information

Nitrogen dioxide (NO_2) is a reactive oxidizing gas capable of damaging cells lining the respiratory tract. This pollutant is also an essential ingredient in the formation of ground-level O_3 pollution. NO_2 is one of the nitrogen oxides emitted from high-temperature combustion processes, such as those occurring in trucks, cars, and power plants. Home heaters and gas stoves also produce substantial amounts of NO_2 in indoor settings.[50]

Please see **Table 4.9-2, Ambient Air Quality Standards**, for a discussion of most relevant health effects.

Air Quality

In 2001, NO_2 concentrations were monitored at 23 locations in the SCAQMD. No area of the Basin exceeded the federal or state standards for NO_2. Maximum annual average concentrations for 2001 are shown in **Table 4.9-10, 2001 Maximum Nitrogen Dioxide Concentrations by County**. The Basin has not exceeded the federal standard for NO_2 since 1991, when the Los Angeles County portion of the Basin recorded the last exceedance of the standard in any U.S. County.

49 *Ibid.*, p. 2-16.

50 California Air Resources Board. "Nitrogen Dioxide." [Online] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/no2-1/no2-1.htm>.

The state standard was not exceeded at any SCAQMD monitoring location in 2001. The highest 1-hour average concentration recorded (0.25 ppm in East San Fernando Valley) was 96 percent of the state standard.[51]

Table 4.9-10
2001 Maximum Nitrogen Dioxide Concentrations by County

County	Maximum Annual Avg. (ppm)	Percent of Federal Standard	Area
Los Angeles	0.0419	78	East San Fernando Valley
Orange	0.0293	55	Central Orange County
Riverside	0.0247	46	Metropolitan Riverside County
San Bernardino	0.0384	72	Northwest San Bernardino Valley

Source: SCAQMD, 2003 AQMP (Diamond Bar, California: SCAQMD) August 1, 2003, Chapter 2, p. 2-19. This document is also available for review at http://www.aqmd.gov/aqmp/AQMD03AQMP.htm.

(f) Sulfur Dioxide (SO_2) Specific Information

A gaseous compound of sulfur and oxygen, SO_2 is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment. SO_2 is also emitted during some industrial processes, such as petroleum refining and metal processing.[52] Please see **Table 4.9-2, Ambient Air Quality Standards**, for a discussion of most relevant health effects.

(1) Air Quality

Monitored SO_2 concentrations in the SCAQMD remained within federal and state standards in 2001. Although SO_2 concentrations remained well below the standards, SO_2 is a precursor to sulfate, which is a component of PM_{10} and $PM_{2.5}$. Standards for both PM_{10} and $PM_{2.5}$ were both exceeded in 2001.[53] Maximum concentrations of SO_2 for 2001 are shown in **Table 4.9-11, 2001 Maximum Sulfur Dioxide Concentrations by County**.

51 *Ibid.*

52 California Air Resources Board. "Sulfur Dioxide." [Online] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/so2-1/so2-1.htm>.

53 *Ibid.*, pp. 2-19–2-20.

Table 4.9-11
2001 Maximum Sulfur Dioxide Concentrations by County

County	Maximum 24-hr Avg. (ppm)	Percent of Federal Standard	Area
Los Angeles	0.012	8	Southwest Coastal Los Angeles County, South Coastal Los Angeles County
Orange	0.007	5	North Coastal Orange County
Riverside	0.011	8	Metropolitan Riverside County
San Bernardino	0.010	7	Central San Bernardino Valley

Source: SCAQMD, 2003 AQMP (Diamond Bar, California: SCAQMD) August 1, 2003, Chapter 2, p. 2-20. This document is also available for review at http://www.aqmd.gov/aqmp/AQMD03AQMP.htm. http://www.aqmd.gov/aqmp/ AQMD03AQMP.htm.

(g) Sulfates (SO_4) Specific Information

Sulfates (SO_4) are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide (SO_2) during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.[54]

Please see **Table 4.9-2, Ambient Air Quality Standards,** for a discussion of most relevant health effects.

(1) Air Quality

The state SO_4 standard was not exceeded anywhere in the Basin in 2001 (see **Table 4.9-12, 2001 Maximum Sulfate Concentrations by County**). Concentrations of SO_4 in the Basin have been historically well below the standard to the extent that some monitoring stations (i.e., Orange) have discontinued monitoring of the pollutant.

54 California Air Resources Board. "Sulfates." [Online] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/sulf-1/sulf-1.htm>.

Table 4.9-12
2001 Maximum Sulfate Concentrations by County

County	Maximum 24-hr Avg. ($\mu g/m^3$)	Percent of Federal Standard	Area
Los Angeles	20.6	82	Southwest Coastal Los Angeles County
Orange	N.D.	--	--
Riverside	10.7	43	Metropolitan Riverside Co.
San Bernardino	11.5	46	Central San Bernardino Valley

Source: SCAQMD, 2003 AQMP (Diamond Bar, California: SCAQMD) August 1, 2003, Chapter 2, p. 2-21. This document is also available for review at http://www.aqmd.gov/aqmp/AQMD03AQMP.htm. N.D. = No Data. Historical measurements indicate concentrations are well below standards and monitoring has been discontinued.

(h) Lead (Pb) Specific Information

Pb is a relatively soft and chemically resistant metal. Pb forms compounds with both organic and inorganic substances. As an air pollutant, Pb is present in small particles. Sources of Pb emissions in California include a variety of industrial activities. Because it was emitted in large amounts from vehicles when leaded gasoline was used, Pb is present in many soils (especially urban soils) and can become re-suspended in the air.[55] Please see **Table 4.9-2, Ambient Air Quality Standards**, for a discussion of most relevant health effects.

(1) Air Quality

*The federal and state standards for lead were not exceeded in any area of the [SCAQMD] in 2001. There have been no violations of the standards at the [SCAQMD's] regular air monitoring stations since 1982, as a result of removal of lead from gasoline. However, special monitoring stations immediately adjacent to stationary sources of lead [(such as lead smelters and plating operations)] have recorded exceedances of the standards in very localized areas of the Basin as recently as 1991 for the federal standard and 1994 for the state standard. [**Table 4.9-13, 2001 Maximum Lead Concentrations by County**] shows the maximum concentrations recorded in 2001. The highest quarterly average lead concentration (0.49 $\mu g/m^3$ in Central Los Angeles), measured at special monitoring sites immediately adjacent to stationary sources of lead, was 32 percent of the federal standard.*

The maximum monthly average lead concentration at the regular monitoring stations (0.23 $\mu g/m^3$ in the South Central Los Angeles County area) was 15 percent of the state standard. The maximum at the special monitoring sites immediately adjacent to sources (0.57 $\mu g/m^3$ in Central Los Angeles) was 38 percent of the standard.[56]

55 California Air Resources Board. "Lead." [Online] 8 January 2004. <http://www.arb.ca.gov/research/aaqs/caaqs/pb-1/pb-1.htm>.

56 *Ibid.*, p. 2-22.

Table 4.9-13
2001 Maximum Lead Concentrations by County

County	Maximum Quarterly Average (μg/m³)	Percent of Federal Standard	Area
Los Angeles	0.12	8	South Central Los Angeles County
Orange	N.D.	--	--
Riverside	0.03	2	Metropolitan Riverside County
San Bernardino	0.04	3	Northwest San Bernardino Valley, Central San Bernardino Valley

Source: SCAQMD, 2003 Air Quality Management Plan (Diamond Bar, California: SCAQMD) August 1, 2003, Chapter 2, p. 2-22. This document is also available for review at http://www.aqmd.gov/aqmp/AQMD03AQMP.htm.
N.D. = No Data. Historical measurements indicate concentrations are well below standards.

(i) Hydrogen Sulfide (H_2S) Specific Information

Formed during bacterial decomposition of sulfur-containing organic substances, H_2S is a colorless gas with the odor of rotten eggs. It also can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.[57] Please see **Table 4.9-2, Ambient Air Quality Standards**, for a discussion of most relevant health effects.

(1) Air Quality

The SCAQMD's monitoring stations throughout the Basin do not currently monitor this pollutant.[58]

(j) Vinyl Chloride Specific Information

Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.[59]

Please see **Table 4.9-2, Ambient Air Quality Standards**, for a discussion of most relevant health effects.

57 California Air Resources Board. "Hydrogen Sulfide." [Online] 22 December 2003. <http://www.arb.ca.gov/research/aaqs/caaqs/h2s/h2s.htm>.

58 SCAQMD. 2003 AQMP. [Online] 22 December 2003. <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix II, Tables A-4–A-22.

59 California Air Resources Board. "Vinyl Chloride." [Online] 22 December 2003. <http://www.arb.ca.gov/research/aaqs/caaqs/vc/vc.htm>.

(1) Air Quality

The SCAQMD's monitoring stations throughout the Basin do not currently monitor this pollutant.[60]

(k) Visibility-Reducing Particles Specific Information

> *Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.*[61]

Please see **Table 4.9-2, Ambient Air Quality Standards**, for a discussion of most relevant health effects.

(1) Air Quality

Although the SCAQMD's monitoring stations throughout the Basin do not directly monitor visibility-reducing particles, this pollutant is indirectly measured as PM_{10} and $PM_{2.5}$.[62]

Since deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality, the State of California has adopted a standard for visibility or visual range. Until 1989, the standard was based on visibility estimates made by human observers, but the standard was changed that year to require measurement of visual range using instruments that measure light scattering and absorption by suspended particles. However, as noted above, the SCAQMD does not directly monitor visibility-reducing particles.[63]

(l) Criteria Pollutant Emissions Inventory

SCAQMD's emissions inventory for the Basin from the 2003 AQMP is summarized in **Table 4.9-14, Annual Average Emissions by Major Source Type for Baseline Year 1997**. The emissions inventory for the anthropogenic (of human genesis) inventory is made up of stationary sources and mobile sources.

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60 SCAQMD. 2003 AQMP. [Online] 22 December 2003. <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix II, Tables A-4–A-22.

61 California Air Resources Board. "Visibility Reducing Particles." [Online] 22 December 2003. <http://www.arb.ca.gov/research/aaqs/caaqs/vrp-1/vrp-1.htm>.

62 SCAQMD. 2003 AQMP. [Online] 22 December 2003. <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix II, Tables A-4–A-22.

63 California Air Resources Board. "Visibility Reducing Particles." [Online] 22 December 2003. <http://www.arb.ca.gov/research/aaqs/caaqs/vrp-1/vrp-1.htm>.

Table 4.9-14
Annual Average Emissions by Major Source Type for Baseline Year 1997
(ton/day)

Source Category	TOG	VOC	CO	NO_x	SO_x	TSP	PM_{10}	$PM_{2.5}$
Total Stationary and Area Sources	958.19	416.50	150.81	131.63	24.62	468.78	239.34	73.38
Total On-Road Vehicles	559.58	518.80	5,092.20	760.79	4.45	19.36	19.11	13.56
Total Other Mobile	256.75	236.55	1,409.97	311.97	28.87	21.00	20.51	18.27
Total	**1,774.53**	**1,171.85**	**6,652.99**	**1,204.13**	**57.94**	**509.14**	**278.96**	**105.21**

Source: SCAQMD, 2003 AQMP (Diamond Bar, California: SCAQMD) August 1, 2003, Appendix III, Attachment A. This document is also available for review at http://www.aqmd.gov/aqmp/AQMD03AQMP.htm.

Stationary 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 off-road 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. Off-road mobile sources include off-road recreational vehicles, trains, ships, commercial boats, aircraft, and mobile equipment.[64]

The SCAQMD emissions inventory includes emissions in the Basin of total organic gases (TOG), VOC, CO, NO_x, SO_x, total suspended solids (TSP), PM_{10}, and $PM_{2.5}$.[65] Since O_3 is formed by photochemical reactions involving the precursors VOC and NO_x, it is not inventoried. **Table 4.9-14** lists the 1997 (most recent) inventory for the criteria pollutants (including $PM_{2.5}$) in the Basin.

64 SCAQMD. 2003 AQMP. [Online] 22 December 2003. <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix III, p. III-2-1.

65 The 2003 AQMP presents emission levels in the Basin for the criteria air contaminants and their precursors. Specifically, data are induded for emissions of VOC, NO_x, SO_x, CO, PM_{10}, and $PM_{2.5}$. O_3 is formed from photochemical reactions involving other air contaminants so it is not inventoried. NO_x and SO_x emissions are in the emissions inventory because multiple species of NO_x and SO_x contribute to the formation of NO_2, SO_2, particulate matter, and NO_x and VOC react in the presence of sunlight to produce ozone. VOC includes organic gases that contribute to ozone formation and exclude acetone, ethane, methane, methylene chloride, methylchloroform, perchloroethylene, methyl acetate, parachlorobenzotrifluoride, and a number of Freon-type gases. Important subsets of PM are PM_{10} and $PM_{2.5}$. In the 2003 AQMP, the amount of VOC as a fraction of total organic gases and the amount of PM_{10} and $PM_{2.5}$ in PM are calculated for each process primarily using species and size fraction profiles provided by the ARB. SCAQMD. AQMP 2003. Appendix III, p. III-1-2. [Online] 22 December 2003. <http://www.aqmd.gov/aqmp/docs/2003AQMP_AppIII.pdf>.

As shown in **Table 4.9-14**, mobile sources are the major contributors to CO (98 percent), NO_x (89 percent), SO_x (58 percent), and VOC (64 percent) emissions in the Basin. Stationary and area sources are the major contributors to PM_{10} and $PM_{2.5}$ emissions (86 and 70 percent, respectively).

Pb and vinyl chloride inventories for the Basin are shown in **Table 4.9-15**, **1998 Annual Average Day Toxic Emissions for the South Coast Air Basin**. H_2S, as discussed above, is primarily related to odors and would be inventoried as a nuisance. Visibility reducing particles are indirectly discussed above in the context of PM_{10} and $PM_{2.5}$. S_4 are indirectly discussed above in the context of SO_x.

(2) Toxic Air Contaminants (TACs)

The following information has been obtained primarily from the SCAQMD's Multiple Air Toxics Exposure Study II (MATES II), described below. TACs typically emitted in the Basin include the contaminants listed in **Table 4.9-15**.

(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.[66]

The MATES II, which is the most comprehensive study of urban toxic air pollution ever undertaken, shows that motor vehicles and other mobile sources of air pollution are the predominant source of cancer-causing air pollutants in the Basin.[67] The SCAQMD's Governing Board directed staff to undertake the MATES II as part of the agency's environmental justice initiatives adopted in late 1997. A panel of scientists from universities, an environmental group, businesses, and other government agencies helped design and guide the study. One goal of the study was to determine the cancer risk from toxic air pollution throughout the area by monitoring toxics continually for one year at 10 monitoring sites. Another goal was to determine if there were any sites where TAC concentrations emitted by local industrial facilities were causing a disproportionate cancer burden on surrounding communities. To address this second goal, the SCAQMD monitored toxic pollutants at 14 sites for one month each with three mobile monitors. Monitoring platforms were placed in or near residential areas adjacent to clusters

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66 Doll and Peto. "The Causes of Cancer: Qualitative Estimates of Avoidance of Risks of Cancer in the United States Today," Journal of the National Cancer Institute (June 1981).

67 SCAQMD, Multiple Air Toxics Exposure Study II (MATES II) (Diamond Bar, California: SCAQMD, March 2000), p. ES-3. http://www.aqmd.gov/matesiidf/matestoc.htm.

of facilities.[68] Although no TAC hotspots were identified, models show that elevated levels of toxic air pollutants can occur very close to facilities emitting TACs.[69]

In the MATES II study, SCAQMD monitored more than 30 TACs at 24 sites over a 1-year period in 1999. The SCAQMD collected more than 4,500 air samples and, together with the CARB, performed more than 45,000 separate laboratory analyses of these samples. In the study, SCAQMD calculated cancer risk assuming seventy years of continuous exposure to monitored levels of pollutants.[70]

The MATES II found that the average carcinogenic risk throughout the Basin is approximately 1,400 in one million (1,400 x 10^{-6}). Diesel-fueled mobile sources represent the greatest contributors to TAC emissions in the Basin.[71]

Table 4.9-15
1998 Annual Average Day Toxic Emissions for the South Coast Air Basin
(lbs/day)

Pollutant	On-Road	Off-Road	Point	AB2588	Area	Total
Acetaldehyde[a]	5,485.8	5,770.3	33.9	57.1	189.1	11,536.2
Acetone[b]	4,945.8	4,824.7	3,543.5	531.4	23,447.4	37,292.8
Benzene	21,945.5	6,533.4	217.7	266.8	2,495.4	31,458.8
Butadiene [1,3]	4,033.8	1,566.1	6.7	2.0	151.3	5,759.9
Carbon tetrachloride	0.0	0.0	8.8	1.8	0.0	10.6
Chloroform	0.0	0.0	0.0	35.5	0.0	35.5
Dichloroethane [1,1]	0.0	0.0	0.0	0.1	0.0	0.1
Dioxane [1,4]	0.0	0.0	0.0	105.0	0.0	105.0
Ethylene dibromide	0.0	0.0	0.0	0.2	0.0	0.2
Ethylene dichloride	0.0	0.0	4.9	17.6	0.0	22.5
Ethylene oxide	0.0	0.0	58.1	12.3	454.1	524.4
Formaldehyde[a]	16,664.9	16,499.3	521.6	674.7	1,107.5	35,468.0
Methyl Ethyl Ketone[a]	905.1	906.9	3,240.2	385.9	14,535.4	19,973.5
Methylene chloride	0.0	0.0	1,378.6	1,673.6	94,21.7	12,473.9
Methyl tertiary butyl ether (MTBE)	58,428.9	2,679.2	40.5	434.4	54,73.7	67,056.7
p-Dichlorobenzene	0.0	0.0	0.0	4.5	3,735.6	3,740.1
Perchloroethylene	0.0	0.0	4,622.0	2,249.1	22,813.1	29,684.2
Propylene oxide	0.0	0.0	0.0	22.3	0.0	22.3
Styrene	1,114.8	287.1	447.0	3,836.7	21.4	5,707.0
Toluene	63,187.6	11,085.9	5,689.6	3,682.4	52,246.7	135,892.2
Trichloroethylene	0.0	0.0	1.1	58.0	2,550.3	2,609.3
Vinyl chloride	0.0	0.0	0.0	4.3	0.0	4.3
Arsenic	0.1	0.3	2.7	0.7	21.4	25.2

68 *Ibid.*, p. ES-1.

69 *Ibid.*, p. ES-6.

70 *Ibid.*, pp. ES-1–ES-2.

71 *Ibid.*, p. ES-3, Fig. ES-2, p. ES-9.

Pollutant	On-Road	Off-Road	Point	AB2588	Area	Total
Cadmium	1.6	1.5	0.5	0.7	27.5	31.8
Chromium	2.4	2.3	3.9	2.2	302.2	313.0
Diesel particulate	23,906.3	22,386.3	0.0	5.4	815.3	47113.4
Elemental carbon[c]	27,572.1	6,690.3	702.8	0.0	16,770.5	51,735.7
Hexavalent chromium	0.4	0.4	0.3	1.0	0.1	2.2
Lead	0.7	0.9	1.9	24.5	1,016.3	1,044.3
Nickel	2.5	2.2	2.9	21.6	85.6	114.9
Organic carbon	16,426.2	153,81.8	0.0	0.0	108,612.1	140,420.2
Selenium	0.1	0.1	3.0	5.7	2.6	11.6
Silicon[b,c]	68.6	67.6	167.2	0.0	248,614.0	248,917.4

Source: SCAQMD, Multiple Air Toxics Exposure Study II (Diamond Bar, California: SCAQMD) March 2000, Table 4.2.

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

[b] *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.*

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

(b) Non-Cancer 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 TACs 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 TAC. The comparison is expressed as the ratio of the estimated exposure level to the REL, referred to as the hazard index.[72]

(c) Toxic Air Contaminants Inventory

The data available for TAC emissions inventories are not nearly as complete as the data for criteria pollutants. Starting in 1989, industrial facilities have been required to compile toxic emissions inventories under the Assembly Bill (AB) 2588 program. Companies subject to the program are required to report their TAC emissions to the SCAQMD.[73]

The SCAQMD's first emissions inventory was compiled for thirty TACs for the year 1982, for stationary sources only. This inventory was updated during the preparation of the 1999 MATES II study, which

72 *Air Toxic Hot Spots Program Risk Assessment Guidelines*, Part III, Technical Support Document for the Determination of Noncancer Chronic Reference Exposure Levels, OEHHA (February 2000), p. 9.

73 In September 1987, the California Legislature established the AB 2588 air toxics "Hot Spots" program. (Health and Safety Code Section 44300, et seq.). It requires facilities to report their air toxics emissions, ascertain health risks, and to notify nearby residents of significant risks. The emissions inventory and risk assessment information from this program has been incorporated into this report. In September 1992, the "Hot Spots" Act was amended by Senate Bill 1731, to require facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

consisted of an evaluation and a characterization of ambient air toxics data in the Basin. The MATES II inventory is the most up-to-date inventory prepared by the SCAQMD. It also estimated the cancer risk of several TACs. For the study, 20 of the original 30 pollutants were updated for the year 1998. Additionally, mobile source emissions for 12 of the 20 toxic pollutants were compiled. The stationary source data included 1,244 point sources and the mobile source inventory included only on-road motor vehicles. A summary of the 1998 emissions inventory is presented in **Table 4.9-15**, which provides the estimated toxic emissions for selected compounds, by source category.

c. Local Climate

The coastal area of the Basin is dominated by a semi-permanent, subtropical, Pacific high-pressure system. Generally mild, the climate is tempered by cool sea breezes, but may be infrequently interrupted by periods of extremely hot weather, passing winter storms, or Santa Ana winds. The project site is located further inland where the temperature is generally higher and the relative humidity lower than along the coast.

The project site is located in the transitional microclimatic zone of the Basin, which is located between two climatic types, termed valley marginal and high desert. Situated far enough from the ocean to usually escape coastal damp air and fog, the summers are hot and the winters are sunny and warm. Summer nights are pleasantly cool and the surrounding slopes drain off cold air near the ground on clear winter nights.

The Basin both transports and receives air pollutants from the coastal portions of Ventura and Santa Barbara counties that are located in the South Central Coast Air Basin, which also receives air pollutants from oil and gas development operations on the outer continental shelf.

Climate in the Santa Clarita Valley is relatively mild and annual average daytime temperatures range from 89.7 °F in summer to 63.6 °F in winter. Low temperatures average 58.9 °F in summer and 41.3 °F in winter. In wintertime during calm, clear nights, the localized mountain/valley wind patterns are enhanced and cool air blows down from the mountains towards the valley floor. Annual precipitation in the Santa Clarita Valley is 13.10 inches, which occurs almost exclusively from late October to early April. As elsewhere in the Basin, precipitation is higher in the mountains than in the valley. Portions of the Santa Susana and San Gabriel Mountains, which form the outer limits of the valley, receive between 22 and 24 inches of rainfall per year.

Predominant wind patterns for the greater Santa Clarita Valley area are typical for areas in which valleys and mountains are located in proximity to one another. During the day, onshore winds reach the valley and are enhanced by local topographical features. During the night, surface radiation cools the air in the mountains and hills, which flows down the valley, producing a gentle wind pattern (**Figure 4.9-2, Dominant Wind Patterns**). The predominant daytime wind flows from the south/southeast as the effects

of the regional onshore flow are modified by the up-valley flow from the San Fernando Valley through the Newhall Pass. This pattern is most dominant during summer, the peak smog season. At night, local winds flow down the Santa Clara River Valley as winds flowing from the east.

d. Local Ambient Air Quality

(1) Source Receptor Area 13

To monitor the concentrations of the criteria pollutants, the SCAQMD has divided the Basin into source receptor areas (SRAs) where air quality monitoring stations are operated. The project site is located within SRA 13, which encompasses the Santa Clarita Valley west to the Ventura County line. The station that monitors this SRA (No. 090) is located approximately 6.5 miles southeast of the project site at 12th Street and Placerita Canyon Road.[74] This station presently only monitors pollutant concentrations of O_3, CO, NO_2, and PM_{10}.[75] No other station monitors air pollutant concentrations in the Santa Clarita Valley. $PM_{2.5}$ and SO_2 are not monitored in SRA 13; ambient air quality data for these pollutants were obtained from the Reseda (SRA 6) and Burbank (SRA 7) monitoring stations, respectively.

Table 4.9-16, **Ambient Pollutant Concentrations Registered in SRA 13,** lists the ambient pollutant concentrations registered and the violations of state and federal standards that have occurred at the Santa Clarita monitoring station from 2000 through 2004.

As shown in **Table 4.9-16**, the Santa Clarita monitoring station has registered values above state and federal standards for O_3 and the state standard for PM_{10}. Concentrations of CO and NO_2 have not been exceeded within the Santa Clarita Valley in the period reported in **Table 4.9-16**, and concentrations of the other two criteria pollutants, SO_2 and Pb, have not been exceeded anywhere within the Basin since 1990, and since 1982, respectively.[76]

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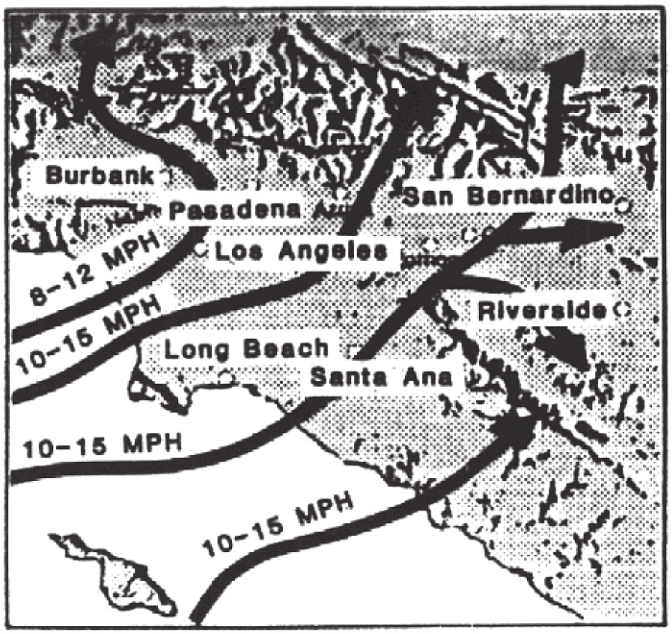
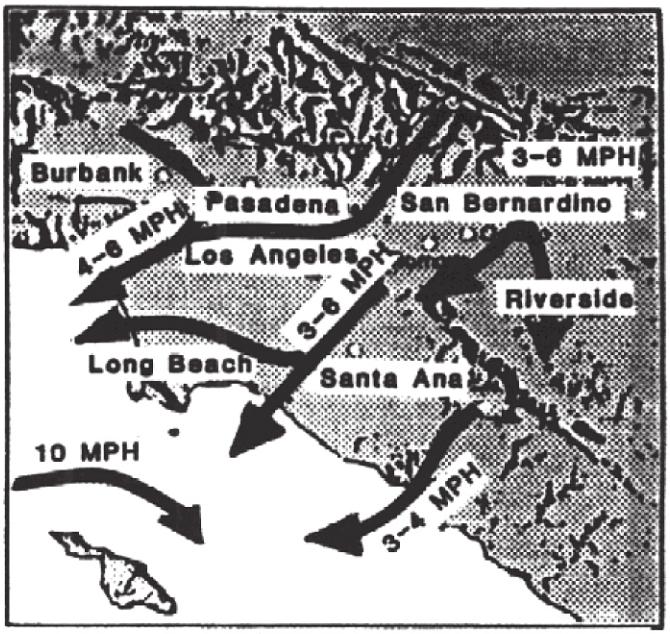
74 SCAQMD. 2003 AQMP. [Online] December 22, 2003. <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix III, Attachment A, Table A-3 and Figure A-1.

