

City of Santa Clarita

# Gate-King Industrial Park

*Final*  
**Environmental  
Impact Report**

State Clearinghouse Number 2001021121

*June 2003*

# Gate-King Industrial Park

## *Final* Environmental Impact Report

State Clearinghouse Number 2001021121

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*June 2003*

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# Gate-King Industrial Park EIR

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## EXECUTIVE SUMMARY

This section summarizes the characteristics of the proposed project, the environmental impacts associated with the project, and measures recommended to mitigate identified significant impacts.

### PROJECT SYNOPSIS

#### Project Applicant

The project applicant is Gate King Properties, LLC.

#### Project Description

The applicant is proposing to subdivide the 584-acre project site into 60 lots and is requesting General Plan amendments to change the land use designations in several areas of the site. The proposal involves amending the land use designation on about 223 acres, or about 38% of the site. The proposed changes would eliminate the residential (RE) and commercial (CC) designations from the site, and would increase the area designated IC from 337.5 acres to about 344 acres. The area designated OS would increase from 93.2 acres to about 240 acres.

Lots 1-41, which encompass about 35% of the site, are proposed to be industrial/business park lots. Lots 42-44, which comprise about 1.8 acres, would accommodate two water tanks to serve site development. Lots 45-54, which comprise about 16% of the site, consist of landscaped slopes and trails. Lots 55-59, which comprise about 38% of the site, would be designated as permanent open space. The remainder of the site would consist of rights-of-way, including public streets (29.2 acres) and the MTA (14 acres) and SCE (19.3 acres) rights-of-way.

Full buildout of the site under the applicant's proposal would involve the development of about 170.1 acres (29.1% of the site) with industrial/commercial uses. This acreage would accommodate up to about 4.45 million square feet of industrial/commercial development. An additional 64.3 acres (11% of the site) would be rights-of-way (SCE, MTA, roads) and water wells. The remaining 349.6 acres (59.9% of the site) would include a combination of slopes, trails, areas within industrial/commercial lots that would not be developed due to the presence of large oak groves, and natural open space.

### ALTERNATIVES

As required by CEQA, the EIR examines a range of alternatives to the proposed project. Studied alternatives include:

- **No Project (Alternative 1)** – This option assumes that the project is not constructed, and that the site remains in its current condition.
- **Buildout Under Los Angeles County General Plan and Zoning (Alternative 2)** – This alternative considers the impact of buildout of the project site in accordance with the land uses prescribed in the Santa Clarita General Plan. About 31 residences and 4.9





million square feet of commercial and industrial development could be built under this alternative.

- **Ridgeline Preservation (Alternative 3)** – This alternative entails a reconfiguration of the project primarily to reduce grading of the Primary ridgeline onsite. Lots 17-22, 24-29, and 31-38 would be designated as open space and therefore would not be developed with industrial commercial uses as proposed. Also, 'C' Street, 'B' Street, and the segments of 'A' Street between lots 29 and 16 would be eliminated. This alternative would involve about 2.04 million square feet of commercial/ industrial development on about 67 buildable acres.
- **Oak Tree Preservation (Alternative 4)** – This option considers designation of development lots 9, 14, 15, 23, and 26- 38 as permanent open space to avoid impacts to several large clusters of oak trees. Landscape lots 50-53 would also be left as undeveloped open space. In addition, neither 'B' Street nor 'C' Street would be constructed and the extension of 'E' Street to connect to Pine Street would be eliminated. Buildout under this alternative would involve about 2.26 million square feet of industrial commercial development on about 71.3 acres.
- **Reconfigured 'C' Street (Alternative 5)** – This alternative, suggested by the project applicant, would eliminate all but about the 900 northernmost feet of 'C' Street and would eliminate most of the planned development along 'C' Street. Specifically, proposed industrial commercial lots 24-27 and the adjacent 8.8-acre landscape slope area would be left as permanent open space. One new industrial commercial lot would be added at the end of the reconfigured 'C' Street. This alternative would include about 4.2 million square feet of industrial commercial development on about 159.8 acres.

Each of the alternatives would be environmentally superior to the proposed project in at least one issue area. The No Project Alternative shows up as environmentally superior for each issue area as it would have no impact. However, that alternative would not fulfill the basic objective of the project. In addition, the No Project alternative would not preclude the site from eventual development in accordance with the existing General Plan designation for the site.

Of the development scenarios, only Alternative 2 (General Plan buildout) would involve more overall development than the proposed project and would have generally greater environmental impacts. Alternatives 3, 4, and 5 involve less overall development than the proposed project and would therefore reduce overall demands upon local services and infrastructure. Alternative 3 would involve the least overall development and would have the greatest benefits as compared to the proposed project with respect to ridgeline grading. Alternative 4 would reduce impacts to oak trees and associated habitat to the greatest degree. Either of these could be considered the environmentally superior alternative overall.



## SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table ES-1 includes a brief description of the environmental issues relative to the proposed project, the identified environmental impacts, proposed mitigation measures, and impacts after mitigation. Impacts are categorized by class. Class I impacts are defined as significant, unavoidable adverse impacts which require a statement of overriding considerations to be issued per Section 15093 of the *State CEQA Guidelines* if the project is approved. Class II impacts are significant adverse impacts that can be feasibly mitigated to less than significant levels and which require findings to be made under Section 15091 of the *State CEQA Guidelines*. Class III are considered less than significant impacts.