75 As late as 1991, this station also monitored SO2, pollutant concentrations for the Santa Clarita Valley. SCAQMD. 2003 AQMP. [Online] 22 December 2003. <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix III, Tables A-4 – A-22.

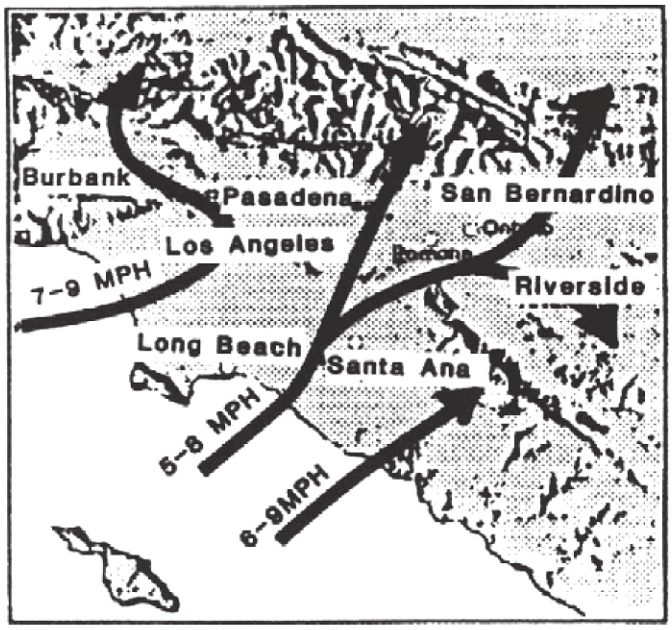
76 SCAQMD. 2003 AQMP. [Online] 22 December 2003. <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, Appendix III, Attachment A, Tables A-21 and A-22.



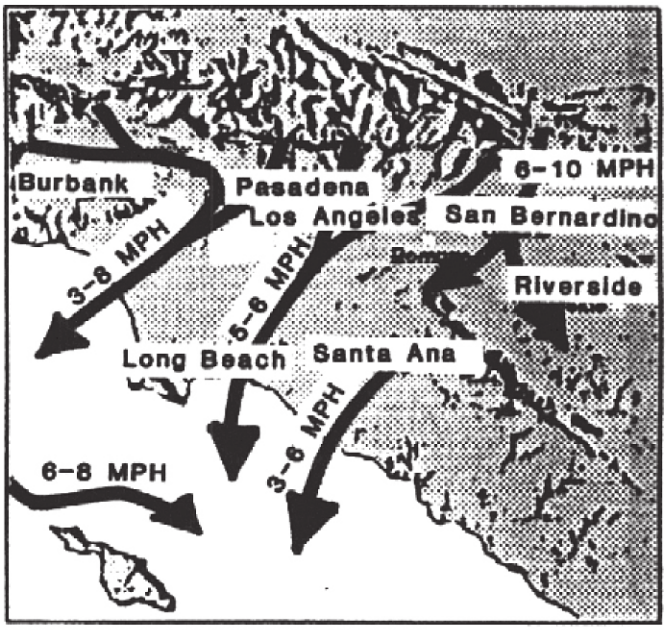
Typical Summer Daytime Ocean Winds
(noon to 7:00 pm)



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 **4.9-2**

Dominant Wind Patterns

32-92•06/06

Table 4.9-16
Ambient Pollutant Concentrations Registered in SRA 13

Pollutant	Standards[1, 2]	Year				
		2000	2001	2002	2003	2004
SANTA CLARITA MONITORING STATION						
OZONE (O_3)						
Maximum 1-hour concentration monitored (ppm)[3]		0.13	0.184	0.169	0.194	0.158
Maximum 8-hour concentration monitored (ppm)		0.111	0.129	0.145	0.152	0.133
Number of days exceeding federal standard	>0.12 ppm	1	9	32	35	13
Number of days exceeding state standard	>0.09 ppm	31	49	81	89	69
Number of days exceeding federal 8-hour standard	>0.08 ppm	16	27	56	69	52
Number of days exceeding Health Advisory	≥0.15 ppm	0	2	8	15	1
CARBON MONOXIDE (CO)						
Maximum 1-hour concentration monitored (ppm)		6	6	3	3	5
Maximum 8-hour concentration monitored (ppm)		4.9	3.14	1.9	1.7	3.7
Number of days exceeding federal 8-hour standard	≥9.5 ppm	0	0	0	0	0
Number of days exceeding state 8-hour standard	≥9.0 ppm	0	0	0	0	0
NITROGEN DIOXIDE (NO_2)						
Maximum 1-hour concentration monitored (ppm)		0.10	0.10	0.10	0.12	0.09
Annual arithmetic mean concentration (ppm)	>0.053 ppm	0.0246	0.0239	0.0200	0.0221	0.0204
Number of days exceeding state 1-hour standard	>0.25 ppm	0	0	0	0	0
PARTICULATE MATTER (PM_{10})						
Maximum 24-hour concentration (μg/m³)		64	62	61	72	54
Number of samples		61	61	60	61	60
Number of samples exceeding federal standard	>150 μg/m³	0	0	0	0	0
Number of samples exceeding state standard	>50 μg/m³	4	4	7	10	2
Percent of samples exceeding federal standard	>150 μg/m³	0	0	0	0	0
Percent of samples exceeding state standard	>50 μg/m³	7	7	11.7	16.4	3.3
PARTICULATE MATTER ($PM_{2.5}$)[4]						
Maximum 24-hr concentration (μg/m³)		67.5	71.1	48.8	47.5	56.2
Annual arithmetic mean concentration (μg/m³)		18.1	18.5	18.9	16.4	15.6
Number of samples exceeding federal 24-hr std.	>65 μg/m³	2	1	0	0	0
SULFUR DIOXIDE (SO_2)[5]						
Maximum 1-hr concentration (ppm)		0.010	0.013	0.013	0.013	0.024
Maximum 24-hr concentration (ppm)		0.004	0.005	0.007	0.005	0.10
Annual arithmetic mean concentration (ppm)		0.001	0.001	0.002	0.002	0.003
Number of days exceeding state 1-hour standard	>0.25 ppm	0	0	0	0	0
Number of days exceeding state 24-hour standard	>0.04 ppm	0	0	0	0	0
Number of days exceeding federal 24-hour standard	>0.14 ppm	0	0	0	0	0

Sources:

(i) SCAQMD, Air Quality Data (for 2000, 2001, 2002, 2003, and 2004), (Diamond Bar, California: SCAQMD, 2000, 2001, 2002, 2003, and 2004). www.aqmd.gov/smog/historicaldata.htm.

(ii) U.S. Environmental Protection Agency Air Quality Database (for 2000, 2001, 2002, 2003, 2004), www.epa.gov/air /data/reports.html

[1] *Parts by volume per million of air (ppm), micrograms per cubic meter of air (μg/m³), 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 federal 1-hour standard was revoked on June 15, 2005. The data are shown for informational purposes.*

[4] *Pollutant is monitored at 18330 Gault Street in Reseda (SRA 6), which is the nearest monitoring station that monitors the particular pollutant.*

[5] *Pollutant is monitored at 228 West Palm Avenue in Burbank (SRA 7), which is the nearest monitoring station that monitors the particular pollutant*

(2) Local Vicinity Emissions

The vicinity of the project site is characterized by undeveloped land to the north, west, and south, and Travel Village Recreational Vehicle (RV) Park to the east. State Route 126 (SR-126) forms the northern site boundary while, further to the north, is the Chiquita Canyon Sanitary Landfill. 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.

In addition, the Chiquita Canyon Landfill generates fugitive dust emissions during landfill covering operations and travel on dirt roads and surfaces, in the form of motor vehicle emissions, and methane gas. No liquid, radioactive, or hazardous wastes are accepted at the landfill, and the landfill does not accept untreated medical wastes, car batteries, or tires. Dust control at the landfill includes periodic watering of access roads, limiting the size of the active disposal area, applying and compacting daily cover. A gas management system to reduce odors and prevent gas migration was installed at the landfill in the early 1990s and is used to control methane gas, which is a naturally occurring product of waste decomposition. The gas is collected and burned at a single, enclosed flare stack located at the landfill.[77] Minor amounts of toxic air contaminants such as benzene, carbon tetrachloride, chloroform, dichlorobenzene, ethylene dichloride, perchloroethylene, and vinyl chloride are emitted by the landfill flaring operations.[78] The EIR for the landfill expansion indicates that the location of maximum health risk associated with flaring operations for the expansion would be along the foothills south of the Santa Clara River,[79] but that the incremental excess cancer risk at this location would be 0.33 in one million, which is less than the SCAQMD's acceptable risk level of one in one million. No other sources of toxic air contaminants are located within 0.25 mile of the Landmark Village site.[80]

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77 Consolidated Disposal Service. "Chiquita Canyon Landfill - Landfill Info. Fact Sheet." [Online] 27 October 2004. <http://www.consolidateddisposalservice.com/landinfo.htm>.

78 Ogden Environmental and Energy Services, Draft Environmental Impact Report Chiquita Canyon Landfill Expansion and Resource Recovery Facilities (San Diego, California Los Angeles County Department of Regional Planning, May 1995), p. IV.G-23. According to Los Angeles County Department of Regional Planning Impact Analysis, this project (CUP 89-081) was approved and the EIR was certified by the Regional Planning Commission on September 11, 1996. The approval was appealed to the Board of Supervisors who sustained the approval in May 1997. CUP 89-081 was approved until November 2019. Koutnik, Daryl <dkoutnik@planning.co.la.ca.us>. "RE: Chiquita Canyon Landfill Expansion EIR." 25 October 2004. Rosemarie Mamaghani <rosem@impactsciences.com>.

79 *Ibid*., p. IV.G-34.

80 According to the *CEQA Air Quality Handbook*, 0.25 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. SCAQMD, *CEQA Air Quality Handbook*, (Diamond Bar, California: SCAQMD, April 1993), p. 5-1, Fig. 5-1; p. 5-7.

The landfill is permitted by the California Environmental Protection Agency, the Regional Water Quality Control Board, Los Angeles Region, the Los Angeles County Department of Health Services, and the SCAQMD.[81]

Motor vehicles are the primary sources of pollutants within the project vicinity. Traffic-congested roadways and intersections that operate at Levels 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. Localized areas where ambient concentrations exceed state and/or federal standards are termed CO "hotspots." Section 9.4 of the *CEQA Air Quality Handbook* identifies CO as a localized problem requiring additional analysis when a project is likely to subject sensitive receptors to CO hotspots.[82] Sensitive receptors are populations that are more susceptible to the effects of air pollution than the population at large. The SCAQMD identifies the following as sensitive receptors: long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, child care centers, and athletic facilities.[83] As indicated in **Table 4.9-16,** above, CO concentrations are not an issue in SRA 13 and are not expected to be an issue in the project study area,[84] because the existing background concentrations for SRA 13 are well below the CO standards. However, a CO hotspots analysis was conducted for the project study areas to evaluate the potential for CO concentrations in exceedance of the state and federal standards. The CO hotspots analysis is presented later in this section in the **Operational Impacts** heading of the **Project Impacts** subsection.

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81 Consolidated Disposal Service. Chiquita Canyon Landfill – Landfill Info. Fact Sheet." [Online] 13 February 2004. <http://www.consolidateddisposalservice.com/landinfo.htm>.

82 SCAQMD, *CEQA Air Quality Handbook*, (Diamond Bar, California: SCAQMD, April 1993), p. 9-9.

83 *Ibid*., p. 5-1, Figure 5-1; p. 5-7.

84 The project study area includes all intersections and roadways that could potentially be significantly impacted by project traffic.

In 2002, peak hour vehicle mix along SR-126 at the Ventura/Los Angeles County line was composed of 78.1 percent passenger vehicles, 3.3 percent medium trucks, and 18.6 percent heavy trucks. Traffic along SR-126 west of Interstate 5 (I-5) was composed of 87.5 percent passenger vehicles, 3.7 percent medium trucks, and 8.7 percent heavy trucks.[85] According to the operator of the Chiquita Canyon Sanitary Landfill, approximately 466 vehicles (including heavy trucks and passenger vehicles) visit the landfill on a daily basis.

(3) Site-Specific Emissions

Aside from the agricultural operations and agricultural sheds on the project site, it 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. The agricultural sheds generate stationary source emissions from space and water heating, and from the low volumes of vehicular traffic to and from the site.

6. 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 sidewalks, bike lanes, and trails would encourage alternative modes of travel in lieu of automobiles, while the shade trees would reduce the amount of energy required for air conditioning and the corresponding energy generation emissions. The Landmark Village 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.

Landmark Village would facilitate the use of public transit by providing bus pull-ins along SR-126 and within the project site, and by reserving right-of-way for a future Metrolink line, space for a park-and-ride and/or Metrolink station. The project study area is served by the Santa Clarita Transit (SCT) system, which is operated by the City of Santa Clarita, and which largely serves the Santa Clarita Valley. SCT

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85 State of California Department of Transportation, *2002 Annual Average Daily Truck Traffic on the California State Highway System*, (Sacramento, California: California Department of Transportation, February 2004), p. 189. Heavy trucks are all vehicles with three or more axles designed for the transportation of cargo; generally, the gross weight if greater than 12,000 kilograms (kg) (26,500 lbs.). Medium trucks are all vehicles with two axles and six wheels designed for transportation of cargo. Generally, the gross vehicle weight is greater than 4,500 kg (10,000 lbs.) and less than 12,000 kg (26,500 lbs.). Finally, passenger vehicles are all vehicles with two axles and four wheels designed primarily for transportation of nine or fewer passengers (automobiles). Lightweight trucks with a gross vehicular weight of less than 4,500 kg (10,000 lbs.) also fall into this passenger vehicle category.

commuter buses provide regional service to downtown Los Angeles, the San Fernando Valley, and the Antelope Valley. SCT currently operates one fixed-route transit line (Route 2) near the project site. The route passes the project site via SR-126 and provides service to the greater Val Verde and Commerce Center areas. Additional routes, accessible from Route 2, provide service to the greater Santa Clarita Valley area.[86]

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 rail right-of-way, and a park-and-ride and/or train station.

Using data from April 2004, average weekday ridership on the Antelope Valley Line of the Metrolink, which serves the Santa Clarita Valley, was 6,144 people,[87] with approximately 17.5 percent boarding at the Santa Clarita station on Soledad Canyon Road.[88] According to Metrolink management, the overall regional system has removed 24,971 cars per weekday from regional roadways, which represents 2.9 percent of the freeway traffic on freeways that run parallel to the Metrolink lines.[89] The use of these mass transit facilities has helped to reduce roadway congestion, fuel consumption, and air emissions within the region.

The project site is also 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 many Santa Clarita Valley residents. Furthermore, the project itself is expected to generate a portion of the 19,320 employment opportunities projected at buildout of the Newhall Ranch Specific Plan. Because of the proximity of project residences to existing and future job centers, future project residents would not have to commute to more distant employment centers in the San Fernando Valley, Ventura County, or beyond.

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86 Santa Clarita Transit. "Routes and Schedules." [Online] 25 October 2004. http://www.santa-clarita.com/cityhall/field/transit/routes & schedules.asp.

87 Metrolink. "Facts and Timeline: Our Story." [Online] 20 August 2003. <http://www.metrolingtrains.com/about/facts and timeline.asp>. The Antelope Valley Line has nine stations that run from Lancaster to Glendale.

88 City of Santa Clarita. "City of Santa Clarita Press Releases: Metrolink Ridership Soars in Santa Clarita." [Online] 21 November 2002. <http://www.santa-clarita.com/cityhall/press/o73101h.htm>.

89 Metrolink. "Facts and Timeline: Our Story." [Online] 20 August 2003. <http://www.metrolingtrains.com/about/facts and timeline.asp>.

Because the Landmark Village has been designed to provide future residents of the site with a range of on-site employment opportunities and services, including parks, schools, and retail shopping areas, and is promoting efficient means of access to these uses, VMT and air pollutant emissions can be reduced when compared with a community designed without such a balance of land uses, thereby helping to reduce longer commutes to more distant employment centers in Ventura County, the San Fernando Valley and beyond. As a result of reduced commutes, VMT and, consequently, air pollutant emissions, can be further reduced.

Project residences would also be linked to various employment, shopping, and recreation areas within the site through the community trails and paseos, and within the remainder of Newhall Ranch as it builds out.

During grading, approximately 4.2 million cubic yards of earthen materials would be graded on the Landmark Village site, up to 5.8 million cubic yards of which would be exported to the site from one borrow sites within Newhall Ranch. For the purposes of this impact analysis, it is assumed that the soil would be transported to Landmark Village via double-loaded, heavy-duty trucks, each with a capacity for 20 cubic yards. This does not preclude alternative modes of soil transport, such as conveyor systems, which are commonly used in the quarry and mining industries.

7. 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.

a. Significant Thresholds 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 air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- 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 that exceed quantitative thresholds for O_3 precursors);
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- 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

The SCAQMD recommends that projects with construction-related emissions that exceed any of the following emissions thresholds should be considered significant:[90]

- 24.75 tons per quarter or 550 pounds per day of CO;
- 2.5 tons per quarter or 75 pounds per day of VOC;
- 2.5 tons per quarter or 100 pounds per day of NO_x;
- 6.75 tons per quarter or 150 pounds per day of SO_x; and
- 6.75 tons per quarter or 150 pounds per day of PM_{10}.

(2) Operational Emissions

The SCAQMD has recommended two types of air pollution thresholds to assist lead agencies in determining whether or not the operational phase of a project's development would be significant. These are identified in the following discussion under Emission Significance Thresholds and Additional Indicators of Potential Air Quality Impacts. The SCAQMD recommends that a project's impacts be considered significant if any of these operational thresholds are exceeded.

(a) Emission Significance Thresholds

The SCAQMD has established these thresholds, in part, based on Section 182(e) of the federal CAA, which identifies 10 tons per year of VOC as the significance level for stationary sources of emissions in extreme nonattainment areas for O_3.[91] As discussed earlier, VOC and NO_x undergo photochemical reactions in sunlight to form O_3 and the Basin is 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 their levels in the Basin in comparison with O_3 levels. Because they are converted from a CAA threshold, the SCAQMD believes that these thresholds are based on scientific and factual data.[92] Therefore, the district recommends that

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90 SCAQMD, *CEQA Air Quality Handbook*, (Diamond Bar, California: SCAQMD, November 1993), p. 6-4.

91 *Ibid*., p. 6-1.

92 *Ibid.*

the following thresholds be used by lead agencies in making a determination of operation-related project significance:[93]

- 550 pounds per day of CO;
- 55 pounds per day of VOC;
- 55 pounds per day of NO_x;
- 150 pounds per day of SO_x; and
- 150 pounds per day of PM_{10}.

(b) 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:[94]

- 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 build-out 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;
- 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 .25 mile of an existing facility that emits air toxics identified in SCAQMD Rule 1401; or
- Project could emit carcinogenic or TACs that individually or cumulatively exceed the maximum individual cancer risk of 10 in 1 million.

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93 *Ibid.*, p. 6-2.

94 *Ibid.*, pp. 6-2–6-3.

The following discussion reviews the project's potential impacts relative to each of the recommended significance criteria identified above.

(3) Cumulative Significance Thresholds

The SCAQMD's *CEQA Air Quality Handbook* identifies three possible methods to determine the cumulative significance of land use projects. If the analysis shows that an individual project is consistent with the AQMP performance standards, the project's cumulative impact could be considered less than significant. If the analysis shows that the project does not comply with the standards, then cumulative impacts are considered to be significant unless there is other pertinent information to the contrary.

The performance standards are:

- Reduction of the Rate of Growth in VMT and Trips;
- 1 Percent Per Year Reduction in Project Emissions of CO, VOC, NO_x, SO_x, and PM_{10}; and
- 1.5 Average Vehicle Ridership (AVR), or Average Vehicle Occupancy, if a Transportation Project. The requirement to achieve a specific AVR has been ruled unlawful by the federal government and is no longer recommended.

b. Construction-Related Impacts

(1) Construction Emissions

As mentioned above, construction-related emissions can be designated as either on-site or off-site. On-site emissions generated during construction principally consist of exhaust emissions (NO_X, SO_X, CO, VOC, and PM_{10}) from heavy-duty diesel powered construction equipment operation, fugitive dust (PM_{10}) from disturbed soil, and evaporative VOC emissions from asphaltic paving, and architectural coatings (i.e., painting). Off-site emissions during the construction phase normally consist of exhaust emissions and entrained paved road dust (PM_{10}) during grading and soil removal at the two soil export sites, transporting the cut material to the Landmark Village site, from worker commute trips. Emissions during the construction phase are also a result of truck trips made for equipment and materials delivery, and to remove wastes and unused materials from the construction site.

Development of the proposed project would require site preparation (i.e., removal of the existing irrigation equipment and agricultural sheds, clearing, and grading); pavement and asphalt installation (including infrastructure improvements); and construction of the proposed residential, commercial, institutional, and recreational uses. The few agricultural sheds that exist at the site would be dismantled largely by hand. Their dismantlement would occur concurrently with on-site grading and emissions

from their demolition are factored into the site grading activities. During project buildout, emissions would be generated by on-site stationary sources, heavy-duty construction vehicles, on-road trucks, and construction worker vehicles. In addition, fugitive dust would be generated during grading and pavement installation.

Because of the construction time frame and the normal day-to-day variability in construction activities, it is difficult, if not impossible, to precisely quantify the daily emissions associated with each construction subphase. **Table 4.9-17**, **Estimated Unmitigated Construction Emissions**, nonetheless, conservatively identifies daily emissions associated with construction based on information provided by the project applicant and on other information provided in the *Software Users' Guide [for] URBEMIS2002 for Windows with Enhanced Construction Module* (May 2002).[95] (These assumptions have been entered into the spreadsheets that are available for review in Recirculated Draft EIR **Appendix 4.9**.) These results are also based on the assumption that all of the construction equipment in each subphase would operate continuously over an 8-hour period. In reality, this would not occur, as most equipment would operate for only a fraction of each workday. Another assumption is that all construction equipment would be properly maintained, grading activities would conform to Rule 403 to control fugitive dust emissions, and that low VOC emission asphalt and architectural coating would be used. As shown in **Table 4.9-17**, the project's construction-related emissions would exceed one or more of the SCAQMD's construction thresholds of significance during all but one of the construction subphases.

It is expected that the project's construction-related activities will either emit the other criteria pollutants (i.e., sulfates, hydrogen sulfide, Pb, vinyl chloride, and visibility reducing particles) in nominal quantities (i.e., sulfates), not at all (i.e., hydrogen sulfide, Pb, and vinyl chloride), or will be accounted for by the pollutants actually estimated in this analysis (i.e., visibility reducing particles). Note that NO_x and VOC are O_3 precursors and NO_2, SO_2, and $PM_{2.5}$ are subset of NO_x, SO_x, and PM_{10}, respectively.

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95 California Air Resources Board. "URBEMIS2002 Program." [Online] 22 December 2003. <http://www.arb.ca.gov/planning/urbemis/urbemis2002/urbemis2002.htm>.

Table 4.9-17
Estimated Unmitigated Construction Emissions

Subphase/Emissions Source	Emissions (lbs/day)				
	CO	VOC	NO_x	SO_x	PM_{10}
Weeks 1 thru 19					
Unmitigated Emissions Total	1,904.84	295.29	1,531.46	0.65	6,863.21
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	YES	YES	YES	NO	YES
Notes: No Demolition, Pavement and Asphalt, or Building Construction during this subphase. Assumes conformance with Fugitive Dust Rule 403.					
Weeks 20 thru 39					
Unmitigated Emissions Total	3,285.77	467.09	2,676.20	0.81	6,903.47
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	YES	YES	YES	NO	YES
Notes: No Demolition or Building Construction during this subphase. Assumes conformance with Fugitive Dust Rule 403.					
Weeks 40 thru 46					
Unmitigated Emissions Total	5,007.45	844.93	4,329.78	0.79	6,983.38
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	YES	YES	YES	NO	YES
Notes: No Demolition during this subphase. Assumes conformance with Fugitive Dust Rule 403.					
Weeks 47 thru 91					
Unmitigated Emissions Total	3,102.61	549.63	2,798.32	0.15	131.16
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	YES	YES	YES	NO	NO
Notes: No Demolition or Grading during this subphase.					
Week 92					
Unmitigated Emissions Total	3,603.81	603.46	3,035.29	0.06	122.52
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	YES	YES	YES	NO	NO
Notes: No Demolition or Grading during this subphase.					
Weeks 93 thru 144					
Unmitigated Emissions Total	3,306.30	555.86	2,790.95	0.05	112.86
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	YES	YES	YES	NO	NO
Notes: No Demolition or Grading during this subphase.					
Weeks 145 thru 158					
Unmitigated Emissions Total	3,126.78	528.79	2,527.25	0.05	97.52
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	YES	YES	YES	NO	NO
Notes: No Demolition or Grading during this subphase.					
Weeks 159 thru 178					
Unmitigated Emissions Total	1,764.79	358.43	1,402.96	0.03	53.80
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	YES	YES	YES	NO	NO
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase.					

Subphase/Emissions Source	Emissions (lbs/day)				
	CO	VOC	NO_x	SO_x	PM_{10}
Weeks 179 thru 196					
Unmitigated Emissions Total	1,549.32	332.26	1,245.55	0.03	48.53
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	YES	YES	YES	NO	NO
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase.					
Weeks 197 thru 210					
Unmitigated Emissions Total	1,064.36	218.82	854.79	0.02	33.26
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	YES	YES	YES	NO	NO
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase.					
Weeks 211 thru 220					
Unmitigated Emissions Total	794.57	134.83	596.44	0.01	22.03
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	YES	YES	YES	NO	NO
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase.					
Weeks 221 thru 235					
Unmitigated Emissions Total	500.54	71.95	374.61	0.01	13.72
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	NO	NO	YES	NO	NO
Beg. 2015 (196 Weeks) [1]					
Unmitigated Emissions Total	905.93	147.09	669.17	0.03	24.03
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00
Exceeds Thresholds?	YES	YES	YES	NO	NO
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase.					

Source: Impact Sciences, Inc., Air quality calculations can be found in Recirculated Draft EIR ***Appendix 4.9****.*

[1] *As a worst-case scenario, assumes all associated grading and pavement/asphalt is completed during the first three subphases.*

(a) Localized Significance Thresholds (LST)

The SCAQMP has recommended that this EIR analyze ambient PM_{10}, NO_2, and CO concentrations (fugitive dust and motor vehicle and equipment exhaust) due to construction of the proposed project on ambient air quality concentrations in the vicinity of the construction site. The ambient air quality impacts are compared to thresholds established by the SCAQMD. The significance threshold for PM_{10} represents compliance with Rule 403 (Fugitive Dust). 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.

(1) Emission Estimation Methodology

Unmitigated construction emissions were estimated based on the information provided in the Software Users' Guide: URBEMIS2002 for Windows with Enhanced Construction Module, Version 8.7.0 (April 2005) [The assumptions are available for review in Recirculated Draft EIR **Appendix 4.9**]. URBEMIS2002

is a land use and transportation based air quality model developed in cooperation with the ARB and designed to estimate air emissions from new development projects, including construction emissions. The emissions are estimated based on the information provided by the project applicant. The key emission estimation assumptions are as follow:

- Anticipated starting year: 2007
- Anticipated development duration: 235 weeks
- Anticipated grading and asphalt paving schedule: week 1 to week 75
- Anticipated construction schedule: week 76 to week 235
- Total number of acres of land to be graded: 291 acres
- Maximum acres graded per day: 28 acres
- Dust control measures: As required by SCAQMD Rule 403

<u>The Utility Corridor</u>

- Anticipated starting year: 2007
- Anticipated development duration: 52 weeks
- Anticipated grading schedule: week 1 to week 30
- Anticipated grading and water tank construction schedule: week 31 to week 48
- Anticipated grading and water tank welding and coating schedule: week 49 to week 52
- Total number of acres of land to be graded: 32 acres
- Maximum acres graded per day: 0.12 acre
- Dust control measures: As required by SCAQMD Rule 403

In order to comparatively assess comparative impacts, **Table 4.9-18, Peak Background Concentrations for SRA 13 for the Period of 2003 to 2005**, shows the peak background concentrations of NO_2 and CO in Source Receptor Area (SRA) 13 (Santa Clarita Valley) in which the proposed project is located. These are the values on which LST criteria for NO_x and CO are based.

Table 4.9-18
Peak Background Concentrations for SRA 13 for the Period of 2003 to 2005

Pollutant	Averaging Period	Unit	2003	2004	2005	Peak Concentration
Nitrogen Dioxide (NO_2)	1 hour	ppm	0.12	0.09	0.08	0.12
Carbon Monoxide (CO)	1 hour	ppm	3	5	2	5
Carbon Monoxide (CO)	8 hours	ppm	1.7	3.7	1.3	3.7

Source: SCAQMD "Historical Data by Year." [Online] [March 30, 2005. http://www.aqmd.gov/smog/historicaldata.htm. U.S. Environmental Protection Agency, Air Data: Access to Air Pollution Data [Online] [March 2, 2006], http://www.epa.gov/air/data/index.html.

Table 4.9-19, Localized Significance Criteria, shows the threshold criteria recommended by the SCAQMD for determining whether the emissions resulting from construction of a development project have the potential to generate significant adverse local impacts on ambient air quality. The SCAQMD's concentration-based PM_{10} threshold from its *Localized Significance Threshold Methodology* (*LST Methodology*)[96] is a 24-hour average concentration of 10.4 μg/m³ based on compliance with Rule 403. The thresholds for NO_2 and CO were based on the maximum concentrations that occurred during the last three years (2003 to 2005) as shown in **Table 4.9-18**. These thresholds represent the allowable increase in NO_2 and CO ambient concentrations above current levels that could occur in SRA 13 without causing or contributing to exceedances of the CAAQS. For reference, the applicable CAAQS are also shown in **Table 4.9-19, Localized Significance Criteria**.

Table 4.9-19
Localized Significance Criteria

Pollutant	Averaging Period	CAAQS		Peak Conc. in ppm	LST Criteria[1]	
		μg/m³	ppm			
Respirable Particulate Matter (PM_{10})	24 hours	50	NA	NA	10.4	NA
Nitrogen Dioxide (NO_2)	1 hour	470	0.25	0.12	244	0.13
Carbon Monoxide (CO)	1 hour	23,000	20	5	17,165	15
Carbon Monoxide (CO)	8 hours	10,000	9.0	3.7	6,065	5.3

Source: SCAQMD, Final Localized Significance Threshold Methodology, June 2003.
[1] LST Criteria is the difference between CAAQS and the Peak Concentration.

96 SCAQMD, *Final Localized Significance Threshold Methodology*, June 2003.

The maximum daily emissions that could occur on the project site from any construction phase were selected for the LST analysis. The maximum daily emissions for each pollutant may occur during a different subphase (e.g., grading, building construction). **Table 4.9-20, Estimated Construction Emissions Associated with the Proposed Project**, shows the estimated construction emissions associated with each proposed project that would occur on the project site.

Table 4.9-20
Estimated Construction Emissions Associated with the Proposed Project

Pollutant	Maximum Daily Emissions (pounds per day)	
	Fugitive Dust	Mobile Sources
PM_{10}[1]	1,253.84	41.20
NO_x[2]	—	2,524.30
CO[2]	—	3,184.13

Source: Construction emissions were estimated based on the information provided in the User's Guide [for] URBEMIS2002 for Windows with Enhanced Construction Module (May 2002). Emissions reflect the worst-case scenario (i.e., highest daily emissions associated with the project). The worst-case daily emissions may occur in different project subphases.

[1] *Maximum daily PM_{10} emissions are expected to occur during week 45 to week 48.*

[2] *Maximum daily CO and NO_x emissions are expected to occur during week 128.*

(2) Project-Specific Impacts

Table 4.9-21, Modeling Results – Maximum Impacts at Residential Receptors; **Table 4.9-22, Modeling Results – Maximum Impacts at Workplace Receptors**; and **Table 4.9-23, Modeling Results – Maximum Impacts at Sensitive Receptors**, below, show the maximum PM_{10}, NO_2, and CO concentrations associated with the proposed project at residential, workplace, and sensitive receptors, respectively. The nearest residential community to the project site is the community of Val Verde, located approximately 1.9 kilometers to the north, across SR-126. Other residences are scattered throughout the area, primarily to the north of the site across SR-126. A recreational vehicle park (Travel Village) is located to the east of the project site; however, occupants are limited to a 30-day stay. The nearest potential off-site workplace receptors are located to the northeast in the Valencia Commerce Center, approximately 700 meters to the northeast. The nearest sensitive receptors are located approximately 1.7 kilometers to the northeast in the Live Oak Elementary School.

Table 4.9-21
Modeling Results – Maximum Impacts at Residential Receptors

Pollutant	Averaging Period	Modeling Results		LST Criteria[1]		Exceeds Threshold?
		μg/m³	ppm	μg/m³	ppm	
Respirable Particulate Matter (PM_{10})	24 hours	56.08	NA	10.4	NA	**YES**
Nitrogen Dioxide (NO_2)	1 hour	404.83	0.22	244	0.13	**YES**
Carbon Monoxide (CO)	1 hour	680.87	0.59	17,165	15	NO
Carbon Monoxide (CO)	8 hours	97.31	0.09	6,065	5.3	NO

Source: Impact Sciences, Inc.
[1] *SCAQMD, Final Localized Significance Threshold Methodology, June 2003.*
The maximum impacts were observed at the community of Val Verde located approximately 1.9 kilometers to the north, across SR-126.

Table 4.9-22
Modeling Results – Maximum Impacts at Workplace Receptors

Pollutant	Averaging Period	Modeling Results		LST Criteria[1]		Exceeds Threshold?
		μg/m³	ppm	μg/m³	ppm	
Respirable Particulate Matter (PM_{10})	24 hours	60.90	NA	10.4	NA	**YES**
Nitrogen Dioxide (NO_2)	1 hour	483.28	0.26	244	0.13	**YES**
Carbon Monoxide (CO)	1 hour	1,787.23	1.56	17,165	15	NO
Carbon Monoxide (CO)	8 hours	243.5	0.21	6,065	5.3	NO

Source: Impact Sciences, Inc.
[1] *SCAQMD, Final Localized Significance Threshold Methodology, June 2003.*
The maximum impacts were observed at the Valencia Commerce Center located approximately 700 meters to the northeast.

Table 4.9-23
Modeling Results – Maximum Impacts at Sensitive Receptors

Pollutant	Averaging Period	Modeling Results		LST Criteria[1]		Exceeds Threshold?
		μg/m³	ppm	μg/m³	ppm	
Respirable Particulate Matter (PM_{10})	24 hours	14.82	NA	10.4	NA	**YES**
Nitrogen Dioxide (NO_2)	1 hour	223.90	0.12	244	0.13	NO
Carbon Monoxide (CO)	1 hour	424.65	0.37	17,165	15	NO
Carbon Monoxide (CO)	8 hours	53.08	0.05	6,065	5.3	NO

Source: Impact Sciences, Inc.
[1] *SCAQMD, Final Localized Significance Threshold Methodology, June 2003.*
The maximum impacts were observed at the Live Oak Elementary School located approximately 1.7 kilometers to the northeast.

The LST analysis shows that maximum 24-hour PM_{10} would exceed the threshold of significance established by SCAQMD at the nearest residential, workplace, and sensitive receptors to the project site. Also, 1-hour NO_2 concentrations would exceed the threshold of significance established by SCAQMD at the nearest residential and workplace receptors to the project site. A detailed discussion of the calculations and methodologies used for the LST analysis is provided in Recirculated Draft EIR **Appendix 4.9**.

The impacts suggest that PM_{10} emissions could exceed the limitations in SCAQMD Rule 403. While the NO_2 concentrations exceed the LST thresholds, the CAAQS would be exceeded only if: (1) the actual background concentrations were as high as those on which the LST thresholds are based during the worst-case construction day; (2) the amount of construction activity (e.g., number and types of equipment, hours of operation) assumed in this analysis actually occurred; and (3) the meteorological conditions in the data set used in the dispersion modeling analysis occurred in the vicinity of the project site on the worst-case construction day.

(2) Construction Emissions Conclusions

Because project construction emissions would exceed one or more of the SCAQMD's CO, VOC, NO_x, and PM_{10} thresholds of significance during all but one subphase of the project's construction, the emission levels are considered potentially significant and feasible mitigation is required. The effectiveness of the proposed mitigation in reducing these potentially significant adverse air quality impacts is discussed below.

c. Operational Impacts

(1) Daily 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.

(a) Point Source Emissions

Point source emissions could be generated, depending upon the types of uses that locate in the Mixed-Use/Commercial areas of the project site. For this analysis, it is conservatively assumed that the types of point sources that could potentially locate in this area could include fast-food restaurants with under-fired charbroilers, dry cleaners, and fuel dispensers at gasoline stations.

If a dry cleaning storefront is located in the commercial area on the project site, all actual dry cleaning operations must occur at already SCAQMD-permitted off-site locations, consistent with Mitigation Measure LV 4.9-5. Therefore, no point source emission permit under the authority of the SCAQMD would be required.

PM_{10} and VOC emissions from fast-food restaurants with charbroilers are regulated under SCAQMD Rule 1138,[97] which requires installation of a catalytic oxidizer that can reduce PM_{10} emissions by approximately 89 percent and VOC emissions by 86 percent.

VOC emissions from gasoline station operations are generated from gasoline dispensing, storage tank "breathing," and gasoline spillage. VOC emissions from gasoline dispensing are regulated by SCAQMD Rule 461, which requires vapor recovery systems that can reduce vapor loss during dispensing by as much as 95 percent.[98]

Although the specific uses that would locate at the Mixed-Use/Commercial sites are yet unknown, 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,[99] it is assumed that such a restaurant would charbroil 233 pounds of 25 percent fat content

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97 SCAQMD, Rule 1138: Control of Emissions From Restaurant Operations, (Diamond Bar, California: SCAQMD, Adopted 14 November 1997). See also "Rule 1138." [Online] 22 December 2003. <http://www.aqmd.gov/rules/html/r1138.html>.

98 SCAQMD, Rule 461: Gasoline Transfer and Dispensing (Amended January 9, 2004). [Online] 27 October 2004. <http://www.aqmd.gov/rules/reg/reg04/r461.pdf>.

99 SCAQMD, Staff Report for Proposed Rule 1138 – Control of Emissions From Restaurant Operations, (Diamond Bar, California: SCAQMD, October 1997).

hamburger meat[100] daily and would operate in conformance with Rule 1138. Based on those assumptions, the restaurant would generate 0.84 pounds of PM_{10}[101] and 0.13 pounds of VOC per day.[102] Based on information obtained from the SCAQMD,[103] it is assumed that the gas station would have a throughput of 10,000 gallons per day and would operate in conformance with Rule 461. Based on those assumptions, the gas station would generate 3.01 pounds of VOC per day.[104]

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,[105] point source emissions from the fast-food restaurant and gasoline station, as shown in **Table 4.9-24, Estimated Operational Emissions Without Mitigation**, would be minimal and less than significant.

(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 wood-burning fireplaces, and during the operation of gasoline-powered landscape

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100 High fat content hamburger meat generates the greatest amount of PM_{10} and VOC emissions of most charbroiled meats. Staff Report for Proposed Rule 1138 – Control of Emissions From Restaurant Operations, pp. 11–12.

101 This emission assumes an uncontrolled emission rate of 32.65 pounds of PM_{10} per 1,000 pounds of 25 percent fat hamburger meat and an 89 percent reduction rate. Staff Report for Proposed Rule 1138 – Control of Emissions From Restaurant Operations, p. 11.

102 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. Staff Report for Proposed Rule 1138 – Control of Emissions From Restaurant Operations, p. 11.

103 SCAQMD, Staff Report for Proposed Rule 461 – Gasoline Transfer And Dispensing, (Diamond Bar, California: SCAQMD, August 1995). Telephone voice mail Randy Matsuyama, Air Quality Engineer II, SCAQMD, to Darren W. Stroud, Nossaman, Guthner, Knox & Elliott, LLP, 20 October 2003.

104 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 p. 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/1,000 gallons from p. 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.

105 SCAQMD, Rule 1303 – Requirements, (Diamond Bar, California: SCAQMD, Amended 6 December 2002); http:www.aqmd.gov/rules/reg/reg13/r1303.pdf; Rule 1138. Control Of Emissions From Restaurant Operations, (Diamond Bar, California: SCAQMD, Adopted 14 November 1997). http://www.aqmd.gov/rules/reg/reg11/r1135.pdf; Rule 461. Gasoline Transfer And Dispensing, (Diamond Bar, California: SCAQMD, Amended 15 June 2001). http://www.aqmd.gov/rules/reg/reg04/r461.pdf.

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 the project site.

Inputting project land use characteristics, trip generation information from the Landmark Village Traffic Analysis prepared by Austin-Foust Associates, Inc. (October 2003), and the above project assumptions, URBEMIS2002 was used to calculate area and mobile source emissions from the proposed project for both summertime and wintertime emissions. The primary difference between the summertime and the wintertime emissions is that wood-burning fireplaces would only generate emissions during wintertime. The project's area and mobile source emissions, as estimated using URBEMIS2002, are shown in **Table 4.9-24**. The table does not reflect mitigation required of the Landmark Village project under the Newhall Ranch Specific Plan approval. The mitigating effects of these measures on Landmark Village air emissions are calculated later on in this impact analysis under **Subsection 8, Mitigation Measures**.

As shown in **Table 4.9-24**, the project at buildout and in full operation would generate total summertime and wintertime emissions that would exceed the thresholds for CO, VOC, NO_X, and PM_{10}. As the amount of emissions under each scenario would exceed the recommended significance thresholds for operational emissions, project air quality impacts would be significant for both scenarios.

(2) Additional Indicators of Potential Air Quality Impacts

As previously discussed, the SCAQMD lists additional criteria indicating when a project may create potential air quality impacts.[106] These criteria are listed below along with an analysis of whether or not the project meets any of them. If a project meets any one of the criteria, project air quality impacts would be significant relative to that criterion.

- 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.

[106] SCAQMD, *CEQA Air Quality Handbook*, (Diamond Bar, California: SCAQMD, November 1993), pp. 6-2–6-3.

Table 4.9-24
Estimated Operational Emissions Without Mitigation

Emissions Source	Emissions in Pounds per Day				
	CO	VOC	NO_x	SO_x	PM_{10}
Summertime Emissions					
Point Sources	--	3.14	--	--	0.84
Mobile Sources	4,086.19	337.40	385.45	2.43	371.12
Area Sources					
Natural Gas	12.18	2.21	29.13	--	0.05
Wood Stoves	0.00	0.00	0.00	0.00	0.00
Fire Places	0.00	0.00	0.00	0.00	0.00
Landscape Maintenance	5.78	0.71	0.08	0.09	0.01
Consumer Products	--	75.46	--	--	--
Area Source Subtotal	17.96	78.38	29.21	0.09	0.06
Summertime Emission Totals:	4,104.14	418.92	414.66	2.52	372.02
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	**YES**	**YES**	**YES**	**NO**	**YES**
Wintertime Emissions					
Point Sources	--	3.14	--	--	0.84
Mobile Sources	3,939.50	324.54	557.65	1.97	371.12
Area Sources					
Natural Gas	12.18	2.21	29.13	--	0.05
Wood Stoves	0.00	0.00	0.00	0.00	0.00
Fire Places	1,784.09	1,617.41	18.36	2.83	244.38
Landscape Maintenance	5.78	0.71	0.08	0.09	0.01
Consumer Products	--	75.46	--	--	--
Area Source Subtotal	1,802.05	1,695.79	47.57	2.92	244.44
Wintertime Emission Totals:	5,741.55	2,023.47	605.22	4.89	616.4
Recommended Threshold:	550.0	55.0	55.0	150.0	150.0
Exceeds Threshold?	**YES**	**YES**	**YES**	**NO**	**YES**

Source: Impact Sciences, Inc. Emissions calculations are provided in Recirculated Draft EIR ***Appendix 4.9****.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.

SCAQMD's *CEQA Air Quality Handbook* suggests that an air quality modeling analysis (i.e., dispersion modeling) may be performed that identifies the project's potential impact on ambient air quality. A project would not create potential significant adverse air quality impacts if the dispersion modeling demonstrates that the project's incremental emissions would not increase the frequency or the severity of existing air quality violations, or contribute to a new violation.[107] It has already been demonstrated that the project's CO emissions would not exceed the criteria (see **Tables 4.9-21, 4.9-22,** and **4.9-23,** above) and this finding is consistent with that of the Newhall Ranch Specific Plan Program EIR. With respect to the other pollutants (i.e., NO_x, SO_x, VOC, and PM_{10}), SCAQMD staff have stated that air quality dispersion models do not currently exist for general development projects that can determine if the project's NO_x, SO_x, VOC, and PM_{10} emissions would increase the frequency or the severity of existing air quality violations, or contribute to a new violation.[108] Therefore, no such air quality dispersion analysis can be undertaken for this project.

Instead, SCAQMD staff state that a project's consistency with the population number and location assumptions identified by SCAG and used in the preparation of the 2003 AQMP should be assessed as required by the next criterion:

- 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 build-out year.

The 2003 AQMP is designed to accommodate planned growth, to reduce the high levels of pollutants within the areas under the jurisdiction of SCAQMD, to return clean air to the region by 2010, and to minimize the impact on the economy. Projects that are considered to be consistent with the AQMP do not interfere with attainment and do not contribute to the exceedance of an existing air quality violation because this 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 the long-term attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended thresholds.

Future air emissions within the Basin are based on demographic projections developed by SCAG for its 2001 RTP.[109] Projects that are consistent with the projections of population forecasts identified in the 2001 RTP are considered consistent with the AQMP growth projections. Because the population,

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[107] SCAQMD, *CEQA Air Quality Handbook*, (Diamond Bar, California: SCAQMD, November 1993), p. 12-3.

[108] Interview with Steve Smith, SCAQMD, Diamond Bar, California, February 23, 1996.

[109] SCAQMD. 2003 AQMP. [Online] 22 December 2003. <http://www.aqmd.gov/aqmp/AQMD03AQMP.htm>, p. 3-9.

housing, and employment that would be generated by Newhall Ranch have been incorporated into the 2001 RTP, the Landmark Village project is consistent with the 2003 AQMP and, therefore, it would not jeopardize attainment of state and federal ambient air quality standards in the Santa Clarita Valley area or the Basin.

Another means of assessing 2003 AQMP consistency for this criterion is to determine how a project accommodates the expected increase in population and employment. Generally, if a project is planned in a way that results in the minimization of VMT both within the project and in the community in which it is located, and consequently the minimization of air pollutant emissions, that project is deemed to be consistent with the 2003 AQMP.[110]

As discussed earlier, the Landmark Village project and Newhall Ranch include a mobility system with alternatives to automobile use, including a system of pedestrian and bicycle trails, and infrastructure to accommodate a bus transit system, a railway right-of-way, and a park and ride lot. As such, the project would minimize VMT both within the project and within the community of Newhall Ranch as it builds out. Therefore, air emissions would be minimized.

- 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.

According to the traffic impact analysis for the project (see **Section 4.7** and **Appendix 4.7** in the Recirculated Draft EIR), the following intersections would operate at LOS E or F (PM peak hour) at some point during Phase 2 or at project buildout prior to mitigation: (1) Wolcott Way/SR-126; (2) Commerce Center Drive/SR-126; (3) Chiquita Canyon-Long Canyon Roads/SR-126; (4) I-5 SB Ramps/SR-126; and (5) I-5 NB Ramps/SR-126. As previously mentioned, traffic-congested roadways and intersections that operate at LOS E or F have the potential to generate localized high levels of CO within approximately 1,000 feet of a roadway.[111]

Therefore, the project was evaluated to determine if traffic congestion at these intersections would cause a CO hotspot. The evaluation utilized 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 is parallel to the primary roadway and 90 degrees to the secondary road, wind speed of less than 1 meter per second and extreme atmospheric

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110 SCAQMD, *CEQA Air Quality Handbook*, (Diamond Bar, California: South Coast Air Quality Management District, November 1993), p. 12-5.

111 Institute of Transportation Studies, University of California, Davis, *Transportation Project-Level Carbon Monoxide Protocol*, (1997), p. 4-7.

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*.[112] This model is utilized to predict future CO concentrations 0 and 25 feet from the intersections in the study area based on projected traffic volumes from the intersections contained in the traffic study for the project.[113] Intersections operating at a LOS of E or F are considered have to have the potential to create a CO hotspot;[114] therefore, for the purposes of this analysis, only intersections estimated to operate at LOS E or F under future cumulative plus project traffic conditions were analyzed.

Maximum future cumulative plus project CO concentrations were calculated for peak hour morning and evening traffic volumes using the highest traffic volumes associated project development. Background CO concentrations were included in the analysis. The results of these CO concentration calculations are presented in **Table 4.9-25, Carbon Monoxide Hotspots Analysis**, for representative receptors located 0 and 25 feet from the intersection.

Table 4.9-25
Carbon Monoxide Hotspots Analysis

Intersection	0 Feet		25 Feet	
	1-Hour[1] (ppm)	8-Hour[2] (ppm)	1-Hour[1] (ppm)	8-Hour[2] (ppm)
Phase 2				
Wolcott & SR-126	8.3	6.0	7.0	5.1
Commerce Center & SR-126	7.7	5.6	6.6	4.8
Project Buildout				
I-5 SB Ramps & SR-126	8.9	6.4	7.3	5.3
I-5 NB Ramps & SR-126	8.3	6.0	7.0	5.1
Wolcott & SR-126	8.1	5.9	6.9	5.0
Commerce Center & SR-126	7.3	5.3	6.3	4.6
Chiquito/Long Canyon & SR-126	7.6	5.6	6.6	4.8

112 Communication with Steve Smith, Program Supervisor, South Coast Air Quality Management District, and Impact Sciences, Inc., May 12, 2004.

113 Crain and Associates, *Traffic Impact Report for the Proposed Figueroa & Adams Apartments at 2455 S. Figueroa Street, City of Los Angeles*, (2008).

114 Institute of Transportation Studies, University of California, Davis, *Transportation Project-Level Carbon Monoxide Protocol*, (1997).

Table 4.9-26
State and Federal Standards

Intersection	0 Feet	25 Feet
Exceeds state 1-hour standard of 20 ppm?	NO	NO
Exceeds federal 1-hour standard of 35 ppm?	NO	NO
Exceeds state 8-hour standard of 9 ppm?	NO	NO
Exceeds federal 8-hour standard of 9 ppm?	NO	NO

Source: Impact Sciences, Inc., (2008). Emissions calculations are provided in Recirculated Draft EIR ***Appendix 4.9****.*

As shown in **Tables 4.9-25** and **4.9-26**, above, the CALINE4 screening procedure predicts that, under worst-case conditions, future CO concentrations at each intersection would not exceed the state or federal 1-hour and 8-hour standards with the development of the proposed project. No significant CO hotspot impacts would occur to sensitive receptors in the vicinity of these intersections. As a result, no significant project-related impacts would occur relative to future carbon monoxide concentrations.

- 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. Within the Commercial Uses, airborne odors associated 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 of time 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 and disposal, and SCAQMD Rule 402, which prohibits persons from discharging quantities of air contaminants which cause nuisance to any considerable number of persons.[115] Consequently, no significant impacts from such odors are anticipated.

The Newhall Ranch Specific Plan proposes a WRP within Newhall Ranch and to the west of the Landmark Village site. The plant, which was subject to its own separate environmental review, is a potential source of odors that could affect sensitive receptors within Landmark Village. The presence of strong easterly winds could also possibly cause objectionable odors to reach sensitive residential

[115] SCAQMD, Rule 402 – Nuisance (Adopted May 7, 1976). [Online] 27 October 2005. <http://www.aqmd.gov /rules/reg/reg04/r402.pdf>.

receptors to the east. The primary source of odor at WRPs is hydrogen sulfide produced by the activity of anaerobic organisms in anaerobic treatment processes at the plant site. Another common odor is that of non-ionized ammonia, which is prevalent and readily volatilized whenever the wastewater pH is elevated (becomes less acidic and more alkaline).[116] In addition, other organic compounds can contribute to odor production. These odors can be adequately controlled through physical design of the facility and proper operations management. The SCAQMD also controls the potential for odors through Regulation IX, Subpart O – Standards of Performance for Sewage Treatment Plants, which requires BACT for new WRP sources.[117] This regulation also requires that the primary treatment processes be covered and sealed, and that the exhaust gases from the primary treatment processes are vented to carbon absorbers (scrubbers). According to the County Sanitation Districts of Los Angeles County (CSDLAC), each of these physical and managerial strategies has proven to be effective in controlling odors when properly applied.[118]

One additional potential source of odors is the Chiquita Canyon Landfill located to the north and along the Newhall Ranch boundary. There are two potential sources of odors associated with landfill operations: (1) aerobic decomposition of organic refuse materials prior to being covered with soil, and (2) gases produced by anaerobic bacterial digestion of buried refuse. Each of these sources is controlled by landfill operations and equipment. For example, odors emanating from aerobic decomposition of refuse are controlled by compaction and covering of waste on a daily basis, while odoriferous gases produced by anaerobic decomposition of material within covered landfill cells are collected and disposed of in a landfill gas collection and flaring system.[119] 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 adjacent land uses are such that they would generate objectionable odors that would be detected on the project site. Consequently, no significant impacts from such odors are anticipated under this criterion.

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116 Jones & Stokes, Associates Inc., Draft Program Environmental Impact Report for the Joint Outfall System 2010 Master Facilities Plan (Whittier, California: County Sanitation Districts of Los Angeles County: November 1994), p. 8-10.

117 SCAQMD, Regulation IX - Standards of Performance for New Stationary Sources (Amended May 7, 2004). [Online] 27 October 2005. <http://www.aqmd.gov/rules/reg/reg09/reg09.pdf>.

118 Jones & Stokes, Associates Inc., Draft Program Environmental Impact Report for the Joint Outfall System 2010 Master Facilities Plan (Whittier, California: County Sanitation Districts of Los Angeles County: November 1994), p. 8–10.

119 Ogden Environmental and Energy Services, Draft Environmental Impact Report Chiquita Canyon Landfill Expansion and Resource Recovery Facilities (San Diego, California Los Angeles County Department of Regional Planning, May 1995), p. IV.H-2.

- 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 toxic air contaminant 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; or
- Project could emit carcinogenic or toxic air contaminants that individually or cumulatively exceed the maximum individual cancer risk of 10 in 1 million.

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 these criteria. Charbroilers are not typically considered 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 demonstrated, assuming these emissions are benzene, the amount of VOCs from a gasoline station associated with the project is nominal. Therefore, any gasoline station operated on the site is not expected to emit TACs that would exceed the SCAQMD's thresholds of 10 cancer risks in 1 million.

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 before they can receive a permit.[120] Compliance with the permit would reduce TACs to less than significant. The receipt and maintenance of SCAQMD permits represent verification that any such sources would not result in a significant impact under the first two and last criteria.

As to off-site sources of TACs, the project is not located within 0.25 mile of an existing facility that emits TACs as identified in SCAQMD Rule 1401, Table I. Chiquita Canyon Sanitary Landfill uses flaring operations to control methane gas emissions and the project site could be exposed to toxic emissions generated by these operations, which emit minor amounts of TACs, such as benzene, carbon tetrachloride, chloroform, dichlorobenzene, ethylene dichloride, perchloroethylene, and vinyl chloride.[121] The recent EIR for the landfill expansion indicates that the location of maximum health risk

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[120] SCAQMD, Rule 1401 – New Source Review of Toxic Air Contaminants, (Diamond Bar, California: SCAQMD, Amended 2 May 2003). Rule 1401 may be viewed on-line at http://www.aqmd.gov/rules/reg/reg14/41401.pdf.

[121] Ogden Environmental and Energy Services, Draft Environmental Impact Report Chiquita Canyon Landfill Expansion and Resource Recovery Facilities (San Diego, California Los Angeles County Department of Regional Planning, May 1995), p. IV.G-23.

associated with flaring operations for the expansion would be along the foothills south of the Santa Clara River within Newhall Ranch.[122] However, the incremental excess cancer risk at this location would be 0.33 in one million, which is less than the SCAQMD's maximum individual cancer risk level of 10 in 1 million.[123]

Future air emissions from the WRP, which would be constructed to the west of the site and which is not part of Landmark Village, were discussed in the Newhall Ranch Specific Plan Program EIR. The WRP has the potential to generate hazardous emissions from the storage of chlorine solution, diesel fuel, oil and lubricants, and polymer and laboratory chemicals on the site; however, these emissions would be less than significant for the following reasons: (1) Pursuant to SCAQMD Regulation XIV, the WRP would be required to obtain permits to construct and operate all new sources of air toxic emissions; (2) The WRP would be required to obtain permits to construct and operate all new sources of criteria air pollutants, at each stage of development, and whenever any new sources are added or replaced, pursuant to SCAQMD Regulation XIII; and (3) The receipt and maintenance of SCAQMD permits represent verification that any such sources would not result in a significant impact under the first two and last criteria.

Furthermore, the applicant for the WRP would be required to prepare and implement an "Integrated Emergency Response Plan" (IERP). The IERP would provide procedures for personnel medical emergencies, evacuation procedures, and mitigation and abatement procedures for hazardous chemicals. The plan must conform to multiple regulatory requirements, including 8 Cal.CodeRegs Section 3220, Emergency Action Plan; 8 Cal.CodeRegs Section 3221, Fire Prevention Plan; 8 Cal.CodeRegs Section 5192, Hazardous Waste Operations and Emergency Response; and 22 Cal.CodeRegs Sections 66265.50–66265.56, Contingency Plan and Emergency Procedures. As a result, potential for project residents, employees, and visitors to be exposed to toxic air contaminants is minimal and less than significant under these criteria.

(3) Operational Impacts Conclusion

Operationally-related CO, VOC, NO_x, and PM_{10} emissions generated by the project would exceed SCAQMD recommended emission thresholds of significance for these pollutants and, for that reason, they are considered significant. 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 the CEQA. The effectiveness of the required mitigation measures in reducing these potentially significant adverse air quality impacts is discussed below.

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122 *Ibid.*, p. IV.G-34.

123 *Ibid.*, p. IV.G-34.

The project would be consistent with the 2003 AQMP; therefore, it would not jeopardize the long-term attainment of the air quality standards predicted in that document. As discussed previously, if a project is planned in a way that results in the minimization of VMT both within the project and in the community in which it is located, and consequently the minimization of air pollutant emissions, that project is deemed to be consistent with the 2003 AQMP.[124] The Landmark Village project and Newhall Ranch include a mobility system with alternatives to automobile use, including a system of pedestrian and bicycle trails, and infrastructure to accommodate a bus transit system, a railway right-of-way, and a park and ride lot. As such, the project would minimize VMT both within the project and within the community of Newhall Ranch as it builds out. Therefore, air emissions would be minimized. The project also does not meet the additional indicators of potential air quality impacts.

d. Health Risk Assessment

A health risk assessment evaluates the health impacts due to diesel exhaust particulate matter (DPM) emitted by diesel trucks and equipment associated with construction of a proposed project. A Health Risk Assessment has been prepared for the proposed Landmark Village project and is found in Recirculated Draft EIR **Appendix 4.9**, and a summary of the assessment is provided herein. The proposed project site is bounded by SR-126 on the northern boundary and by the Santa Clara River on the southern boundary. The proposed project will consist of 308 single-family residential units; 1,136 multi-family units (approximately 685 condominiums and 451 apartments); up to 1,033,000 square feet of mixed-use/commercial uses (337,600 square feet [sq. ft.] of retail area and 695,400 sq. ft. of office space); 70,000 sq. ft. of school buildings; and 16.1 acres of park area. Total development is anticipated to occur over a 235-week period. Also, a utility corridor extending approximately 39,800 feet in length and 35 feet wide was considered as a part of the proposed project. The utility corridor includes the infrastructure components for potable water, sewer, reclaimed water, and natural gas. The sources of DPM include on-road trucks and diesel-powered construction equipment like front-end loaders, bulldozers, and scrapers.

The SCAQMD recommends the following significance criteria for health risk assessments:

- Criterion 1: a greater than 10 in one million (10×10^{-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.

Using SCAQMD's thresholds of significance, the health risk assessment has concluded that the maximum anticipated cancer risks associated with construction of the proposed Landmark Village project are 1.2,

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[124] SCAQMD, *CEQA Air Quality Handbook*, (Diamond Bar, California: South Coast Air Quality Management District, November 1993), p. 12-5.

1.7, and 0.3 in one million at workplace, residential, and sensitive receptors, respectively. The assessment also has found that the chronic hazard indices for non-cancer health impacts are well below 1.0 at the maximally exposed receptors under this construction scenario. The health impacts associated with the construction of the proposed project are below the significance criteria and, therefore, are less than significant.

8. MITIGATION MEASURES

Although the proposed Landmark 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 and the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003). In addition, this EIR identifies recommended mitigation measures specific to the Landmark 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 Landmark Village project. These measures are preceded by "SP," which stands for Specific Plan.

a. Mitigation Measures Already Incorporated into Specific Plan

SP 4.10-1 The Specific Plan will provide Commercial and Service Uses in close proximity to residential subdivisions. *(The Landmark Village project provides Commercial and Service 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. *(The Landmark Village project 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. *(The Landmark Village project provides for bus pull-ins 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 the Landmark Village project, 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 Landmark Village project 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 Landmark 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). Of the nine mitigation measures, eight measures are applicable to the Landmark Village project. The applicable mitigation measures will be implemented in conjunction with the proposed Landmark Village project to mitigate potentially significant air quality impacts. Because the Specific Plan would be built out over an estimated 20-year period, it was unknown at the time the Newhall Ranch Specific Plan Program EIR was prepared what technological developments or regulatory requirements may take place over the course of Specific Plan build out that may affect the identification and implementation of mitigation measures. To address this issue, the Newhall Ranch Specific Plan Program EIR called for each future subdivision to implement those feasible measures in effect at the time a subdivision or other development project is filed within the Specific Plan area. Consistent with the approach taking in the Newhall Ranch Specific Plan Program EIR, the eight mitigation measures applicable to the Landmark Village project have been updated for consistency with current SCAQMD regulations, and to reflect existing technologies. Deleted text is marked with a ~~strikethrough~~ while additions are marked through <u>underlined</u> text. It is assumed that all Specific Plan mitigation measures will be implemented unless otherwise indicated.

(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 Recirculated Draft EIR **Appendix 4.10**, 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 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.

These measures control PM_{10} emissions and would also control $PM_{2.5}$ emissions. The effectiveness of these measures at reducing PM_{10} emissions ranges from 7 to 92.5 percent.[125] For the purposes of this impact analysis, and to be consistent with URBEMIS2002 methodology, it is assumed that implementation of these measures would reduce $PM_{2.5}$ and PM_{10} emissions by a maximum of 50 percent.

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

[125] SCAQMD, *CEQA Air Quality Handbook* (Diamond Bar, California: SCAQMD, November 1993), p. 11-15, and p. A11-77.

- 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 methanol-fueled pile drivers.

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 methanol- or natural gas-powered mobile equipment instead of diesel.

n. Use propane- or butane-powered on-site mobile equipment instead of gasoline.

(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~~ *(Removed as growth of internet allows residents to telecommute from home using personal computers.)*

b. Establish shuttle service from residential subdivision to commercial core areas.

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.

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 foot 2 inch 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 videoconference facilities.

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.~~ *(Removed 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). *(Not applicable to Landmark Village project as the commercial uses to be developed in this subdivision will be neighborhood supporting uses that do not utilize commercial vehicle fleets.)*

q. Use low-emissions fleet vehicles:

- TLEV
- ULEV
- LEV
- ZEV

(Not applicable to Landmark Village project as the commercial uses to be developed in this subdivision will be neighborhood supporting uses that do not utilize commercial vehicle fleets.)

r. Reduce employee parking spaces for those businesses subject to Regulation XV (now Rule 2202). *(Rule 2202 applies to employers with more than 250 employees on a single worksite. The Landmark Village project does not include Business Park or similar uses that would generate significant levels of employment at a single location.)*

s. Implement a lunch shuttle service from a worksite(s) to food establishments.

t. Implement compressed workweek schedules where weekly work hours are compressed into fewer than five days.

- 9/80
- 4/40
- 3/36

(The Landmark Village project does not include the types of uses that would generate significant levels of employment at a single location. Therefore, this measure is considered not applicable.)

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 considered not applicable, because the uses proposed by the Landmark 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.~~ *(Removed as growth of internet allows employees to work from home on personal computers.)*

w. Establish a home-based telecommuting program.

x. Provide on-site child care and after-school facilities or contribute to off-site development within walking distance.

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.

aa. Establish a shuttle service from residential core areas to the worksite.

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 that 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.

ai. Contribute to regional transit systems (e.g., right-of-way, capital improvements, etc.).

aj. Charge visitors to park.

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′2″ minimum vertical clearance in parking facilities for vanpool access. (*This mitigation measure is not applicable to the Landmark Village project. The measure refers to preferential parking spaces for carpools and vanpools in Business Park uses. The Landmark Village project does not propose a Business Park.)*

ar. Implement on-site circulation plans in parking lots to reduce vehicle queuing. *(This mitigation measure is not applicable to the Landmark Village project. The measure refers to*

improved circulation within Business Park parking lots. The Landmark Village project does not propose a Business Park.)

as. Set up resident worker training programs to improve job/housing balance. *(This mitigation measure is not applicable to the Landmark Village project. The measure refers to resident worker training programs for Business Park employees. The Landmark Village project does not propose a Business Park.)*

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 Landmark Village project. The measure refers to establishment of home dispatching system for Business Park employees. The Landmark Village project does not propose a Business Park.)*

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 Landmark Village project. The measure refers to creation of a program designed to reduce use of vehicle fleets. The Landmark Village project does not propose a Business Park.)*

av. Use low-emissions fleet vehicles:

- TLEV
- ULEV
- LEV
- ZEV

(This mitigation measure is not applicable to the Landmark Village project. The measure promotes use of alternative fuels in vehicle fleets. The Landmark Village project does not propose a Business Park.)

aw. Require employers not subject to Regulation XV (now Rule 2202) to provide commuter information area. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires employers in Business Parks to provide commuter information area. The Landmark 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 Landmark Village project. The measure requires employers in Business Parks to limit employee parking. The Landmark Village project does not propose a Business Park.)*

ay. Implement compressed workweek 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 Landmark Village project. The measure promotes use of flexible work schedules in Business Park uses. The Landmark Village project does not propose a Business Park.)

az. Offer first right of refusal, low interest loans, or other incentives to employees who purchase or rent local residences. *(This mitigation measure has been omitted because it is not applicable to the Landmark Village project. The measure promotes use of incentives to Business Park employees who choose to reside in a local residence. The Landmark Village project does not propose a Business Park.)*

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 Landmark Village project does not propose a Business Park.)*

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 Landmark Village project. The measure promotes on-site childcare in Business Park uses. The Landmark Village project does not propose a Business Park.)*

bc. Provide on-site employee services such as cafeterias, banks, etc. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to provide on-site employee amenities such as cafeterias or banks. The Landmark Village project does not propose a Business Park.)*

bd. Establish a shuttle service from residential core areas to the worksite. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to provide shuttle service to residential areas. The Landmark Village project does not propose a Business Park.)*

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 Landmark Village project. The measure requires bus stops in Business Park uses. The Landmark Village project does not propose a Business Park.)*

bf. Implement a pricing structure for single-occupancy employee parking and/or provide discounts to ridesharers. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to encourage ridesharing and discourage travel in single occupancy vehicles. The Landmark Village project does not propose a Business Park.)*

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 Landmark Village project. The measure requires uses within the Business Park to provide parking in excess of code for park and ride lots. The Landmark Village project does not propose a Business Park.)*

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 Landmark Village project. The measure requires uses within the Business Park to construct on-site improvements that encourage bicycling. The Landmark Village project does not propose a Business Park.)

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 that 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 Landmark Village project. The measure requires uses within the Business Park to provide pedestrian facility improvements. The Landmark 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 Landmark Village project. The measure requires uses within the Business Park to provide shuttles to transit stations. The Landmark Village project does not propose a Business Park.)*

bk. Contribute to regional transit systems (e.g., right-of-way, capital improvements, etc.). *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to contribute towards regional transit improvements. The Landmark Village project does not propose a Business Park.)*

bl. Synchronize traffic lights on streets impacted by development. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to synchronize traffic signals affected by operation of the park. The Landmark Village project does not propose a Business Park.)*

bm. Reschedule truck deliveries and pickups to off-peak hours. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to schedule deliveries at off-peak hours. The Landmark Village project does not propose a Business Park.)*

bn. Implement a lunch shuttle service from a worksite(s) to food establishments. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to implement a lunch shuttle service. The Landmark Village project does not propose a Business Park.)*

bo. Require on-site truck loading zones. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to provide on-site truck loading zones. The Landmark Village project does not propose a Business Park.)*

bp. Install aerodynamic add-on devices to heavy-duty trucks. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to install aerodynamic devices on truck fleets. The Landmark Village project does not propose a Business Park.)*

bq. Implement or contribute to public outreach programs. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to conduct public outreach programs to reduce VMT. The Landmark Village project does not propose a Business Park.)*

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 Landmark Village project. The measure requires uses within the Business Park to provide shade trees near structures. The Landmark Village project does not propose a Business Park.)*

co. Use energy-efficient and automated controls for air conditioning. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to use energy efficient air conditioning. The Landmark Village project does not propose a Business Park.)*

cp. Use double-paned windows. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to use energy efficient windows. The Landmark Village project does not propose a Business Park.)*

cq. Use energy-efficient low-sodium parking lot lights. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to use energy efficient parking lot lighting. The Landmark Village project does not propose a Business Park.)*

cr. Use lighting controls and energy-efficient lighting. *(This mitigation measure is not applicable to the Landmark Village project. The measure requires uses within the Business Park to use energy efficient lighting. The Landmark Village project does not propose a Business Park.)*

cs. Use light-colored roofing materials to reflect heat. *(This mitigation is not applicable to the Landmark Village project. The measure requires uses within the Business Park to use light color roofing materials. The Landmark Village project does not propose a Business Park.)*

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 Landmark Village project. The*

measure requires uses within the Business Park to orient the structure to account for passive solar design. The Landmark Village project does not propose a Business Park.)

cu. Increase walls and attic insulation beyond Title 24 requirements. *(This mitigation measure has been omitted because it is not applicable to the Landmark Village project. The measure requires uses within the Business Park to increase wall insulation beyond code requirements. The Landmark Village project does not propose a Business Park.)*

cv. Improved storage and handling or source materials. *(This mitigation measure has been omitted because it is not applicable to the Landmark Village project. The measure requires uses within the Business Park to improve storage and handling. The Landmark Village project does not propose a Business Park.)*

cw. Materials substitution (e.g., use water-based paints, life-cycle analysis). *(This mitigation measure has been omitted because it is not applicable to the Landmark Village project. The measure requires uses within the Business Park to conduct materials substitution in their processes. The Landmark Village project does not propose a Business Park.)*

cx. Modify manufacturing processes (e.g., reduce process stages, closed-loop systems, materials recycling).

(This mitigation measure has been omitted because it is not applicable to the Landmark Village project. The measure addresses manufacturing uses within a Business Park. The Landmark Village project does not propose a Business Park.)

cy. Resource recovery systems that redirect chemicals to new production processes. *(This mitigation measure has been omitted because it is not applicable to the Landmark Village project. The measure addresses manufacturing uses within a Business Park. The Landmark Village project does not propose a Business Park.)*

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 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.

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. *(This mitigation measure it is not applicable to the Landmark Village project. The measure addresses ventilation of subterranean parking garages. The Landmark Village project does not propose such parking facilities.)*

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 VMT 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 may occur with implementation of the Landmark 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 Landmark Village project, they are preceded with the "LV" designation, used below.

(1) Construction Mitigation Measures

LV4.9-1 Maintain construction equipment and vehicle engines in good condition and in proper tune as per manufacturers' specifications and per SCAQMD rules, to minimize exhaust emissions.

LV4.9-2 All on-road and off-road construction equipment shall use aqueous fuel, to the extent feasible, as determined by the County of Los Angeles.

Aqueous fuel is a stable emulsion of up to 55 percent water and petroleum-based naphtha (a petroleum product from the earliest stages of the refinery process), with trace amounts of bonding and winterizing agents. It can be used to run both gasoline and diesel engines. Aqueous fuel is clean-burning and, based on information provided in the URBEMIS2002 model for its use in construction equipment, it can reduce NO_x emissions by 14 percent and PM_{10} emissions by 63 percent.

LV4.9-3 All on-road and off-road construction equipment shall employ cooled exhaust gas recirculation technology, to the extent feasible, as determined by the County of Los Angeles.

Cooled exhaust gas recirculation (EGR) reduces CO, VOC, NO_x, and PM_{10} emissions as follows: Oxygen is required for fuel to be consumed in a combustion engine. The high temperatures found within combustion engines cause nitrogen in the surrounding air to react with any unused oxygen from the combustion process to form NO_x. EGR technology directs some of the exhaust gases that have already been used by the engine and no longer contain much oxygen back into the intake of the engine. By mixing the exhaust gases with fresh air, the amount of oxygen entering the engine is reduced. Since there is less oxygen to react with, fewer nitrogen oxides are formed and the amount of nitrogen oxides that a vehicle releases into the atmosphere is decreased. Based on

information provided in the URBEMIS2002 model for its use in construction equipment, cooled exhaust gas recirculation technology can reduce CO and VOC emissions by 90 percent, NO_x emissions by 40 percent and PM_{10} emissions by 85 percent.

LV4.9-4 All on-road and off-road construction equipment shall employ diesel particulate filters, which can reduce PM_{10} emissions from construction equipment by as much as 80 percent based on information provided in the URBEMIS2002 model.

Although substantial mitigation is recommended for the project's construction-related emissions, **Mitigation Measures LV 4.9-2** and **4.9-3** are based on technology unproven on a large scale and which may be infeasible. However, if these mitigation measures are found feasible at the time of construction, the project's construction-related CO, VOC, NO_x, and PM_{10} emissions would be reduced substantially, as shown in **Table 4.9-27**, **Estimated Mitigated Construction Emissions**. In particular, implementation of these mitigation measures, if feasible, would reduce CO emissions exceedances from 51 months to less than 2 months. However, even with the implementation of these mitigation measures, if feasible, construction emission thresholds for VOC, NO_x, and PM_{10} emissions would still be exceeded for approximately 48, 48, and 11 months, respectively. As a result, construction air quality impacts are considered significant.

Table 4.9-27
Estimated Mitigated Construction Emissions

Subphase/Emissions Source	Emissions (lbs/day)					Mitigation
	CO	VOC	NO_x	SO_x	PM_{10}	
Weeks 1 thru 19						
Unmitigated Emissions Total	1,904.84	295.29	1,531.46	0.65	6,863.21	
Mitigated Emissions Total	247.93	91.79	709.82	0.02	6,765.07	Rule 403
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00	Aqueous Fuel
Exceeds Thresholds?	NO	YES	YES	NO	YES	Cooled EGR
Notes: No Demolition, Pavement and Asphalt, or Building Construction during this subphase. Assumes conformance with Fugitive Dust Rule 403.						
Weeks 20 thru 39						
Unmitigated Emissions Total	3,285.77	467.09	2,676.20	0.81	6,903.47	
Mitigated Emissions Total	407.61	112.45	1,243.04	0.13	6,736.10	Rule 403
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00	Aqueous Fuel
Exceeds Thresholds?	NO	YES	YES	NO	YES	Cooled EGR
Notes: No Demolition or Building Construction during this subphase. Assumes conformance with Fugitive Dust Rule 403, and use of low VOC asphalt.						

Subphase/Emissions Source	Emissions (lbs/day)					Mitigation
	CO	VOC	NO_x	SO_x	PM_{10}	
Weeks 40 thru 46						
Unmitigated Emissions Total	5,007.45	844.93	4,329.78	0.79	6,983.38	
Mitigated Emissions Total	615.15	289.83	2,003.41	0.11	6,708.12	Rule 403
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00	Aqueous Fuel
Exceeds Thresholds?	YES	YES	YES	NO	YES	Cooled EGR
Notes: No Demolition during this subphase.						
Assumes conformance with Fugitive Dust Rule 403, and use of low VOC asphalt.						
Weeks 47 thru 91						
Unmitigated Emissions Total	3,102.61	549.63	2,798.32	0.15	131.16	
Mitigated Emissions Total	367.22	198.03	1,293.59	0.09	0.00	Aqueous Fuel
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00	Cooled EGR
Exceeds Thresholds?	NO	YES	YES	NO	NO	
Notes: No Demolition or Grading during this subphase.						
Assumes conformance with Fugitive Dust Rule 403, and use of low VOC asphalt.						
Week 92						
Unmitigated Emissions Total	3,603.81	603.46	3,035.29	0.06	122.52	
Mitigated Emissions Total	421.17	204.32	1,403.05	0.05	0.00	Aqueous Fuel
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00	Cooled EGR
Exceeds Thresholds?	NO	YES	YES	NO	NO	
Notes: No Demolition or Grading during this subphase.						
Assumes conformance with Fugitive Dust Rule 403, and use of low VOC asphalt and architectural coatings.						
Weeks 93 thru 144						
Unmitigated Emissions Total	3,306.30	555.86	2,790.95	0.05	112.86	
Mitigated Emissions Total	385.62	189.23	1,290.00	0.05	0.00	Aqueous Fuel
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00	Cooled EGR
Exceeds Thresholds?	NO	YES	YES	NO	NO	
Notes: No Demolition or Grading during this subphase.						
Assumes use of low VOC asphalt and architectural coatings.						
Weeks 145 thru 158						
Unmitigated Emissions Total	3,126.78	528.79	2,527.25	0.05	97.52	
Mitigated Emissions Total	359.40	186.46	1,167.78	0.04	0.00	Aqueous Fuel
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00	Cooled EGR
Exceeds Thresholds?	NO	YES	YES	NO	NO	
Notes: No Demolition or Grading during this subphase.						
Assumes use of low VOC asphalt and architectural coatings.						

Subphase/Emissions Source	Emissions (lbs/day)					Mitigation
	CO	VOC	NO_x	SO_x	PM_{10}	
Weeks 159 thru 178						
Unmitigated Emissions Total	1,764.79	358.43	1,402.96	0.03	53.80	
Mitigated Emissions Total	210.84	167.17	648.81	0.03	0.00	Aqueous Fuel
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00	Cooled EGR
Exceeds Thresholds?	NO	YES	YES	NO	NO	
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase. Assumes use of low VOC asphalt and architectural coatings.						
Weeks 179 thru 196						
Unmitigated Emissions Total	1,549.32	332.26	1,245.55	0.03	48.53	
Mitigated Emissions Total	185.74	168.78	576.42	0.03	0.00	Aqueous Fuel
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00	Cooled EGR
Exceeds Thresholds?	NO	YES	YES	NO	NO	
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase. Assumes use of low VOC asphalt and architectural coatings.						
Weeks 197 thru 210						
Unmitigated Emissions Total	1,064.36	218.82	854.79	0.02	33.26	
Mitigated Emissions Total	23.03	90.21	4.31	0.02	0.20	Aqueous Fuel
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00	Cooled EGR
Exceeds Thresholds?	NO	YES	NO	NO	NO	
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase. Assumes use of low VOC architectural coatings.						
Weeks 211 thru 220						
Unmitigated Emissions Total	794.57	134.83	596.44	0.01	22.03	
Mitigated Emissions Total	15.00	40.94	2.78	0.01	0.14	Aqueous Fuel
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00	Cooled EGR
Exceeds Thresholds?	NO	NO	NO	NO	NO	
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase. Assumes use of low VOC asphalt and architectural coatings.						

Subphase/Emissions Source	Emissions (lbs/day)					Mitigation
	CO	VOC	NO_x	SO_x	PM_{10}	
Weeks 221 thru 235						
Unmitigated Emissions Total	500.54	71.95	374.61	0.01	13.72	
Mitigated Emissions Total	58.05	18.70	173.21	0.01	0.00	Aqueous Fuel
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00	Cooled EGR
Exceeds Thresholds?	NO	NO	YES	NO	NO	
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase.						
Assumes use of low VOC architectural coatings.						
Beg. 2015 (196 Weeks) [1]						
Unmitigated Emissions Total	905.93	147.09	669.17	0.03	24.03	
Mitigated Emissions Total	110.22	51.5	310.01	0.03	0.00	Aqueous Fuel
SCAQMD Thresholds	550.00	75.00	100.00	150.00	150.00	Cooled EGR
Exceeds Thresholds?	NO	NO	YES	NO	NO	
Notes: No Demolition, Grading, or Pavement and Asphalt during this subphase.						

Source: Impact Sciences, Inc., Air quality calculations can be found in Recirculated Draft EIR ***Appendix 4.9****.*

[1] *As a worst-case scenario, assumes all associated grading and pavement/asphalt is completed during the first three subphases.*

(2) Operational Mitigation Measures

(a) Point Source Operational Emissions

LV4.9-5 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 shall be permitted within Landmark Village.

(b) Mobile Source Operational Emissions

LV4.9-6 The project developer(s) shall coordinate with Santa Clarita Transit to identify appropriate bus stop/turnout locations.

LV4.9-7 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

LV4.9-8 Wood-burning fireplaces and stoves shall be prohibited in all residential units. Use of wood in fireplaces shall be prohibited through project Covenants, Conditions, and Restrictions.

d. 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*.[126] The SCAQMD recommends that the low end of the range should be used when selecting the efficiencies for various projects unless otherwise justified.[127] Not all of the recommended measures would measurably reduce all measured operational-related pollutant levels to less than significant, but their implementation would reduce summertime CO emissions by 9.7 percent, VOC emissions by 15.5 percent, NO_x emissions

Table 4.9-28
Operational Emissions Reductions

Emissions Source	Emissions in Pounds per Day				
	CO	VOC	NO_x	SO_x[1]	PM_{10}
Summertime Emissions					
Total Project Emissions	4,104.14	418.92	414.66	2.52	372.02
Reduction in Area Source Emissions	-7.74	-37.07		--	
Reduction in Mobile Source Emissions	-390.74	-28.00		--	
Total Reduced Emissions	3,705.66	353.85		--	
Percent Reduction	9.7%	15.5%		--	
Recommended Threshold:	550.0	55.0	55.0	--	150.0
Exceeds Threshold?	YES	YES	YES	--	YES
Wintertime Emissions					
Total Project Emissions	5,741.55	2,023.47	605.22	4.89	616.4
Reduction in Area Source Emissions	-5.31	-36.79	-12.57	--	-0.02
Reduction from No Wood Burning Fire Places/Stoves	-1,784.09	-1,617.41	-18.37	--	-244.38
Reduction in Mobile Source Emissions	-378.07	-27.25	-53.67	--	-35.65
Total Reduced Emissions	3,574.08	342.02	520.61	--	336.35
Percent Reduction	37.8%	83.1%	14.0%	--	45.4%
Recommended Threshold:	550.0	55.0	55.0	--	150.0
Exceeds Threshold?	YES	YES	YES	NO	YES

Source: Impact Sciences, Inc. Emission reduction calculations are provided in Recirculated Draft EIR ***Appendix 4.9****. Emission reduction calculations in Recirculated Draft EIR* ***Appendix 4.9*** *do not reflect point source emissions, so the totals in the appendix are lower than those shown above.*
Totals in table may not appear to add exactly due to rounding in the computer model calculations.
[1] *SCAQMD does not provide emission reductions for SO_x.*

by 12.0 percent, and PM_{10} emissions by 9.6 percent. The measures would reduce wintertime CO emissions by 37.8 percent, VOC emissions by 83.1 percent, NO_x emissions by 14.0 percent, and PM_{10}

126 No emissions reduction efficiencies are provided for SO_x emissions; however, SO_x emissions of the proposed project would be less than significant.

127 SCAQMD, *CEQA Air Quality Handbook* (Diamond Bar, California: SCAQMD, November 1993).

emissions by 45.4 percent. The wintertime emissions would be significantly reduced with the mitigation measure that no wood-burning fireplaces or stoves be permitted in the residences. Even with these emissions reductions, project operational air quality impacts would remain significant as shown in **Table 4.9-28, Operational Emissions Reductions** (please see Estimated Emissions Reductions Efficiencies spreadsheets in Recirculated Draft EIR **Appendix 4.9** for detailed calculations).

The assessment of whether or not the project shows a 1 percent per year reduction in project emissions of CO, VOC, NO_x, SO_x, and PM_{10} differs from the cumulative impacts analysis methodology used in other sections of this EIR in which all foreseeable future development within a given service boundary or geographical area is predicted and its impacts measured. However, this SCAQMD assessment method is consistent with the SCAQMD's overall goal to reduce emissions within the Basin in order to meet the standards set in the 2003 AQMP.

As shown previously in **Table 4.9-27**, above**,** implementation of the recommended mitigation measures would reduce summertime CO emissions by 9.7 percent, VOC emissions by 15.5 percent, NO_x emissions by 12.1 percent, and PM_{10} emissions by 9.6 percent. The measures would reduce wintertime CO emissions by 37.8 percent, VOC emissions by 83.1 percent, NO_x emissions by 14.0 percent, and PM_{10} emissions by 45.4 percent. Since these represent emission reductions on a daily basis, they would be reduced by at least the lower summertime percentages on an annual basis, thereby exceeding the SCAQMD's performance standard for annual emissions reductions. The *CEQA Air Quality Handbook* does not identify any reduction efficiencies for emissions of SO_x. It should be assumed, however, that these measures would reduce emissions of SO_x by a minimum of 1 percent given that the minimum reduction for other mobile emissions is 9.6 percent. Therefore, the project would meet the annual emission reduction target of 1 percent and would not be considered cumulatively significant pursuant to the SCAQMD's recommended approach.

Additionally, the project is within growth forecasts contained in the 2001 RTP, which forms the basis for future air emissions forecasts in the 2003 AQMP. Although this method is not included in the *CEQA Air Quality Handbook* as a way to assess cumulative air quality impacts, this determination indicates that the project would be consistent with the 2003 AQMP; thus, it would not jeopardize attainment of state and federal ambient air quality standards in the Basin.

Even though the project shows at least a 1 percent per year reduction in project emissions of CO, VOC, NO_x, and PM_{10}, and likely a similar reduction in SO_x emissions, and even though the project is consistent with 2003 AQMP, as a conservative and "worst-case" approach, the project does increase emissions in an air basin, which is in nonattainment for O_3 (VOC and NO_x as O_3 precursors) and PM_{10}. Therefore, the project is considered to result in significant adverse cumulative air quality impacts.

10. 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 also will help reduce the project's cumulative significant air quality impacts.

11. SIGNIFICANT UNAVOIDABLE IMPACTS

a. Project-Specific Impacts

Although the recommended mitigation measures, if feasible, 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 VOC, NO_x, and PM_{10}, and operation-related emissions of CO, VOC, and NO_x are considered significant and unavoidable.

LST impacts suggest that PM_{10} emissions could exceed the limitations in SCAQMD Rule 403. While the NO_2 concentrations exceed the LST thresholds, the CAAQS would be exceeded only if (1) the actual background concentrations were as high as those on which the LST thresholds are based during the worst-case construction day; (2) the amount of construction activity (e.g., number and types of equipment, hours of operation) assumed in this analysis actually occurred; and (3) the meteorological conditions in the data set used in the dispersion modeling analysis occurred in the vicinity of the project site on the worst-case construction day.

While the project's air emissions would be unavoidably significant, it is important to note that the project is located in close proximity to job centers, and shopping and recreational amenities, thus reducing the number of VMT to these locations. Furthermore, the site is in close proximity to local transit facilities, contains land for a park and ride lot, and is within 7 miles of a Metrolink station, which links the valley to many parts of Southern California. Consequently, because VMT would be reduced, air emissions would be reduced as well. The project is also consistent with the 2003 AQMP; therefore, based on SCAQMD methods of analysis, project emissions should not jeopardize the long-term attainment of state and federal ambient air quality standards in the Santa Clarita Valley and the region.

b. Cumulative Impacts

The project's mitigated operational-related CO, VOC, and NO_x emissions exceed the SCAQMD's recommended daily emission thresholds of significance for these pollutants; however, based upon the SCAQMD's methods of determining whether or not the project shows a 1 percent per year reduction in project emissions of CO, VOC, NO_x, SO_x, and PM_{10}, the project would not contribute significant cumulative impacts. Nonetheless, as a conservative and "worst-case" approach, and because the Basin is already in nonattainment for O_3 (VOC and NO_x as O_3 precursors) and PM_{10}, any increases in these emissions by the project are considered significant and unavoidable air quality impacts.

4.10 WATER SERVICE

1. SUMMARY

The proposed Landmark Village project would generate a total water demand of 972 acre-feet per year (afy),[1] *608 afy of potable water demand, and 364 afy of non-potable demand. Potable water demand (608 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 Landmark 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 Landmark 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 (364 afy) would be met through the use of recycled (reclaimed) water from the initial phase of the Newhall Ranch Water Reclamation Plant (WRP), with build-out 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 Landmark 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 supplies, are assessed in this EIR for information purposes.

Based on the information presented, an adequate supply of water is available to serve the Landmark 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 Landmark Village project. No significant cumulative water supply impacts are expected to result from supplying water to the Landmark 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 Landmark 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 Recirculated Draft EIR **Appendix 4.10**). 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 Landmark Village project is 972 afy in a normal/average year. Project water demand increases by approximately 10 percent in a dry year[2] to a total of 1,069 afy. To meet this demand, Valencia Water Company, as the local retail purveyor, would provide water to the Landmark Village project. Water sources expected to serve the Landmark 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).

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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).

b. How reliable are the water supply sources for Landmark Village?

The Alluvial aquifer can meet the groundwater demands of the proposed Landmark Village project under both short- and long-term conditions without creating any significant groundwater impacts. The 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 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 Recirculated Draft EIR **Appendix 4.10**, 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 Landmark 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 608 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 *2008 Santa Clarita Valley Water Report, April 2009* (*2008 Water Report*), and the *2005 Urban Water Management Plan* (*2005 UWMP*; see Recirculated Draft EIR **Appendix 4.10**), 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 Landmark Village project. However, the operating plan for Saugus pumping is presented as additional information regarding the groundwater basin.

As stated in the *2008 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 Landmark Village rely on State Water Project supplies?

No. As indicated above, Landmark 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 Landmark Village project, no potable water would be used or relied upon from CLWA's SWP supplies. Because the Landmark 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 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).[3,4] In an effort to assess the impacts of various conditions on SWP supply reliability, DWR released the *Draft State Water Project Delivery Reliability Report, 2009* dated December 2009 (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. A copy of this report is also available for review by request at the Castaic Lake Water Agency, 27234 Bouquet Canyon Road, Santa Clarita, CA 91350. 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 **Subsection 5(c)** (see **Tables 4.10-11** through **4.10-14**, later in this documnent).[5] 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 Landmark Village project site has been tested. Results from laboratory testing conducted for Valencia Water Company wells expected to serve the Landmark Village project site are provided in Recirculated Draft EIR **Appendix 4.10**. 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

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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, **Section 5c** of this Section.

5 The tables in Subsection 5(c) of **Section 4.10**, Water Resources (see **Tables 4.10-11** through **4.10-14**) include CLWA's SWP and non-SWP supplies for the Santa Clarita Valley.

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 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 4.3, Water Quality**, of this EIR for further information on TDS standards.

e. What is the likelihood of perchlorate contamination of the Landmark Village water sources?

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 Landmark 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.[6]

f. Will either Landmark 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 Recirculated Draft EIR **Appendix 4.10** [*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 Landmark 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 *Revised Water Supply Assessment Landmark Village Vesting Tentative Tract Map No. 53108, January 2010,* (Revised Landmark WSA, or WSA) prepared for the Landmark Village project, an adequate supply of water is available to meet the demands of the Landmark Village project, in addition to existing and planned future uses in the Santa Clarita Valley (see Recirculated Draft EIR **Appendix 4.10** [*Revised Water Supply Assessment Landmark Village Vesting Tentative Tract Map No. 53108, January 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

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6 See, *Potential Capture of Perchlorate Contamination*, Valencia Water Company's Wells E14–E17, Prepared by Luhdorff and Scalmanini for the Valencia Water Company, dated April 26, 2006. This report is found in **Appendix 4.10** of this EIR.

independent sources, the project does not result in or contribute to any significant cumulative water supply impacts in the Santa Clarita Valley.

h. Do adequate and reliable water supplies exist in the Santa Clarita Valley to serve Landmark 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 Landmark Village and existing and planned future uses over the planning horizon shown in the 2005 UWMP. (See EIR, **Tables 4.10-11** through **4.10-14**, later in this document.)

Specific to the proposed Landmark Village project, potable water demand (608 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 (364 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 Landmark 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 Landmark Village project, no potable water would be needed from CLWA's existing or planned SWP supplies. Nonetheless, for information purposes, the Landmark 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 Landmark Village, plus existing and future populations during average, dry and multiple dry years?

Yes. In order to analyze the cumulative water impacts of Landmark 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 Build-Out Scenario," and the "Santa Clarita Valley 2030 Build-Out 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 Landmark

Village project does not rely on CLWA's SWP supplies. Instead, the Landmark 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 Landmark Village project would not contribute to any significant cumulative impacts on the Santa Clarita Valley's water supplies.

j. Does Landmark Village cause significant cumulative impacts on water supplies in the Santa Clarita Valley?

No. Because the Landmark 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 Recirculated Draft EIR **Appendix 4.10** [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 Landmark 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 Landmark 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.[7] 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.

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) 22722 Soledad 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).

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7 See, Mitigation Measures 4.11-1 through 4.11-22 in the adopted Mitigation Monitoring Plan for the Specific Plan (May 2003).

- *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).

- *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.

- *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 2009/10 Budget, Capital Improvement Program, Fiscal Year 2009/10, 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 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, *Draft State Water Project Delivery Reliability Report, 2009*, December 2008. (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, dated September 15, 2009.
- Letter from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, dated June 8, 2009.
- CLWA News Release, dated September 14, 2009.
- Progress Letter Report from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, dated September 15, 2009.
- CLWA Memorandum from Brian J. Folsom to CLWA Board of Directors, dated 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).
- *Revised Water Supply Assessment Landmark Village Vesting Tentative Tract Map No. 53108, January 2010,* Valencia Water Company, January 2010. (Revised Landmark 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 Landmark 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."[8] 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 4.10-1, Castaic Lake Water Agency Service Area**, depicts the CLWA service area.

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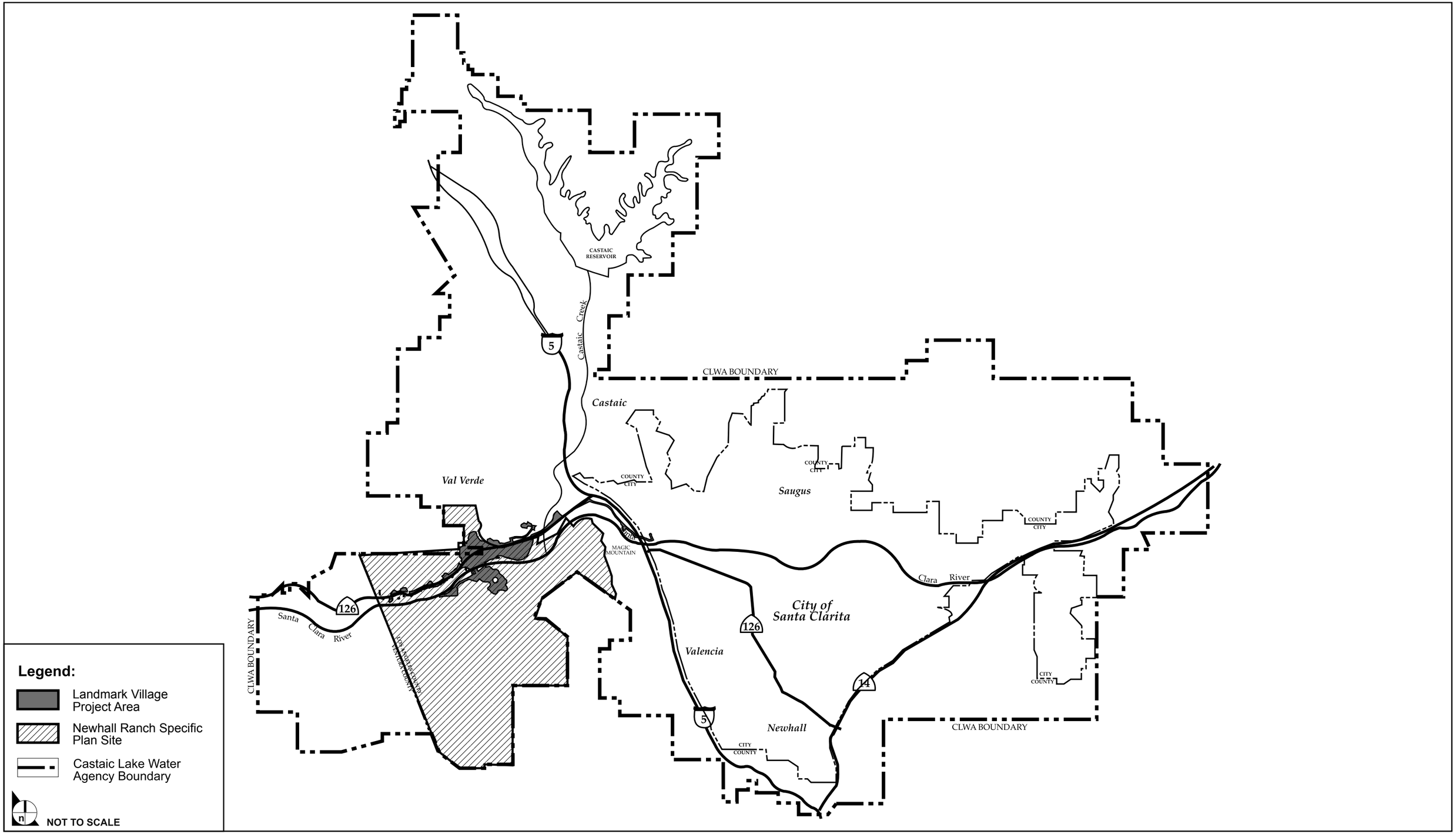
8 See, California Water Code Appendix Section 103-1, 103-15.

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 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 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 annual maximum amount of water to which a SWP Contractor has a contract right to request delivery, and is specified in Table A of each SWP Contractor's water supply 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 95,000 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.



SOURCE: PSOMAS and Associates, January 1999, Impact Sciences, Inc. – February 2004

FIGURE **4.10-1**

Castaic Lake Water Agency Service Area

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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 a Kern County water district. 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 Recirculated Draft EIR **Appendix 4.10** and discussed in detail in Topical Responses 4 and 5 of the Landmark Village Final EIR (November 2007).[9]

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9 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 4.10 [*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 4.10** [*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 4.10** [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 December 1, 2003, the appellate court denied any relief to Friends and affirmed the trial court's ruling. (See, **Appendix 4.10** [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 4.10** [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. Please refer to this EIR, **Subsection 5.c**., Imported Water Supplies, (2) Litigation Effects on Availability of Imported Water, (b) Litigation Concerning CEQA Review of the 41,000 af Transfer**,** for information concerning the outcome of the appellate court litigation concerning the 41,000 afy transfer.

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.[10]

Additional non-SWP 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 water transfer agreement with YCWA, 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 4.10-11** and **4.10-14**, below.)

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10 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 the Recirculated Draft EIR, **Appendix 4.10**, 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.)

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]).[11] 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.

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.

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11 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.

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 Landmark Village project site. As a result, Valencia is the retail water purveyor for the Landmark Village project. **Figure 4.10-2, 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 Landmark Village project site.

As of 2008, the retail water purveyors served approximately 69,400 connections in the Santa Clarita Valley. The specific breakdown by purveyor is provided in **Table 4.10-1, Retail Water Service Connections**.

Table 4.10-1
Retail Water Service Connections

Retail Water Purveyor	Connections
CLWA Santa Clarita Water Division (SCWD)	28,500
Los Angeles County Waterworks District #36	1,400
Newhall County Water District (NCWD)	9,500
Valencia Water Company	30,000
Total	**69,400**

Source: 2008 Santa Clarita Valley Water Report, *April 2009 (see Recirculated Draft EIR **Appendix 4.10**).*

SOURCE: Valencia Water Company – February 2006

FIGURE **4.10-2**

Valencia Water Company Service Area

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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 Landmark Village project site. The *2008 Water Report* and *2005 UWMP* (see, Recirculated Draft EIR **Appendix 4.10**) 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 Revised Landmark WSA for the proposed Landmark 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 Landmark Village project, in addition to existing and planned future uses in the Santa Clarita Valley (see Recirculated Draft EIR **Appendix 4.10** [Revised Landmark WSA]). Valencia Water Company prepared the Revised Landmark WSA for the Landmark 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*.

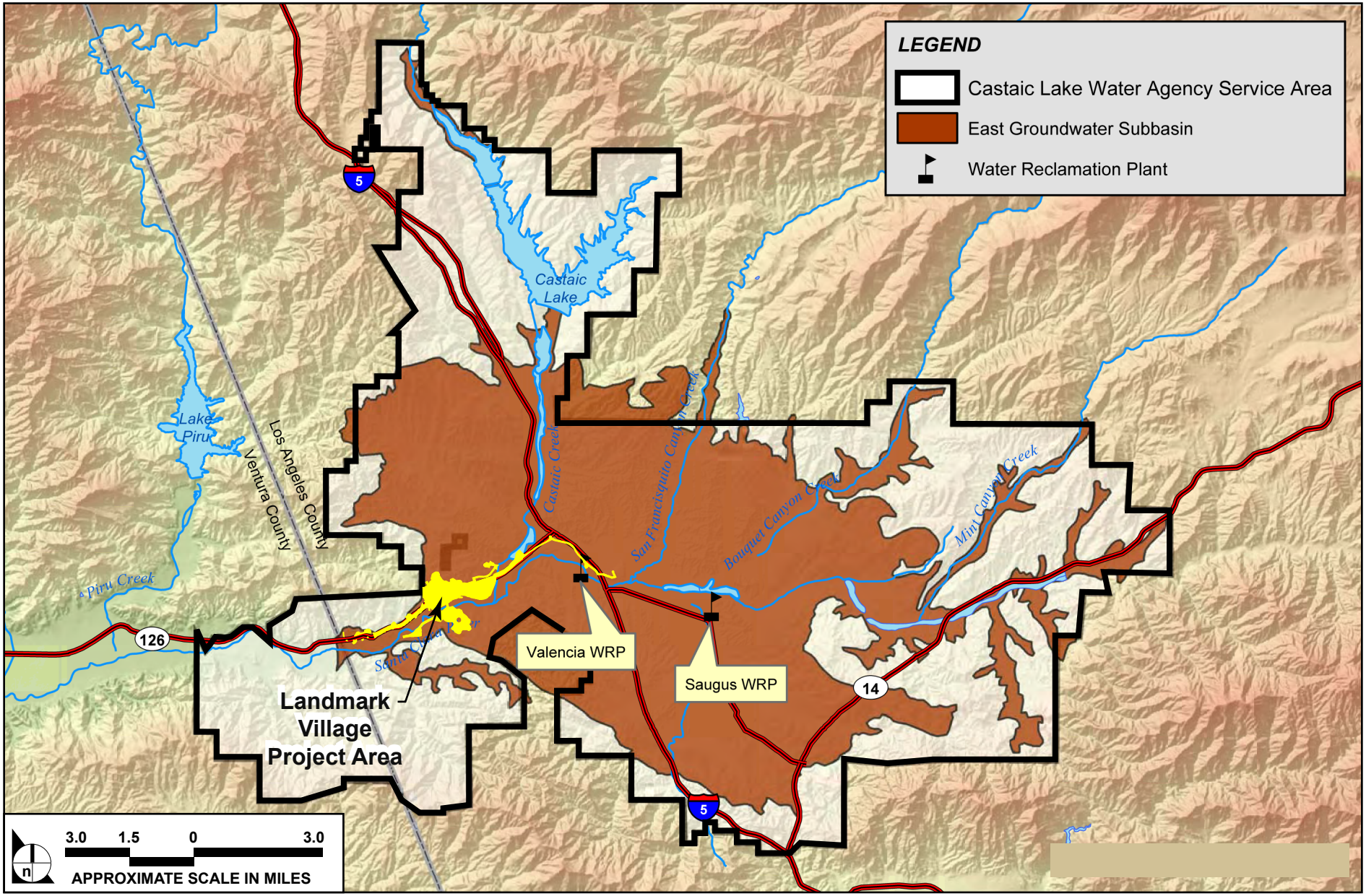
(1) The Upper Santa Clara River Hydrologic Area

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 4.10-2a**, **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.

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 it forms the outlet for 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 the Santa Clarita Valley, the Santa Clara River receives treated wastewater discharge from the existing Saugus and Valencia Water Reclamation Plants (WRPs), which are operated by County Sanitation Districts of Los Angeles County.

The Santa Clara River Valley East Groundwater Subbasin, beneath the Santa Clarita Valley in the Upper Santa Clara River Hydrologic Area (**Figure 4.10-3**), 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). Ventura County is not a part of the Upper Santa Clara River HA.

There are two primary precipitation gages in the Santa Clarita Valley, the Newhall-Soledad 32c gage and the NCWD gage. The National Climatic Data Center (NCDC) and Los Angeles County Department of Public Works (LACDPW) have maintained records for the Newhall-Soledad 32c gage since 1931. The NCWD has maintained records for the NCWD gage since 1979. The cumulative records from these two gages correlate very closely, with the NCWD gage recording approximately 25 percent more precipitation than the Newhall-Soledad 32c gage. This is likely due to the location of the NCWD gage, which is at the base of the mountains rimming the southern edge of the Santa Clarita Valley.



SOURCE: Luhdorff & Scalmanini Consulting Engineers – January 2006

FIGURE **4.10-2a**

Santa Clara River Valley East Groundwater Basin – East Subbasin

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SOURCE: PACE - 2008

FIGURE **4.10-3**

Upper Santa Clara River Hydrologic Area

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The Santa Clarita Valley is characterized as having an arid climate. Historically, intermittent periods of less-than-average precipitation have typically been followed by periods of greater-than-average precipitation in a cyclical pattern, with each wetter or drier period typically lasting from one to five years. The long-term average precipitation is 18.1 inches (1931-2006). In general, periods of less-than-average precipitation have been longer and more moderate than periods of greater-than-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. Wet conditions that began in late 2004 continued into early 2005. Significant storm events in January 2005 produced over 13 inches of measured precipitation, or more than 70 percent of average annual precipitation in the first month of the year. Significant storm events continued in February 2006, resulting in nearly 17 inches of additional measured precipitation, or nearly 100 percent of average annual precipitation in February alone. In total, 2005 had about 37 inches of measured precipitation, or slightly more than 200 percent of long-term average precipitation. Those significantly wet conditions contributed to substantial groundwater recharge and decreased water demand that year. In contrast, total precipitation in 2006 and 2007 was slightly less than 14 inches and 6 inches resulting in water requirements that can be described as "normal" (as projected in the 2005 UWMP) and no dramatic changes in groundwater conditions, as described in the 2008 Santa Clarita Valley Water Report. 2008 was an average year, with 17.9 inches of precipitation. demand in 2008 was below that estimated for average conditions in the 2005 UWMP, and below the short-term projection in the 2007 Water Report. Early year precipitation in 2009 has been approximately 5.8 inches, or about 50 percent of the normal January through March period.

Combined with other water supply considerations, discussed in Chapter 4 of the 2009 Water Report, those conditions were expected to result in 2009 water requirements being comparable to water use in 2008.

(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 4.10-2, Santa Clara River Valley East Groundwater Basin – East Subbasin,** 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 4.10-3**.

(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.

CLWA adopted the Groundwater Management Plan (GWMP) on December 10, 2003.[12] 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 Recirculated Draft EIR **Appendix 4.10** [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.

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12 CLWA's Groundwater Management Plan, adopted December 10, 2003, is found in **Appendix 4.10** of this EIR.

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;
- 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 on-going basis. An important aspect of this work was completion of the *2005 Basin Yield Report* and the *2009 Basin Yield Update* (see Recirculated Draft EIR **Appendix 4.10** [*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[13] 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 Recirculated Draft EIR **Appendix 4.10** 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 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.

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13 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.

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.[14]

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.

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14 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.

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 2008 Water Report (April 2009), 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 on-going 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.[15] 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.[16] The analysis of sustainability for groundwater and interrelated surface water is described further in Appendix C to the *2005 UWMP* (see, Recirculated Draft EIR **Appendix 4.10)**.

The groundwater operating plan, summarized in **Table 4.10-2, Groundwater Operating Plan for the Santa Clarita Valley**, is further described below. The operating plan addresses both the Alluvium and Saugus Formation.

Table 4.10-2
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, 2008 Water Report (April 2009), and 2009 Basin Yield Update. See Recirculated Draft EIR **Appendix 4.10** for copies of these reports.

15 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 4.10** of this EIR.

16 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 4.10** of this EIR.

Alluvium – As applied to the Newhall Ranch Specific Plan, the applicant would meet all of the Landmark 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 608 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, 2008 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 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 Landmark Village project. However, the operating plan for Saugus pumping is presented as additional information regarding the Basin.

As stated in the 2005 UWMP, 2008 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 recover water levels and groundwater storage volumes 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 4.10-3, Historical Groundwater Production by the Retail Water Purveyors,** and **Table 4.10-4, Projected Groundwater Production (Normal Year)**.

Table 4.10-3
Historical Groundwater Production by the Retail Water Purveyors

Basin Name	Groundwater Pumped (af)[1]							
	2001	2002	2003	2004	2005	2006	2007	2008
Santa Clara River Valley East Subbasin								
CLWA Santa Clarita Water Division								
- Alluvium	9,896	9,513	6,424	7,146	12,408	13,156	10,686	11,878
- Saugus Formation	0	0	0	0	0	0	0	0
LA County Waterworks District #36								
- Alluvium	0	0	0	380	343	0	0	0
- Saugus Formation	0	0	0	0	0	0	0	0
Newhall County Water District								
- Alluvium	1,641	981	1,266	1,582	1,389	2,149	1,806	1,717
- Saugus Formation	2,432	3,395	2,513	3,739	3,435	3,423	3,691	4,195
Valencia Water Company								
- Alluvium	10,518	11,603	11,707	9,862	12,228	11,884	13,140	14,324
- Saugus Formation	835	965	1,068	1,962	2,513	2,449	2,367	1,770
Total	***25,322***	***26,457***	***22,978***	***24,671***	***32,316***	***33,061***	***31,690***	***33,884***
- Alluvium	22,055	22,097	19,397	18,970	26,368	27,189	25,632	27,919
- Saugus Formation	3,267	4,360	3,581	5,701	5,948	5,872	6,058	5,965
% of Total Municipal Water Supply	**42%**	**39%**	**34%**	**34%**	46%	45%	35%	45%

Notes:

[1] *Pumping for municipal and industrial uses only. Does not include pumping for agricultural and miscellaneous uses.*

Source: 2008 Santa Clarita Valley Water Report, April 2009, Table 2-1 (see Recirculated Draft EIR **Appendix 4.10**).

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 Recirculated Draft EIR **Appendix 4.10** [2005 UWMP]).

Table 4.10-4
Projected Groundwater Production (Normal Year)

Basin Name	Range of Groundwater Pumping (af)[1,2,3]				
	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 Recirculated Draft* ***Appendix 4.10****)*

(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. 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 2008 was about 41,750 af, an increase of 2,950 af from the preceding year. Total Alluvium pumping was slightly above the groundwater operating plan range. Of the total Alluvial pumping in 2008, about 27,950 af (67 percent) was for municipal water supply, and the balance, about 13,800 af (33 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 38,800 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 2008 Water Report (April 2009).

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 2008 Water Report (April 2009). The groundwater level records have been organized into hydrograph form (groundwater elevation vs. time) as illustrated in 2008 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 areas, showing the range of values (highest to lowest elevation) through the 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" areas generally exhibit similar groundwater level responses to hydrologic and pumping conditions. (See 2008 Water Report [Figure 3-4].) As shown in 2008 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. Partly in response to decreased pumping in "Mint Canyon" and "Above Saugus WRP" areas in 2007 and 2008, groundwater levels slowed their decrease, leveled off, or increased in late 2008 with the onset of seasonal precipitation. These parts of the Valley have historically experienced a number of alternating wet and dry hydrologic conditions (2008 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 3 years where average hydrologic conditions in 2008 followed two dry 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. This groundwater level response to wet/dry years and pumping is typical for these areas of the basin. When water levels are low, well yields and pumping capacities in these areas can be impacted. The affected purveyors typically respond by increasing use of Saugus Formation and imported (SWP) supplies, as shown in 2008 Water Report Table 2-3. The purveyors also shift a fraction of the Alluvial pumping that would normally be supplied by these 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 of those situated in the eastern, higher elevations areas. As shown in the western group of hydrographs in 2008 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 1950's and 60's than current levels. Groundwater levels in this area notably recovered as pumping declined through the

1960's and 1970's. 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 1970's and 1990's. 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, but has since progressively declined. Coupled with the dry 2006-2007 period, water levels had seen varying degrees of decline until they leveled off with the onset of a "near-normal" amount of seasonal precipitation in 2008. By the end of 2008, water levels remained 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 1950's (2008 Water Report Figure 3-5). Small changes in groundwater levels in 2007 and 2008 were consistent with other short-term historical fluctuations. The long-term, generally constant trend remained through 2008. The "Below Valencia WRP" area groundwater levels exhibit slight, if any, response to climatic fluctuations, and have remained fairly constant since the 1950's despite, over the last 20 years, a notable increase in pumping that continued through 2008 in that area (2008 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 28 years since importation of supplemental SWP water, or over the last 40 to 50 years (since the 1950s - 1960s), the Alluvium shows no signs of water level-related overdraft, i.e., no trend toward decreasing water levels and storage. 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 also within the operating yield in almost every individual year.

Table 4.10-5
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	

Well Name	Alluvial Subarea	2005 Operating Plan		2008 Operating Plan			Comments
		Normal	Dry	Normal	Dry Yr 1	Dry Yr 2+	
NLF-G45	Below Valencia WRP	390	390	350	400	400	
NLF Total		**11,872**	**11,872**	**10,150**	**10,150**	**10,150**	
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

Well Name	Alluvial Subarea	2005 Operating Plan		2008 Operating Plan			Comments
		Normal	Dry	Normal	Dry Yr 1	Dry Yr 2+	
VWC-W10	San Francisquito Canyon	865	865	1,000	1,000	1,000	Pumping was assigned to former W6 well in 2005 analysis.
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 4.10-6
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.

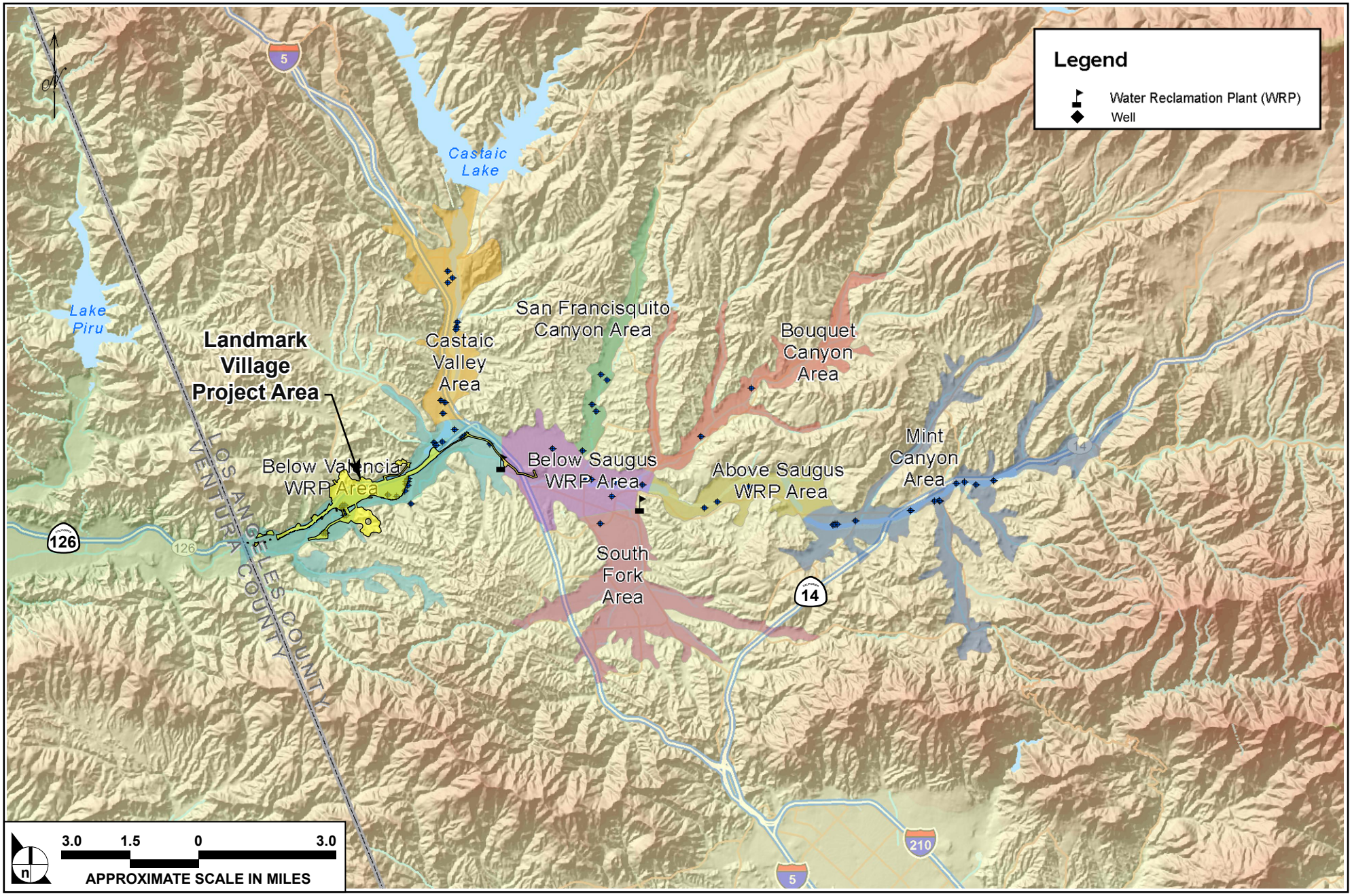
Adequacy of Supply. For municipal water supply, with existing wells and pumps, the three retail water purveyors with Alluvial wells (NCWD, SCWD, and VWC) have a combined pumping capacity from active wells (not contaminated by perchlorate) of 38,600afy. Alluvial pumping capacity from all the active municipal supply wells is summarized in **Table 4.10-5, 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 4.10-4, 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 Recirculated Draft EIR **Appendix 4.10**.). 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 4.10-5**.



SOURCE: 2007 Santa Clarita Valley Water Report (April 2008)

FIGURE **4.10-4**

Municipal Alluvial Well Locations; Santa Clara River Valley, East Groundwater Subbasin

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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 2008 was about 6,950 af, or about 750 af less than in the preceding year. Of the total Saugus pumping in 2008, most (about 5,950 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 1990's 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. 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 2008 Water Report (April 2009).

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-1960's 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 (2008 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), 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 supplies also decreased. The period of increased pumping during the early 1990's 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 4.10-6, Active Municipal Groundwater Source Capacity—Saugus Formation Wells**, and the locations of the various active municipal Saugus wells are illustrated on **Figure 4.10-5, 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, Recirculated Draft EIR **Appendix 4.10**).

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

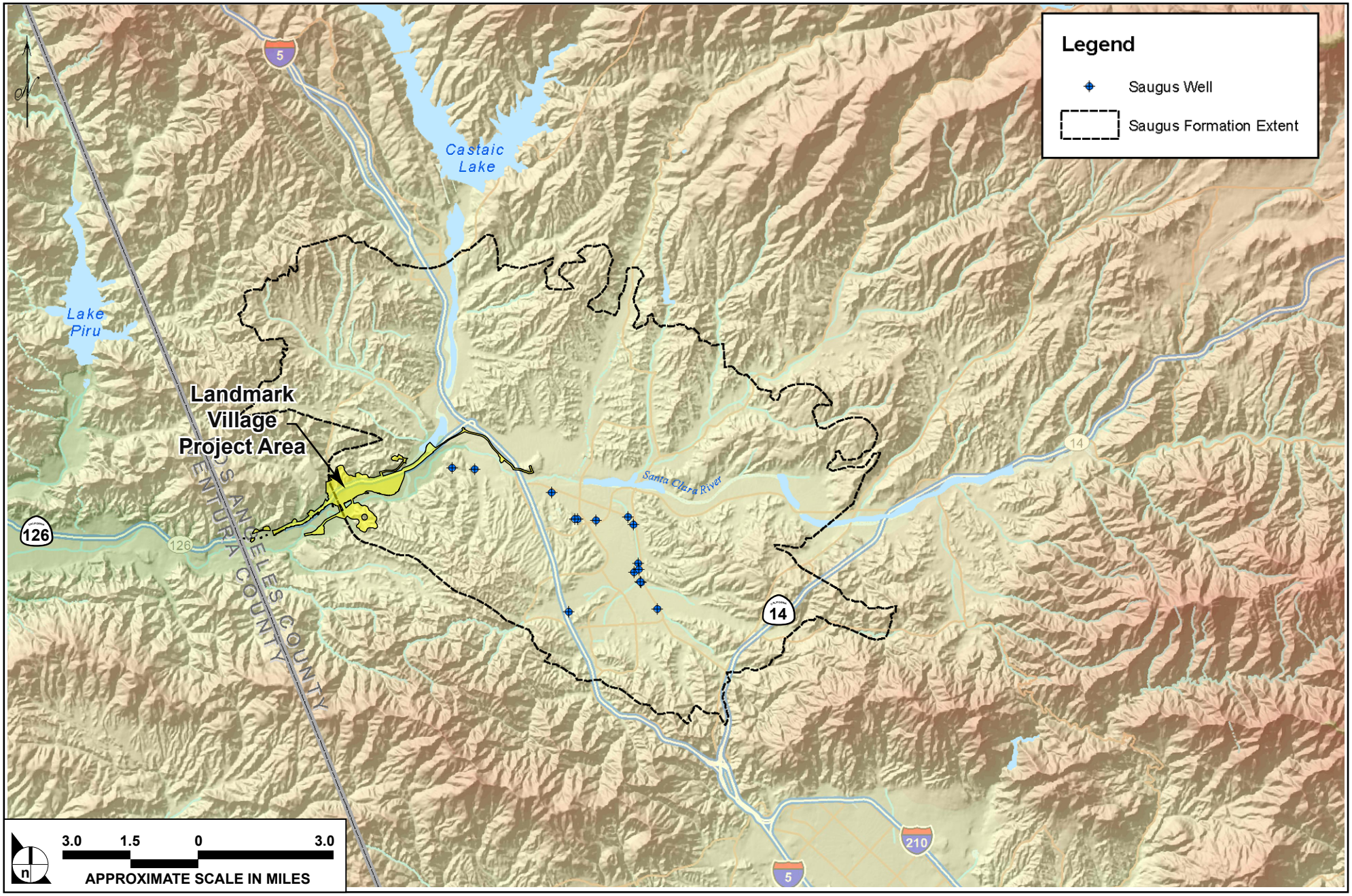
have historically occurred. The pumping simulated in the model was in accordance with the operating plan for the Basin. For the Saugus, simulated pumpage included the planned restoration of recent historic pumping from the perchlorate-impacted wells. In addition to assessing the overall recharge of the 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 on-going 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: 2007 Santa Clarita Valley Water Report (April 2008)

FIGURE **4.10-5**

Saugus Well Locations; Santa Clara River Valley, East Groundwater Subbasin

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(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. 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).

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 Recirculated Draft EIR **Appendix 4.10** 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* dated July 16, 2007, and (3*) Stipulation to Dismiss Plaintiffs' Claims and Defendants' Counterclaim*, dated 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 thirty 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 on-going 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 Recirculated Draft EIR **Appendix 4.10**.

b. Water Quality in the Alluvial Aquifer and Saugus Formation

Given that the source of potable water for the Landmark 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 2009 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 a key factor in assessing the Alluvial aquifer as a municipal and agricultural water supply. 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. 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. 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. Water quality in the Alluvium 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.

Specific conductance throughout the Alluvium is currently below the Secondary (aesthetic) Upper Maximum Contaminant Level of 1600 micromhos per centimeter (umhos/cm). The presence of long-term consistent water quality patterns, although intermittently affected by wet and dry cycles, supports the conclusion that the Alluvial aquifer is a viable on-going water supply source in terms of groundwater quality. The analysis of groundwater sustainability was summarized in the *2009 Basin Yield Update*. The consultants utilized a regional groundwater flow model, along with a review of historical observations over a 86-year period. The report concluded that the Alluvial and Saugus aquifers historically have been and continue to be in good operating condition and that the water purveyors' groundwater operating plan as described in the 2003 GWMP, 2005 UWMP, the 2008 Santa Clarita Valley Water Report, and the 2009 Basin Yield Update is sustainable and reliable.

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.

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

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.

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 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.

On-going 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 on-going 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 4.10**). 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 time 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 4.10-6, 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 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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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 Recirculated Draft EIR **Appendix 4.10**.

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, dated December 21, 2004. This memorandum is available for public review and inspection in **Appendix 4.10** of this EIR.

LEGEND

CONTAMINATED PRODUCTION WELL

- ALLUVIUM
- SAUGUS

UNCONTAMINATED PRODUCTION WELL

- ALLUVIUM
- SAUGUS

MONITORING WELL

- ALLUVIUM
- SAUGUS

TWO-YEAR GROUNDWATER CAPTURE ZONE

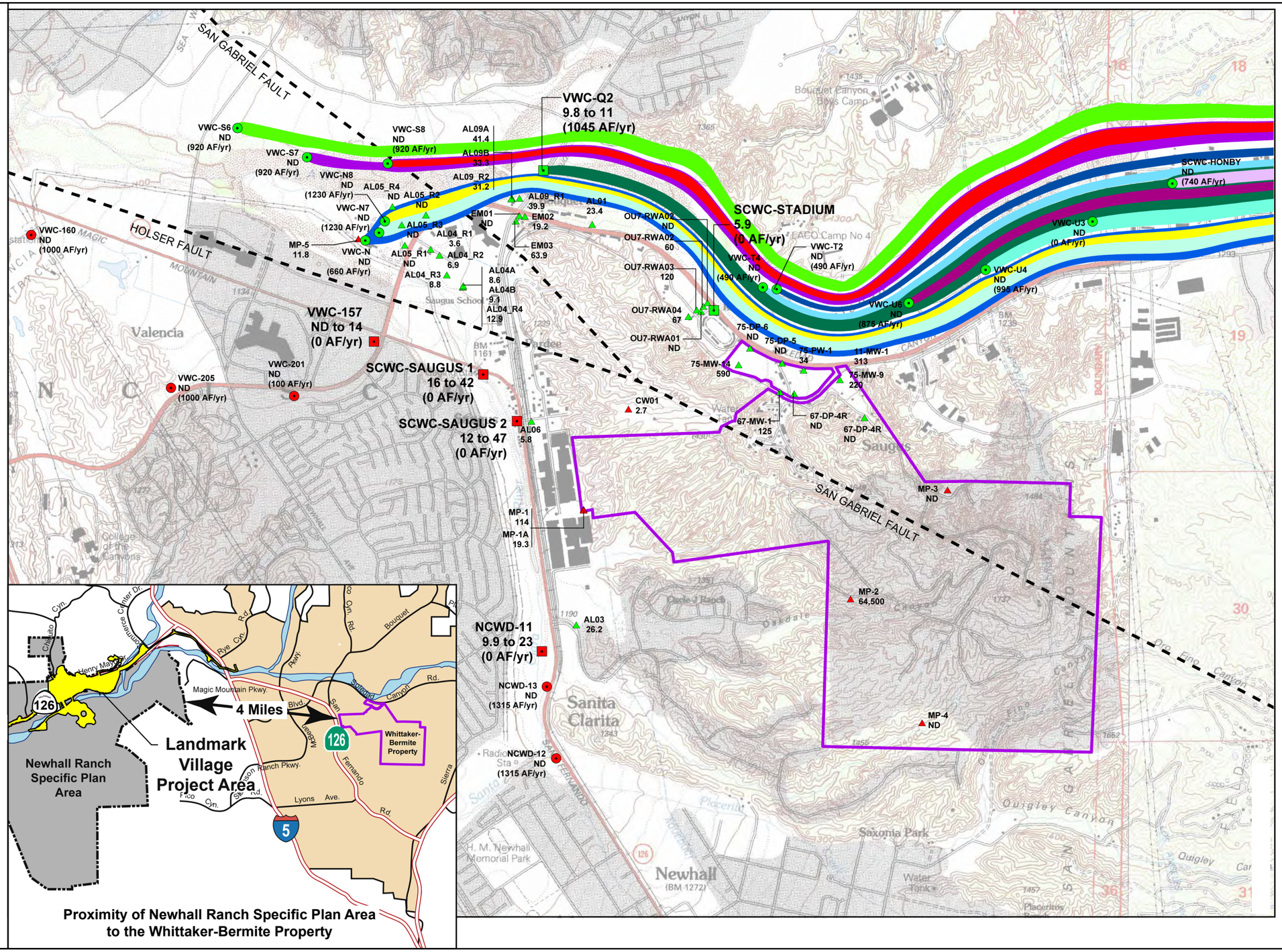
- SCWC-HONBY
- VWC-N
- VWC-N7
- VWC-N8
- VWC-Q2
- VWC-S6
- VWC-S7
- VWC-S8
- VWC-T2
- VWC-T4
- VWC-U4
- VWC-U6
- WHITTAKER-BERMITE PROPERTY BOUNDARY

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 **4.10-6**

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 4.10-5**, 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 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. The new plant is expected to be in use beginning January 2010. 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 Recirculated Draft EIR, **Appendix 4.10** [Progress Letter Report from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, dated 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 Recirculated Draft EIR, **Appendix 4.10**: (a) letter from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, dated June 8, 2009; (b) CLWA News Release, dated September 14, 2009; (b) Progress Letter Report from Hassan Amini, Ph.D., Project Coordinator for AMEC Geomatrix, to DTSC, dated September 15, 2009; and (c) CLWA Memorandum from Brian J. Folsom to CLWA Board of Directors, dated October 1, 2009.

(3) Groundwater Quality – Saugus Formation

Similar to the Alluvium, groundwater quality in the Saugus Formation is a key factor in assessing that aquifer as a municipal and agricultural water supply. As with groundwater level data, 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. As with the Alluvium, 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 has not historically exhibited the precipitation-related fluctuations seen in the Alluvium. Based on the historical record over the last 50 years, groundwater quality in the Saugus has exhibited a slight overall increase in EC. More recently, several wells within the Saugus Formation have exhibited an additional increase in EC similar to that seen in the Alluvium. In 2004, monthly data collected by Valencia Water Company for two Saugus wells shows that the overall level of EC remained fairly stable during the year. Levels of EC in the Saugus Formation remain below the Secondary (aesthetic) Upper Maximum Contaminant Level for EC. Groundwater quality within the Saugus will continue to be monitored to ensure that degradation that presents concern relative to the long-term viability of the Saugus as a municipal 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 Recirculated Draft EIR **Appendix 4.10** [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, to be followed by operational start-up, are currently scheduled to occur by or before June 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 4.10-7, 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 time 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 4.10** 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 4.10** of this EIR.

LEGEND

CONTAMINATED PRODUCTION WELL

- ALLUVIUM
- SAUGUS

UNCONTAMINATED PRODUCTION WELL

- ALLUVIUM
- SAUGUS

MONITORING WELL

- ALLUVIUM
- SAUGUS

TWO-YEAR GROUNDWATER CAPTURE ZONE

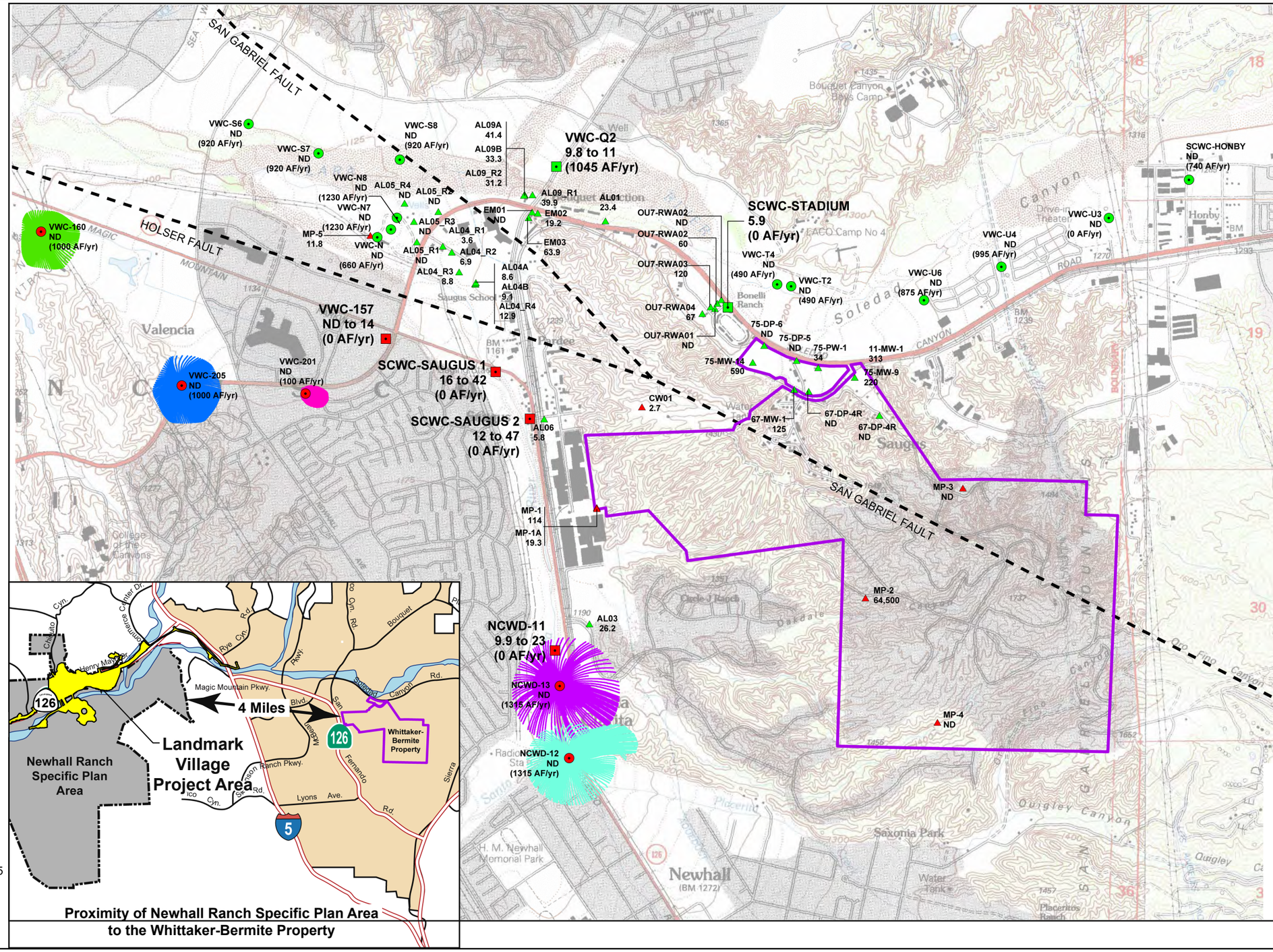
- NC-12
- NC-13
- VWC-160
- VWC-201
- VWC-205
- WHITTAKER-BERMITE PROPERTY BOUNDARY

NOTES:

1. VALUES PRESENTED UNDER WELL SYMBOLS REPRESENT PERCHLORATE CONCENTRATION IN GROUNDWATER (µg/L).
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



SOURCE: Luhdorff & Scalmanini Consulting Engineers – January 2006

FIGURE 4.10-7

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 4.10-7**, **Perchlorate Treatment Summary**.

Table 4.10-7
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 Landmark Village Site

The quality of the groundwater available from the Alluvial aquifer near the Landmark Village project site has been tested. Results from laboratory testing conducted for Valencia Water Company wells expected to serve the Landmark Village project site or very near the Landmark Village site are provided in Recirculated Draft EIR **Appendix 4.10**. The tested well are approved by DPH and are located just northeast of the Landmark 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 (see Recirculated Draft EIR **Appendix 4.10** for 2009 laboratory test water well results). Tests conducted for perchlorate indicated non-detect. *The Santa Clarita Valley 2009 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 Landmark 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]

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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, dated April 26, 2006. This report is found in **Appendix 4.10** of this EIR.

(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 Landmark 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 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 4.10-8**). Therefore, these constituents are not considered pollutants of concern for the proposed project.

Table 4.10-8
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	279
Sulfate	250	7 – 35	57
Chloride	100	4 – 50	47

[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 (2008)*

(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. Imported Water Supplies

Imported water supplies from CLWA are not needed to serve the Landmark Village project's water demand. Landmark 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 Landmark 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 Landmark 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 4.10-8**.

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

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23 See EPA site: http://www.epa.gov/region09/water/drinking/files/dwsha_0607.pdf.

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 4.10** [Bulletin 132-06, Management of the California State Water project (December 2007)].)

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 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 Recirculated Draft EIR **Appendix 4.10** [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.

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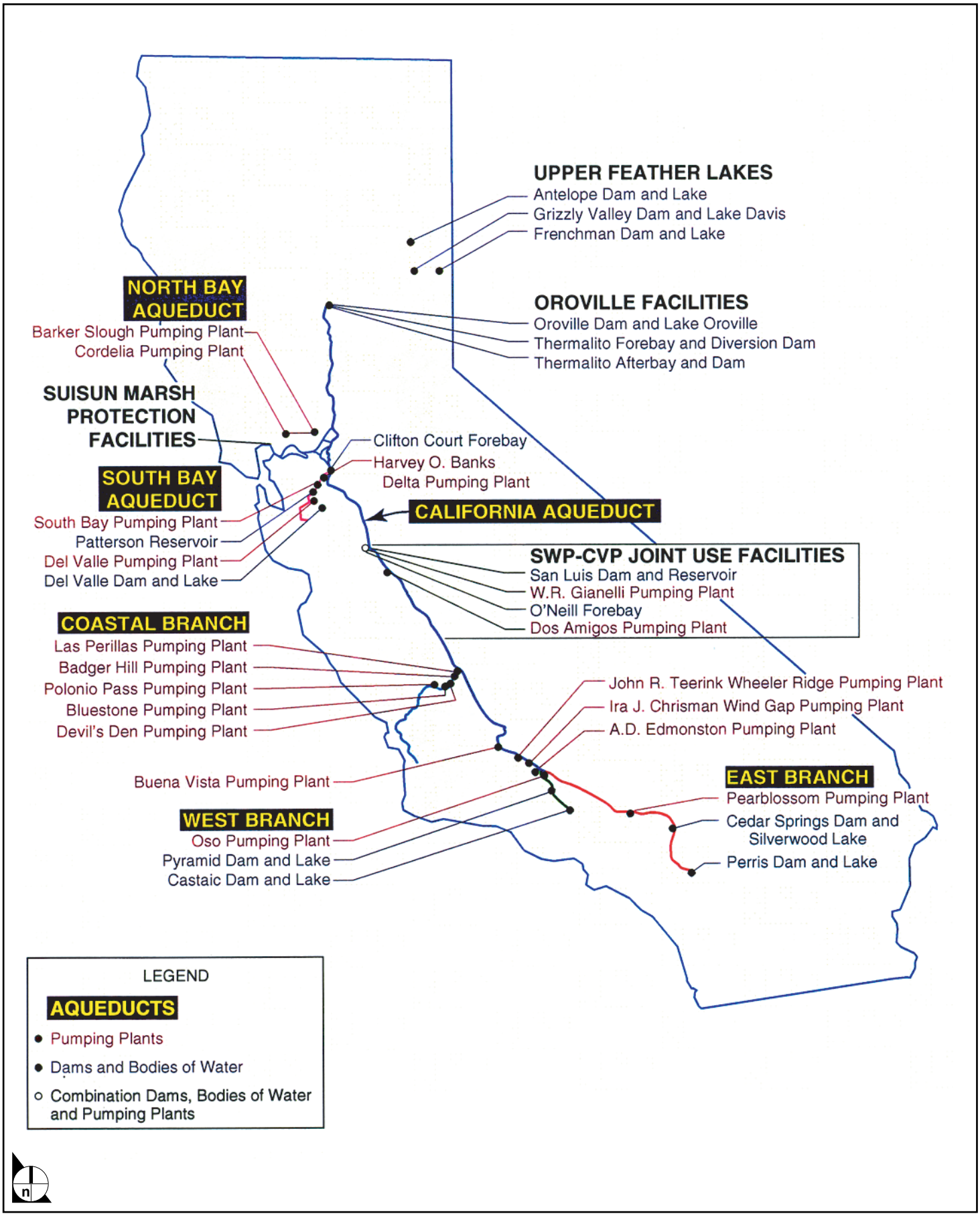
25 Table A is used to define each contractor's portion of the available water supply that DWR will allocate and deliver to each contractor.



SOURCE: DWR (1997a)

FIGURE **4.10-8**

Principal State Water Program Facilities

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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, 2009 dated December 2009 (2009 DWR Delivery Reliability Report).[26]

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 (December 2009). 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

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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. A copy of this report is also available for review by request at the Castaic Lake Water Agency, 27234 Bouquet Canyon Road, Santa Clarita, CA 91350.

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.

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 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 (December 2009) included the information presented in **Table 4.10-9**, **Average And Dry Period SWP Table A Deliveries From The Delta Under Current Conditions**, and **Table 4.10-10, 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.

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 4.10-9
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 Draft State Water Project Delivery Reliability Report, 2009.*
Source: DWR Draft State Water Project Delivery Reliability Report, 2009.

Table 4.10-10
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: DWR Draft State Water Project Delivery Reliability Report, 2009.

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 on-going 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 (December 2009) 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. 17–19.

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 (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

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28 Please refer to **Appendix 4.10** of this Recirculated Draft EIR for a copy of the 2008 BO for the Delta smelt.

29 Please refer to **Appendix 4.10** of this Recirculated Draft EIR for a copy of the 2009 BO for the Chinook salmon/sturgeon.

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 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

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30 *Ibid.*

31 The 2007 *Wanger* decision (*Natural Resources Defense Council v. Kempthorne*, 506 F.Supp.2d 322 (E.D. Cal. 2007)) is found in Appendix B of the Landmark Village Final EIR (November 2007).

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 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

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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 B of the Landmark Village Final EIR (November 2007).

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 seven 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 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.

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33 Please refer to this EIR, **Appendix 4.10**, for the NOAA/NMFS release, dated June 4, 2009, summarizing the 2009 BO.

34 Please refer to this EIR, **Appendix 4.10**, for the DWR release, dated June 4, 2009, responding to the new 2009 BO.

35 Please refer to this EIR, **Appendix 4.10**, for the SWP Contractors release, dated August 6, 2009, concerning the litigation filed challenging the 2009 BO.

36 Please refer to this EIR, **Appendix 4.10**, for the Coalition for a Sustainable Delta/ Kern County Water Agency release, dated August 28, 2009, concerning the litigation filed challenging the 2009 BO.

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 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 twenty 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.

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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 B of the Landmark Village Final EIR (November 2007).

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]

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.

Recent 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]

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38 Please refer to the 2009 DWR Delivery Reliability Report (December 2009) for the current status of planning activities that may affect SWP delivery reliability, pages 13-16, incorporated by reference.

39 Please refer to this EIR, **Appendix 4.10**, for DWR's 2009 Comprehensive Water Package, Special Session Policy Bills and Bond Summary, dated November 2009.

(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;

   (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 7 - Statewide Water Conservation: SB 7 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

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40 Please refer to this EIR, **Appendix 4.10**, for the Office of the Governor's release, dated November 4, 2009, regarding passage of historic comprehensive water package.

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 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.

CLWA Imported Water Supplies and Facilities. CLWA receives SWP and non-SWP 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. The SWP water from Castaic Lake is treated and disinfected at the Earl Schmidt Filtration Plant (ESFP) and Rio Vista Water Treatment Plant (RVWTP) (both owned and operated by CLWA), and is distributed to the four retail water purveyors through a system of pipelines.

The RVWTP 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. ESFP 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 4.10-11, 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.[41] 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 4.10-11
Summary of Current and Planned Water Supplies and Banking Programs (1)

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
Existing Supplies(1)					
Wholesale (Imported)	75,667	75,667	74,287	74,287	74,287
SWP Table A Supply(2)	57,000	57,000	57,000	57,000	57,000
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) (3)	4,680	4,680	4,680	4,680	4,680
Flexible Storage Account (Ventura County)(3) (4)	1,380	1,380	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	**123,367**	**123,367**	**121,987**	**121,987**	**121,987**
Existing Banking Programs (3)					
Semitropic Water Bank (5)	49,920	0	0	0	0
Rosedale-Rio Bravo (7)	64,898	64,898	64,898	64,898	64,898
Semitropic Water Bank – Newhall Land (8)	18,828	18,828	18,828	18,828	18,828
Total Existing Banking Programs	**129,646**	**83,726**	**83,726**	**83,726**	**83,726**

41 CLWA recently 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)				
	2010	2015	2020	2025	2030
Planned Supplies [1]					
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 [6]	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 [3]					
Additional Planned Banking	0	20,000	20,000	20,000	20,000
Total Planned Banking Programs	**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" and "Planned Banking Programs" are the total amounts currently in storage; the values shown under "Planned Banking Programs" represent the annual maximum withdrawal capacity. In 2008, CLWA also acquired approximately 850 af of non-SWP 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 supply.

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 6-3 and 6-12 of DWR's "Draft 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.

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 amount currently in storage. As of December 31, 2007, 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: *Revised Landmark WSA* (January 2010)

Average/Normal Year. Table 4.10-12, 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 recently approved California legislation (see discussion of SB 7, above).

Single-Dry Year. Table 4.10-13, 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 4.10-13** does not reflect a decrease in demand of 20 percent resulting from the passage of SB 7, as described above.

Table 4.10-12
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
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

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
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 "Draft 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 7.

Source in part: *Revised Landmark WSA* (January 2010)

Table 4.10-13
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**

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
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

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 "Draft 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 12/31/07 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 7.

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 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 supply.

Source: *Revised Landmark WSA* (January 2010).

Multiple-Dry Years. Table 4.10-14, 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 4.10-14** does not reflect a decrease in demand of 20 percent resulting from the passage of SB 7, as described above.

Table 4.10-14
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)

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
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**

[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 "Draft 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 7.
[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 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 supply.

Source: *Revised Landmark WSA* (January 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.[42]

[42] 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, 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. The Draft EIR is 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 EIR is incorporated by reference in this EIR.

Additional Annual Imported Water Supplies. According to CLWA, as shown on **Tables 4.10-11** through **4.10-14**, 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.[43]

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. This additional supply was added by CLWA to the updated water supply/demand tables to reflect current information (see **Tables 4.10-11** through **4.10-14**).

Additional Imported Water Supplies from Banking Programs. According to CLWA, as shown on **Tables 4.10-11**, **4.10-13**, and **4.10-14**, the following existing additional water supplies are available from banking programs to meet demands when necessary.

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43 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 4.10**, 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.)

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. Approximately 850 af of non-SWP water supply 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 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 water transfer agreement with YCWA, CLWA has projected that approximately 850 af of water would be available to CLWA under the Yuba Accord in a critically-dry year.

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.

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 4.10-13** and **4.10-14**, CLWA's additional planned banking supplies are anticipated to be 20,000 acre-feet by 2014.

CLWA Recycled Water. As shown on **Tables 4.10-11** through **4.10-14**, 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 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.

As the 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 4.10-15 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 4.10-15
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 7.
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 7, 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. 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.

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.

Nonetheless, for information purposes, this EIR provides a detailed description, below, of the history and background of CLWA's SWP supplies, including, specifically, the 41,000 af transfer. Based on the *SCOPE II* decision and the information provided in this section of the EIR, it remains appropriate to rely on the 41,000 af transfer amount as part of CLWA's 95,200 afy SWP supplies.

Of CLWA's 95,200 af annual Table A Amount, 41,000 af was permanently transferred to CLWA in a water supply contract amendment approved by DWR in March 1999 by Wheeler Ridge-Maricopa Water Storage District, a member unit of the Kern County Water Agency. CLWA prepared an EIR in connection with the 41,000 af water transfer, which was challenged in *Friends of the Santa Clara River v. Castaic Lake Water Agency* (Los Angeles County Superior Court, Case No. BS056954). The original trial court decision was in favor of CLWA. On appeal, the Court of Appeal, Second Appellate District, held that since CLWA's original EIR tiered from the Monterey EIR that was later decertified (see above, *Planning and Conservation League v. Dept. of Water Resources* (2000) 83 Cal.App.4th 892), CLWA also would have to decertify its EIR and prepare a revised EIR. The court refused, however, to enjoin CLWA from using any part of the 41,000 af pending preparation of a new EIR.

The original EIR for the 41,000 af transfer having been decertified, CLWA prepared and circulated a revised Draft EIR for the 41,000 af transfer, received and responded to public comments regarding the revised Draft EIR, and held two separate public hearings concerning the revised Draft EIR. CLWA approved the revised EIR for the 41,000 af transfer on December 22, 2004, and lodged the certified EIR with the Los Angeles Superior Court as part of its return to the trial court's writ of mandate in *Friends*. Thereafter, the petitioners voluntarily dismissed the *Friends* action in February 2005.

In January 2005, two new legal actions were brought to the same project (i.e., the 41,000 af transfer agreement), which challenged CLWA's revised EIR under CEQA. These actions were filed in the Ventura County Superior Court by the Planning and Conservation League and California Water Impact Network. The cases were consolidated and transferred to Los Angeles County Superior Court (*Planning and Conservation League, et al. v. Castaic Lake Water Agency, et al.*, Los Angeles County Superior Court No. BS098724). As stated above, on May 22, 2007, after a hearing, the trial court issued a final Statement of Decision, which included a determination that the 41,000 af transfer is valid and cannot be terminated or unwound. The trial court, however, also found one defect in CLWA's 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 to set aside its certification of the 2004 EIR. The writ, however, specifically stated that it did not call for CLWA to set aside the 41,000 af transfer. In July 2007, the petitioners appealed the trial court's Judgment, and cross-appeals have since been filed by CLWA and other parties.

The new pending legal challenges to the adequacy of CLWA's revised EIR for the 41,000 af transfer, and DWR's completion of the new Monterey EIR, arguably, introduce an element of potential uncertainty regarding the 41,000 af transfer; although based on a review of all the surrounding circumstances, these events do not significantly affect the reliability of the transfer amount due to continued availability, and, therefore, for the reasons stated below, it is still appropriate to include the transfer amount as part of CLWA's 95,200 afy Table A Amount.

First, the 41,000 af transfer was completed in 1999 in a DWR/CLWA water supply contract amendment approved by DWR. Since 2000, DWR has allocated and annually delivered the water in accordance with the completed transfer.[44] In connection with that transfer, CLWA paid approximately $47 million for the additional 41,000 af Table A supply, the monies have been accepted by the Wheeler Ridge-Maricopa Water Storage District, the sale price has been financed through the sale of CLWA tax-exempt bonds, and, as noted, DWR has expressly approved and amended CLWA's long-term water supply contract to reflect the increase in CLWA's SWP Table A Amount and the permanent transfer/reallocation of SWP Table A supply between SWP Contractors. This contract has never been set aside and continues in full force and effect.

Second, the Court of Appeal held that the only defect in the 1999 CLWA EIR was that it tiered from the Monterey EIR, which was later decertified. This defect was remedied by CLWA in the revised EIR that did not tier from the Monterey EIR.

Third, the Monterey Settlement Agreement expressly authorized the operation of the SWP in accordance with the Monterey Amendments. The Monterey Amendments, which are still in effect and have not been set aside by any court, authorized SWP Contractors to transfer unneeded SWP supply amounts to other contractors on a permanent basis. Specifically, the Monterey Agreement provisions authorized 130,000 af of agricultural SWP contractors' entitlements to be available for sale to urban SWP contractors. CLWA's 41,000-af acquisition was a part of the 130,000 af of SWP Table A supply that was transferred, consistent with the Monterey Amendments. The DWR is still in the process of completing the EIR to address the

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44 This contract was never legally challenged and, therefore, is considered permanent and in full force and effect.

Monterey Amendments; however, the court in the PCL litigation refused to set aside the Monterey Agreement or the Monterey Amendments pending preparation of that EIR.

Fourth, the Court of Appeal in *Friends* refused to enjoin the 41,000 af transfer, and instead required CLWA to prepare a revised EIR, which EIR CLWA has now completed and certified. This EIR is subject to further litigation, which is currently at the appellate court stages. However, as stated above, the trial court in that litigation determined that the 41,000 af transfer was valid and could not be terminated or unwound. The trial court also issued a writ directing CLWA to set aside its certification of the 2004 EIR, but specifically stated that it did not require CLWA to invalidate, void, or set aside the 41,000 af transfer. Thus, the water from the transfer remains available and continues to be used to serve water demands in the Santa Clarita Valley.

Fifth, CLWA's amended water supply contract documenting the 41,000 af 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 Table A Amount.

Sixth, a recent published appellate court decision has confirmed that the 41,000 af transfer is permanent and final, and that with or without the Monterey Agreement and Monterey Amendments, the transfer can legally occur and will continue to exist. Please refer to *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2007) 157 Cal.App.4th 149 (*SCOPE II*). 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.

For all the above reasons, it is reasonable to include the 41,000 af transfer in the calculation of CLWA's available imported water supplies. In addition, as of this writing, the pending state court litigation over the adequacy of CLWA's 2004 EIR on the 41,000 afy water transfer was resolved in favor of CLWA. Specifically, on December 17, 2009, 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 CEQA. This means that the 41,000-afy water transfer is now supported by a certified Final EIR that has been validated by the appellate court. (See, *Planning and Conversation League v. Castaic Lake Water Agency* 2009 WL 4856787, Cal.App. 2 Dist.) In addition, on January 14, 2010, the Court of Appeal denied the appellants' petition for a rehearing in the case. Furthermore, based on the above, it is reasonable to conclude that even if a court finds the CLWA revised EIR legally deficient, that court, like all others before it, will again

refuse to enjoin the 41,000 af transfer, and instead require further revisions to that EIR. Therefore, the pending legal challenges to the 41,000 af transfer should have no impact on the amount of SWP water available to CLWA as a result of the completed and permanent 41,000 af transfer.

Finally, with respect to the new Monterey EIR, CLWA has concluded that its use of the 41,000 af is not legally bound to the Monterey Agreement litigation or to DWR's new EIR for the Monterey Agreement and may occur independently of that Agreement. That DWR did not oppose CLWA's completion and certification of the new EIR for the water transfer, independent of DWR's new Monterey Agreement EIR, supports this view. Thus, the pending legal challenges to CLWA's revised EIR and DWR's preparation of a new Monterey EIR are not expected to impact the amount of water available to CLWA as a result of the completed 41,000 af transfer.

Other Litigation Upholding the 41,000 afy Transfer. The CLWA 41,000 afy transfer also has been the subject of recent court decisions. The discussion below summarizes the recent court decisions (in date order), including the recent decision upholding CLWA's new EIR on the 41,000 afy transfer.

California Oak Foundation/Gate-King Decisions. The first court case involved a published appellate court decision in litigation entitled, *California Oak Foundation v. City of Santa Clarita* (2005) 133 Cal.App.4th 1219. In the *California Oak Foundation* decision, the Court of Appeal invalidated an EIR under CEQA for the Gate-King project located in the City of Santa Clarita, because the EIR did not explain how demand for water would be met if the 41,000 af transfer were set aside, *or* why it is appropriate to rely on the 41,000 af transfer in any event.[45] After issuance of the *California Oak* appellate court decision, the City of Santa Clarita revised the Gate-King EIR by preparing an additional environmental analysis responsive to the appellate court's decision. The City then certified the additional environmental analysis in 2006 and re-approved the Gate-King project. In 2007, the Los Angeles County Superior Court found that the revised Gate-King EIR met the requirements of CEQA, and entered judgment in favor of the City. Specifically, the trial court found that substantial evidence supported the City's conclusion that the 41,000 af transfer was permanent and that it would continue to exist with or without the Monterey Agreement/ Amendments. The trial court's decision was appealed in November 2007 (*California Water Impact Network, et al. v. Newhall County Water District, et al.*, Appellate Case No. B203781). On May 13, 2009, the Second Appellate District, Division Eight, issued a decision affirming the trial court's judgment. Specifically, the Court of Appeal confirmed that the City reasonably concluded, based on substantial evidence presented in the EIR, that the 41,000 af transfer to CLWA is a reliable source of SWP water to the Santa Clarita Valley for planning purposes. (*California Water Impact Network v. Newhall County Water District*, Second Appellate District,

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45 The above analysis in this section of the EIR explains in detail why it is appropriate to rely on the CLWA 41,000 af transfer as part of CLWA's overall SWP water supplies.

Division Eight, Case No. B203781, May 13, 2009.) While the Court of Appeal's opinion was not ordered published, it, nonetheless, represents an additional analysis of the reasons supporting the City's ultimate conclusion that the 41,000 af transfer can and should be relied upon for planning purposes in Santa Clarita Valley.

The Court of Appeal also rejected the claim that the City's EIR for the Gate-King project was contrary to CEQA because it failed to discuss "alternative sources" of water in the event that the 41,000 af transfer becomes "unavailable." Opponents made the claim, relying on the California Supreme Court's decision in *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Ranch Cordoba* (2007) 40 Cal.4th 412. The Court of Appeal held that the case did not present a *Vineyard* problem because the City's EIR for the Gate-King project did not limit its assessment of water supplies to a "first stage" of the project, with a promise of "further analysis" for later stages of the project. In other words, the Court of Appeal found there was no *Vineyard* problem because the EIR analyzed the full extent of the Gate-King project's ultimate anticipated water demand and anticipated supplies.

Further, the Court of Appeal upheld the City's EIR's reliance on water supply projections from DWR, which were derived from DWR's "CalSim-II model." Specifically, the Court found that the EIR adequately summarized the shortcomings of the model and correctly determined that the model, nonetheless, provided the best available data for predicting future availability of water supplies from the SWP. Finally, the Court of Appeal rejected claims that the City's EIR violated CEQA because it did not discuss adequately the potential impact on water supplies, which may result from DWR's compliance with an order issued by the State Water Resources Control Board (SWRCB; Order No. WR2006-306). The Court found that the EIR contained an extensive discussion of the SWRCB Order and disclosed the City's reasons for its conclusion that there was a limited likelihood that measures taken by DWR and others to meet salinity standards would reduce SWP deliveries to CLWA. (Please see Recirculated Draft EIR **Appendix 4.10** for copy of the Court of Appeal's opinion in *California Water Impact Network v. Newhall County Water District*, Second Appellate District, Division Eight, Case No. B203781, May 13, 2009.)

West Creek/SCOPE II Litigation. The second court case involved a separate legal challenge to an EIR under CEQA for the West Creek project located in Los Angeles County. This separate legal challenge was brought in Santa Barbara County Superior Court in *Santa Clarita Organization for Planning the Environment v. County of Los Angeles*, Case No. 1043805 (*West Creek* litigation). After a hearing, the Santa Barbara Superior Court issued an Order determining that the EIR prepared for the West Creek project contained substantial evidence in the record to support the County's decision to rely on the 41,000 af transfer for planning purposes. The Order noted that substantial evidence appeared in the record to support the County's decision to rely on the 41,000 af transfer, while acknowledging and disclosing the potential uncertainties involving the 41,000 af transfer created by pending litigation. The Order summarized the

evidence, including the fact that: (a) DWR continues to allocate and deliver the water in accordance with the amended water supply contract authorizing the 41,000 af transfer; (b) neither the Monterey Agreement litigation, nor the Monterey Settlement Agreement set aside any of the water transfers made under the Monterey Agreement, including the 41,000 af transfer; (c) the courts have not enjoined CLWA's use of the 41,000 af transfer; and (d) CLWA has prepared and certified a revised EIR on the 41,000 af transfer and that EIR is presumed adequate despite pending legal challenges. The Santa Barbara Superior Court Order in the *West Creek* litigation is provided in Recirculated Draft EIR **Appendix 4.10**. Thereafter, the *West Creek* decision was appealed.

As stated above, 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 41,000 af transfer. Recirculated Draft EIR **Appendix 4.10**, includes the published Court of Appeal decision, *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2007) 157 Cal.App.4th 149 (*SCOPE II*).

Riverpark Litigation. The third court case involved another challenge to an EIR under CEQA for the Riverpark project located in the City of Santa Clarita, County of Los Angeles. This legal challenge was brought in Los Angeles County Superior Court in *Sierra Club, et al. v. City of Santa Clarita*, Case No. BS 098722 (Riverpark litigation).

After a hearing in the Riverpark litigation, the Los Angeles County Superior Court issued a decision determining that the City had properly relied on the 41,000 af water transfer for planning purposes, and rejected petitioners' claims that legal uncertainties surrounding the 41,000 af transfer due to other litigation (e.g., *Planning and Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892; *Friends of Santa Clara River v. CLWA* (2002) 95 Cal.App.4th 1373; and *California Oak Foundation v. City of Santa Clarita* (2005) 133 Cal.App.4th 1219) precluded the City from relying on water from that transfer for planning purposes. The court also determined that the 41,000 af transfer was sufficiently certain and that the Monterey Settlement Agreement did not preclude the City from relying on the transfer in its EIR for the Riverpark project pending DWR's preparation of its Monterey Agreement EIR. Finally, the court found that substantial evidence in the EIR and record supported the City's decision that water from the 41,000 af transfer could be relied on as part of CLWA's supplies. The Los Angeles County Superior Court decision in the Riverpark litigation is provided in Recirculated Draft EIR **Appendix 4.10**.

The Riverpark trial court decision was appealed, and the appellate court decision was issued on January 29, 2008 (see Recirculated Draft EIR **Appendix 4.10**, for a copy of this appellate court decision, *Sierra Club*

et al. v. City of Santa Clarita, et al. (Appellate Case No. B194771). In *Sierra Club*, the Second Appellate District, Division Three, affirmed the trial court's judgment, and held that the Riverpark EIR's water supply analysis was adequate under CEQA. Although *Sierra Club* was not a published decision, it provides further reasoned analysis supporting Los Angeles County's determination that the 41,000 af transfer may be relied upon for planning purposes, while acknowledging and disclosing the potential uncertainty of that supply created by litigation, as well as DWR's on-going environmental review of the Monterey Agreement/Amendments.

PCL v. CLWA Litigation. As stated above, on December 17, 2009, the Court of Appeal, Second District, issued its opinion in *Planning and Conversation League v. Castaic Lake Water Agency* 2009 WL 4856787, Cal.App. 2 Dist. This new decision upheld CLWA's EIR for the 41,000-afy water transfer. While the new decision is still subject to further review by the California Supreme Court, CLWA and others believe that the Supreme Court is unlikely to grant review because the dispute is unique to the parties and involves facts unlikely to be repeated in other cases. For that reason, the new decision is likely to terminate the long-standing debate over 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.

In its cross-appeal, CLWA argued that the petitioners should be prevented by the doctrine of res judicata from litigating the case. The Court of Appeal did not rule in CLWA's favor on this issue; however, this portion of the decision did not affect the appellate court's conclusion that the 2004 EIR contained no material defects.

(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 challenging the sufficiency of water supplies. Based on the status of these challenges, their likely outcome, 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 2008 Water Report, and the Revised Landmark WSA that there is sufficient water to serve the proposed Landmark 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 Landmark Village project will not contribute to any significant cumulative impacts on Santa Clarita Valley's water supplies.

(4) Summary of 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 are 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.

In response to the Governor's Executive Order, DWR is implementing a number of actions to address the 2008/2009 drought conditions. For example, to help facilitate the exchange of water throughout the state, DWR has established a 2009 Drought Water Bank. To implement the 2009 Drought Water Bank, DWR will purchase water from willing sellers, primarily from water suppliers, upstream of the Sacramento-San Joaquin Delta. This water will be 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 2008/2009 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[46] 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.

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46 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/.

The proclamation also directs that by March 30, 2009, DWR must provide an updated report on the state's drought conditions and water availability. 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 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 will also recommend, within 30 days, 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.

The current 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 Revised Landmark 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 Revised Landmark Village WSA, 2008 Water Report, and this analysis conclude that there is adequate water supplies for the proposed Landmark 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 4.10-9, Landmark Village Potable Water System Infrastructure**, the proposed water delivery system consists of one new water tank and three pressure regulating stations connected to a network of 18- to 20-inch water mains that generally follow the southern right-of-way for State Route 126 (SR-126) and major 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.

A single water pressure zone (Zone 1A) overlies the project site, and is supplied potable water via the three pressure regulating stations from Zone 1 that will provide all the potable water supply for the system serving Zone 1A, which contains the proposed Landmark Village VTTM 53108. Pressure Zone 1 serves uses at an elevation of less than 1,160 feet above mean sea level (MSL) and is comprised of three storage tanks with a combined storage capacity of 8.3 million gallons and numerous sources of supply consisting of existing groundwater wells and CLWA turnouts.

Potable water demands for Landmark Village will be met by using groundwater produced from the Alluvial aquifer from newly constructed replacement wells located within the Valencia Commerce Center that have been approved and permitted by DPH. These wells replaced older wells used for irrigation that are no longer active having been permanently closed as directed by DPH. In August 2004, Valencia received an amended water supply permit from DPH for approval and construction of four domestic water supply wells. Two of the four replacement wells are needed for the project and will operate by delivering water to Zone 1 and then regulated into Zone 1A to meet the demands of the project. The additional wells will be used to meet future demands when needed.

Zone 1A will require construction of a new potable water tank. This new potable water tank would be constructed near an existing water tank located in the Valencia Commerce Center, but at a slightly lower elevation. A 20-inch potable water line located within an approximately 3.5-foot-wide by 5 foot-deep trench would extend approximately 5,600 lineal feet from the tank site along the existing Franklin Parkway and Wolcott Road alignments, crossing SR-126 and into the proposed subdivision. This main would also extend to the Newhall Ranch WRP adjacent to the south SR-126 right-of-way from the west side of the tract map site. Construction is estimated to last 3 to 4 months.

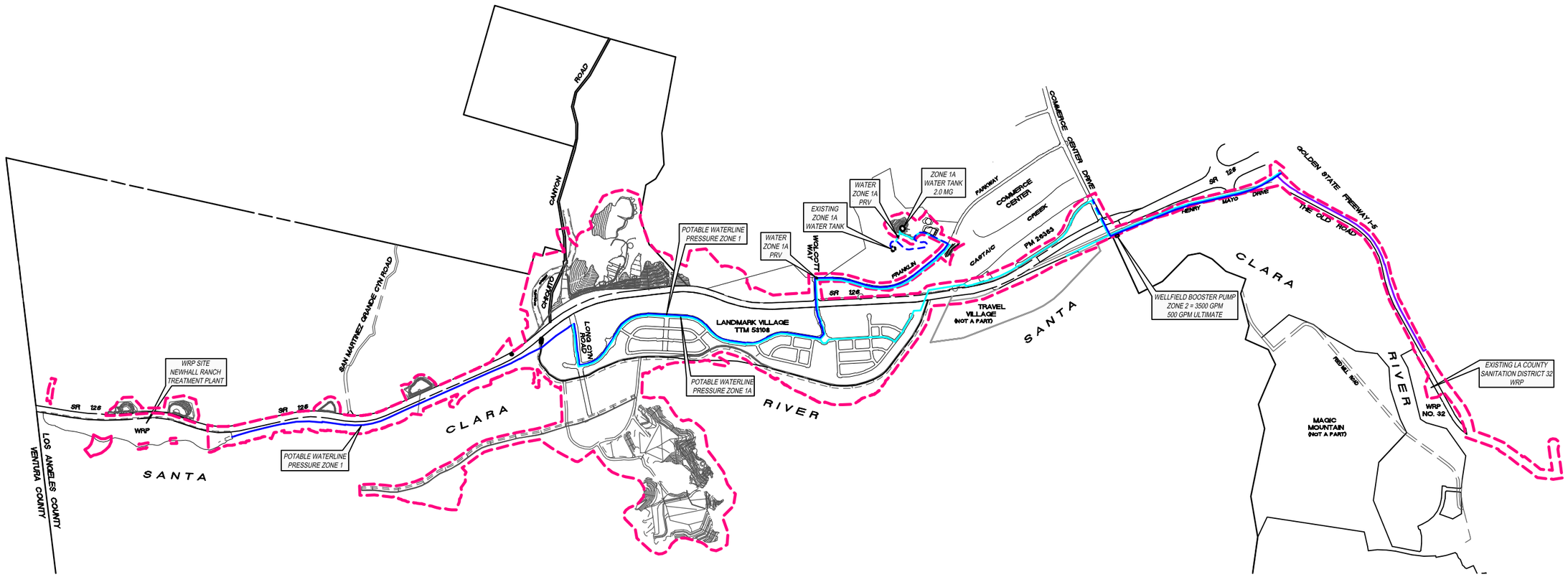
The new potable water tank would consist of an aboveground welded steel tank supported by a reinforced concrete ring footing, with a storage capacity of 2.0 million gallons. The new tank would be designed and constructed to meet American Water Works Association (AWWA), National Sanitary Foundation (NSF), and other industry standards for domestic water storage. With the new water tank, a total of 10.3 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. The proposed Zone 1A

water system consisting of one tank and three pressure regulating stations from Zone 1 provide redundant sources of supply and storage to enhance the system's reliability, safety, and efficiency.

Project improvements also include abandonment and relocation of existing agricultural wells used to irrigate cultivated fields on the project site and on other portions of Newhall Ranch. These existing wells and associated piping would be relocated or properly abandoned, as necessary, to continue to meet on-going agricultural needs elsewhere on Newhall Ranch.

The Landmark Village Project proposes to use recycled water for landscape irrigation purposes and other allowable uses. The proposed delivery system for recycled (non-potable) water is illustrated on **Figure 4.10-10, Preliminary Recycled Water Storage System**. Currently, recycled water is only available at the Valencia WRP along the Old Road east of the project. Concurrent with buildout of the project, recycled water will become available from the Newhall Ranch WRP west of the project. To supply recycled water to Landmark Village and provide for a backbone system to serve other areas of Newhall Ranch, a recycled piping system will be constructed from the proposed Newhall Ranch WRP through the Landmark Village project to the existing Valencia WRP. This pipeline would be constructed starting from the west along the utility corridor south of the SR-126 right-of-way approximately 7,800 feet to the proposed subdivision. The line will pass through the subdivision approximately 11,000 feet along the future spine road alignment. From the east tract map boundary, the recycled waterline will extend north under SR-126, then east crossing under Castaic Creek, through Hancock Parkway to Commerce Center Drive. It would continue south to Henry Mayo Drive and east to The Old Road. This portion of the recycled waterline would measure approximately 10,000 linear feet. At the point where Henry May Drive merges with The Old Road, the line would then head south along the western right-of-way of The Old Road where it would connect to the existing Valencia WRP. This southerly section is approximately 8,000 feet. Construction of the recycled waterlines would take approximately 12 months. The recycled water system would be pressurized through the existing pump station at the Valencia WRP or through the proposed pump station at the Newhall Ranch WRP.

Storage would be required for the recycled water system. Approximately 500,000 gallons of storage would be provided at the Newhall Ranch WRP as a fore bay for the pump station. Additional operational storage would be required and this storage is currently proposed to be provided by converting the 3.3 million gallon Round Mountain Tank, which is currently being used for potable water, into a recycled water tank. Recycled water would be delivered to this tank through the pipeline that is connected to the Valencia WRP. To utilize this tank, a pipe would be extended southward in The Old Road and then follow the Santa Clarita trails system eastward to connect to the existing Round Mountain Water Tank. Initially, recycled water for Landmark Village could be provided from the Valencia WRP until the Newhall Ranch WRP is operational.

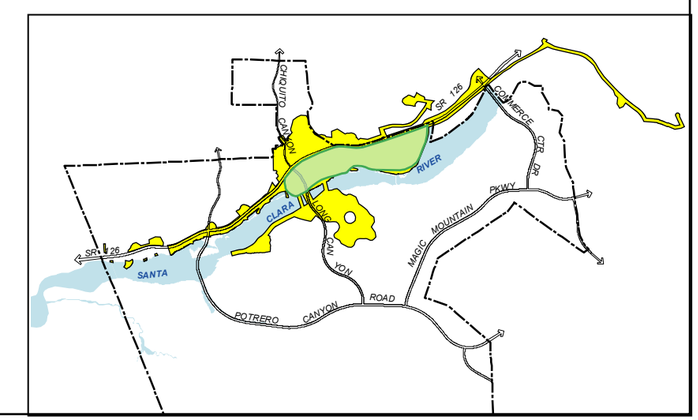


Legend:

- Potable Waterline – Pressure Zone 1
- Potable Waterline – Pressure Zone 1A
- Project Boundary

5000 2500 0 5000

APPROXIMATE SCALE IN FEET

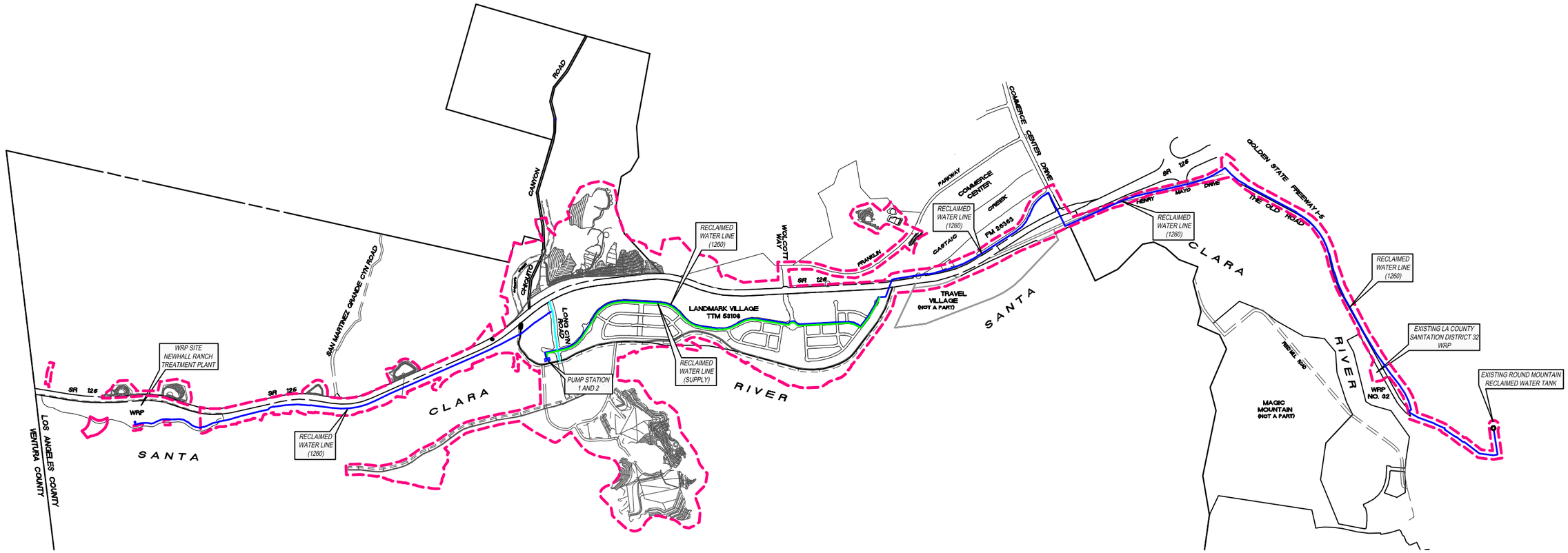


SOURCE: PSOMAS – November 2008

FIGURE **4.10-9**

Landmark Village Potable Water System Infrastructure

32-92A•11/08

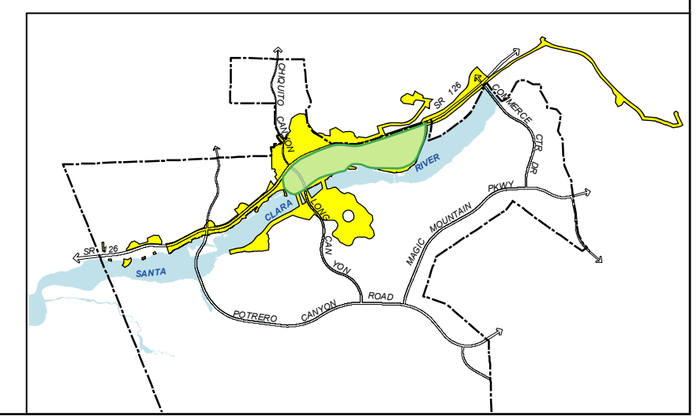


Legend:

- Recycled Water Line (1260)
- Recycled Water Line (1510)
- Recycled Water Line (Supply)
- Project Boundary
- Pump Station 1 and 2

5000 2500 0 5000

APPROXIMATE SCALE IN FEET



SOURCE: PSOMAS – November 2008

FIGURE **4.10-10**

Preliminary Recycled Water Storage System

32-92A•11/08

7. PROJECT IMPACTS

a. Significance Threshold Criteria

The criteria listed below are based on Appendix G of the *State CEQA Guidelines*. The proposed Landmark Village 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.

- According to the County of Los Angeles Environmental Document Reporting Procedures and Guidelines, the County also requires an analysis of adverse impacts on water availability when a project cannot be served by the existing area water system facilities due to inadequate water supplies to meet the domestic demands, and/or fire flows for fire protection.

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 Landmark Village Water Supplies

Water Supply Impacts. As stated above, and as shown in the Revised Landmark WSA, an adequate supply of water is available to meet the demands of the Landmark 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 608 afy. The water from the Alluvial aquifer presented 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 Landmark 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 Landmark Village project.

Although the Revised Landmark WSA and this analysis have determined that adequate and reliable water supplies exist to serve the Landmark Village 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 recently passed legislation (SB 7) 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 Landmark Village 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 Landmark 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 Recirculated Draft EIR **Appendix 4.10**, 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.

Groundwater Recharge Impacts. The supplying of water to the Landmark Village 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 Recirculated Draft EIR **Appendix 4.10** [*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; Recirculated Draft EIR **Appendix 4.10**), 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 Recirculated Draft EIR **Appendix 4.10**. 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.

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 Landmark Village 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 4.10-6** and **4.10-7**. 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 4.10-6** and **4.10-7**.

(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 three wells will remain unavailable through 2009, during which time the non-impacted groundwater supply will be sufficient to meet near-term water requirements as described above. Thereafter, 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 Recirculated Draft EIR **Appendix 4.10**), and is summarized in the 2009 Basin Yield Update (Recirculated Draft EIR **Appendix 4.10**). 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 Landmark 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 Landmark Village project site (see Specific Plan Mitigation Measure 4.11-15); (b) the agricultural groundwater used to meet the needs of the Landmark Village project site must meet the drinking water quality standards required by law prior to use (see Specific Plan Mitigation Measure 4.11-16); and (c) the wells expected to serve the Landmark 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.

Landmark Village Water Demand Impacts. The Landmark Village project site is presently used for crop production and cattle grazing. A variety of crops are produced on the site, including alfalfa and vegetables. 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 2008.[47]

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 Landmark Village site ultimately would be taken out of farming production as it is converted to non-agricultural project 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 Landmark 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 Landmark Village project, cannot exceed the amount of water historically and presently used by the applicant for agricultural uses (see Specific Plan Mitigation Measure 4.11-15). Therefore, no net increase in groundwater use will occur with implementation of the Specific Plan, including the proposed Landmark Village project.

At present, the Landmark Village project site contains 373 acres of irrigated agricultural land, which results in the use of an average of approximately 3,242 acre-feet of water per year on the Landmark Village site (part of the 7,038 afy of groundwater used by Newhall for agricultural irrigation). As the project site is converted to Specific Plan uses, this amount of water would be available for use on the

47 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 2008 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.

Newhall Ranch Specific Plan site, including the Landmark Village project. The potable water demand for Landmark Village is approximately 608 afy, leaving approximately 2,634 afy of water from the Landmark Village site available for other portions of the Specific Plan (i.e., 3,242 afy used on the Landmark Village site for agriculture minus Landmark potable demand of 608 afy leaves 2,634 afy available for use on Specific Plan site). The project water demand is summarized in **Table 4.10-16, Summary of Landmark Village Water Demand**.

Table 4.10-16
Summary of Landmark Village Water Demand (acre-feet)

Land Use	Water Demand	
	Potable	Non-Potable
Residential Development		
Medium	240	
High	299	51
Subtotals	**539**	**51**
Nonresidential Development		
Mixed-Use Commercial	26	29
Retail	23	7
Office	2	3
Schools	3	13
Subtotals	**66**	**67**
Open Space and Parks		
Recreation		
Community Parks	1	18
Neighborhood Parks	2	46
Major Open Areas		
Community Slopes	0	182
Subtotals	**3**	**246**
Totals	**608**	**364**
Total Water Demand		**972**[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 (1,069 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 7.*

The remaining portion of this section identifies the water sources that will be available to meet the water demand generated by buildout of the Landmark Village project.

Landmark Village Water Supply Impacts. As discussed above, the projected total water demand for the Landmark Village project is 972 afy in a normal/average year. Project water demand increases by approximately 10 percent in a dry year to a total of 1,069 afy. To meet this demand, Valencia Water Company, as the local retail purveyor, would provide water to the Landmark Village project. Water sources expected to serve the Landmark 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.

(3) Non-Potable Supplies

(a) Newhall Ranch Recycled Water

A total of 364 afy of recycled water would be needed to serve the Landmark Village project site. Recycled water from the proposed Newhall Ranch WRP would be used to meet the non-potable water demands of the Landmark 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 Lake/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 Landmark Village project occupancy, the non-potable water demand of the Landmark Village project would be met through the use of recycled water from the existing Valencia WRP, located upstream of the Landmark 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 Landmark 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 Landmark 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 Landmark Village project would use approximately 608 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 Specific Plan Mitigation Measure 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 Landmark 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 Landmark 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 4.10-17**, **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 4.10-17
Existing Plus Project Demand and Supply for the Santa Clarita Valley

2008 Demand	**(acre-feet)**	
2008 Demand (Actual)[1] Landmark Village Demand	90,700 972	
Total Existing Plus Project Demand		**91,672**
Available 2008 Supplies		
Local Groundwater[2]		
Alluvial aquifer	41,750	
Saugus Formation	6,950	
Subtotal Local Groundwater		**48,700**
Imported Supplies		
Table A Amount[3]	33,320	
Net Carryover from 2007[4]	12,146	
Buena Vista/Rosedale-Rio Bravo[5]	11,000	
Yuba Accord	1,022	
Flexible Storage Account (CLWA)[6]	0	
Flexible Storage Account (Ventura County)[7]	0	
Nickel Water -- Newhall Land	1,607	
Subtotal Imported Supplies		**59,095**
Recycled Water	311	**311**
Total Available 2008 Supplies		**108,106**

2008 Demand	(acre-feet)	
Additional Dry-Year Supplies[8]		
Semitropic Water Bank		
2002 Account[9]	21,600	
2003 Account[9]	29,270	
Rosedale-Rio Bravo Banking and Exchange Program		
2005 Banking of Table A[10]	17,800	
2006 Banking of Table A[10]	17,800	
2007 Banking of Table A [10]	7,300	
2005-2006 Buena Vista/Rosedale-Rio Bravo Water Acquisition Agreement[11]	22,000	
Semitropic Water Bank -- Newhall Land[12]	4,950	
Total Additional 2008 Dry-Year Supplies		**120,720**

Notes:

1 *See 2008 Water Report, p. ES-1 (April 2009).*

2 *See 2008 Water Report, pp. ES-1 - ES-2 (April 2009).*

3 *CLWA's SWP Table A Amount is 95,200 af. The final 2008 allocation was 35%, or 33,320 af.*

4 *Amount used by CLWA in 2008.*

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. 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 Build-Out 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 Build-Out Scenario).

a. SB 610 Water Demand and Supply Scenario

As indicated previously, the Valencia Water Company prepared a Revised Landmark WSA for the proposed project. The revised WSA is found in Recirculated Draft EIR **Appendix 4.10**. Based on the information in the WSA, Valencia Water Company concludes there will be a sufficient water supply available at the time the Landmark Village project is ready for occupancy to meet the needs of the project, in addition to existing and other planned future uses in the Santa Clarita Valley.

Valencia Water Company's current service area-wide demand is approximately 32,756 afy.[48] As mentioned previously, the Landmark Village project will require approximately 972 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 4.10-18, Projected Average/Normal Year Supplies and Demands**).

Table 4.10-18
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

48 This represents year 2007 demand. Dry year demand is approximately 10 percent higher.

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
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
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 "Draft 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 7.

Source in part: *Revised Landmark WSA* (January 2010)

Single Dry-Year Water Assessment. Table 4.10-19, 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 4.10-19
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

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
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

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 "Draft 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 12/31/07 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 7.

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 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 supply.

Source: *Revised Landmark WSA* (January 2010).

Multiple-Dry Year Water Assessment. Table 4.10-20, 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.

Table 4.10-20
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**

Water Supply Sources	Supply (af)				
	2010	2015	2020	2025	2030
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**

[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 "Draft 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 7.
[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 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 supply.

Source: *Revised Landmark WSA* (January 2010).

Conclusion. Based on the analysis set forth in this section, the documents used or relied on in preparing this section, the Revised Landmark WSA, information provided by CLWA and the purveyors, and the *2005 UWMP*, there are sufficient water supplies to serve the Landmark 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.

b. Development Monitoring System (DMS) Build-Out Scenario

The DMS Build-Out 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 Landmark 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 4.10-21, **Scenario 1: DMS Build-Out 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 29,465 af in average years and by 26,101 to 28,451 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 4.10-21
Scenario 1: DMS Build-Out 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)	99,770	109,747	109,747
- Landmark Demand	972	1,069	1,069
- Less Conservation at 10%	(9,700)	(10,700)	(10,700)
Total	**91,042**	**100,116**	**100,116**
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

	Average Years	Dry Years	
		Multiple Dry	Single Dry
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)	**29,465**	**26,101**	**28,451**

Notes:

(1) Complete buildout of DMS land uses is estimated to occur in 2015.

(2) See, 2005 UWMP *and* 2008 Water Report *(December 2009) (see Recirculated Draft* ***Appendix 4.10****).*

(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 Landmark 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).[49] 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.

49 Resolution of the County of Los Angeles Board of Supervisors, Plan Amendment Case No. S.P. 86-173.

To ensure new development is located in close proximity to services and existing development, DMS states that in no event is the proposed development to be located beyond 1 mile of an existing development or service. Also, DMS states that new development is to be located within, generally, 5 miles of commercial services and job opportunities.

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 Landmark Village project and a portion of the Newhall Ranch Specific Plan. As indicated in **Table 4.10-21**, above, there is sufficient water supply for the demand of the Landmark Village project and all pending approved and recorded projects in DMS. Therefore, the Landmark Village 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, 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 Landmark Village 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 Landmark Village project is consistent with the General Plan DMS policies as they relate to water supplies.

d. Santa Clarita Valley 2030 Build-Out Scenario

The Santa Clarita Valley 2030 Build-Out 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 proposed Landmark Village 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 4.10-22, **Scenario 2: Santa Clarita Valley 2030 Build-Out Scenario Water Supplies**, and **Table 4.10-23**, **Scenario 2: Santa Clarita Valley 2030 Build-Out Scenario Water Demand and Supply**, summarize the cumulative water demand and supply for this build-out scenario. As shown, the Landmark Village 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 4.10-22**, below.

Table 4.10-22
Scenario 2: Santa Clarita Valley 2030 Build-Out 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 Recirculated Draft EIR **Appendix 4.10**).*

(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 4.10-23**, 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 Landmark Village project.

Because cumulative water supplies exceed demand, cumulative development (including the proposed Landmark Village project) would not result in significant unavoidable cumulative impacts on Santa Clarita Valley water resources. Therefore, cumulative mitigation measures are not required.

Table 4.10-23
Scenario 2: Santa Clarita Valley 2030 Build-Out 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 Build-Out 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, Draft State Water Project Delivery Reliability Report, 2009, and the Revised Landmark WSA prepared for the Landmark 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 7.*
[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 Landmark Village Project

The following mitigation measures (Mitigation Measure Nos. 4.11-1 through 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 Landmark 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 Landmark 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 Landmark 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 Landmark 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 Landmark 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 Landmark Village project shall incorporate into all of its irrgation 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 Landmark 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 Landmark Village project, has issued its Revised Landmark 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 Landmark 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 Landmark Village project shall pay for and construct the required water service extension to the Landmark Village subdivision.*)

SP 4.11-9 Pursuant to Public Resources Code §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 2007. The latest 2008 Water Report is included in Recirculated Draft EIR* ***Appendix 4.10***.)

SP 4.11-10 Pursuant to Public Resources Code §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 Landmark 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 Landmark 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 Landmark 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 Landmark 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 Landmark 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 required annual reports, and the reports are included in Recirculated Draft EIR* ***Appendix 4.10***.)

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 Landmark 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 Landmark 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 Landmark Village project, because the water to be stored in the Semitropic Groundwater Banking Project is not needed to satisfy the water demand of the project or cumulative development in the Santa Clarita Valley.*)

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.[50] 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 on-going 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.*

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50 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, dated August 2001).

> *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 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.*)[51]

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

51 See, letter from the United Water Conservation District to CLWA, dated August 31, 2005.

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 Landmark Village project, because Newhall's 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 Landmark 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 Landmark Village project has provided the County with this documentation. As a condition of approval of the Landmark 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 Landmark 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 Landmark 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 Recirculated Draft EIR **Appendix 4.10**.)

c. Additional Mitigation Measures Proposed by this EIR

Implementation of the above Specific Plan mitigation measures as part of the Landmark 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 Landmark Village project does not result in any significant water-related impacts after implementation of the above mitigation measures.

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 Landmark 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.