<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
<b>LAND USE AND PLANNING</b>		
<b>Impact LU-1</b> The proposed development generally would not create compatibility conflicts with residential, commercial and industrial uses in the project vicinity. This impact is considered Class III, <i>less than significant</i> .	Mitigation measures recommended in Sections 4.7, <i>Noise</i> , and 4.11, <i>Aesthetics</i> , would minimize compatibility conflicts with surrounding land uses.	Less than significant.
<b>Impact LU-2</b> The proposed project would add an estimated 6,527 jobs within the City. Because this increase in employment is within citywide projections, this impact is considered Class III, <i>less than significant</i> .	None required.	Less than significant.
<b>Impact LU-3</b> The proposed project is considered generally consistent with City Land Use Element goals and policies, but is potentially inconsistent with City policies pertaining to preservation/ protection of significant ridgelines and oak trees.	Mitigation measures contained in Sections 4.6, <i>Biology</i> , 4.11, <i>Aesthetics</i> , 4.9, <i>Public Services</i> , 4.10, <i>Utilities</i> , and 4.12, <i>Cultural Resources</i> , would attain consistency with City General Plan goals and policies to the degree feasible. The following findings would need to be adopted for the proposed project. Various findings with respect to General Plan and Unified Development Code Consistency would need to be made to approve the project. A complete listing of these findings can be found in Section 4.1 <i>Land Use and Planning</i> .	The Planning Commission would need to make a finding that the project complies with the Ridgeline Preservation and Hillside Development Ordinance and Guidelines if it were to approve the project.
<b>Impact LU-4</b> The proposed project appears to fully or partially implement most relevant policies of the Regional Comprehensive Plan and Guide.	Mitigation measures included in Sections 4.2, <i>Geology</i> , 4.3, <i>Hydrology and Water Quality</i> , 4.4, <i>Air Quality</i> , and 4.6, <i>Biological Resources</i> , would achieve compliance with SCAG policies to the degree feasible.	The project appears to fully or partially implement most relevant SCAG policies.
<b>GEOLOGY</b>		
<b>Impact GEO-1</b> The project site's potential to experience ground rupture is considered low. Nevertheless, impacts relating to ground rupture are considered Class II, <i>significant but</i>	The following measure is recommended to address potential concerns about the Beacon Fault. <b>GEO-1</b> The significance of the Beacon Fault shall be verified at the Grading Plan stage.	Less than significant.



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
<i>mitigable</i> , due to the presence of the Beacon Fault onsite.	During site grading, the final at-grade fault location shall be determined, and, as required by the City Engineer, the location and width of the setback shall be adjusted accordingly.	
<b>Impact GEO-2</b> The project site would experience substantial groundshaking in the event of an earthquake on any of several faults. However, compliance with UBC requirements would reduce such impacts to a Class III, <i>less than significant</i> level.	The project site would experience substantial groundshaking in the event of an earthquake on any of several faults. However, compliance with UBC requirements would reduce such impacts to a Class III, <i>less than significant</i> level.	Less than significant.
<b>Impact GEO-3</b> The project site has a low potential for ground failure. Impacts relating to ground failure are considered Class III, <i>less than significant</i> .	None required.	Less than significant.
<b>Impact GEO-4</b> The project involves grading and development in steeply sloped areas with high landslide potential. Potential impacts relating to landsliding are considered Class II, <i>significant but mitigable</i> .	<p><b>GEO-4(a)</b> A definitive determination of potential debris flow hazard shall be completed as a part of a review of 1 inch = 40 feet scale grading plans. Specific mitigation measures for debris flow hazard may consist of avoidance, debris walls or debris basins designed to contain the anticipated volume of debris, building setbacks from the potential debris flow hazard area, or removal of the material susceptible to debris flow.</p> <p><b>GEO-4(b)</b> A more detailed analysis of cut slopes shall be performed at the grading plan stage once 1"=40' scale plans are available. Cut-slopes that will expose bedrock disrupted by the Beacon Fault may also require stability fills to mitigate the potential for surficial instability, and should be evaluated at the Grading Plan stage.</p> <p>The stability of bedding planes below the proposed buttresses shall also be analyzed and presented at the grading plan stage utilizing piezometric surfaces where applicable. A declaratory statement needs to be made in the slope stability section of the report that justifies the use or omission of groundwater (piezometric surfaces) in the slope stability analyses. Per RTF&amp;A the temporary stability of the backcuts for the recommended stability fills and buttresses will also need to be demonstrated at the grading plan stage along with any backcuts required for the removal of landslides, alluvium or artificial fill. Future anticipated loads from water tanks, buildings or other significant structures should also be incorporated into the stability calculations at the grading plan stage.</p>	Less than significant.



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
	<p><b>GEO-4(c)</b> The future anticipated load(s) from the proposed water tank(s) shall be incorporated into the stability calculations at the Grading Plan stage along with any anticipated future groundwater.</p> <p><b>GEO-4(d)</b> The areas of deep (&gt;40 feet thick) proposed fills shall be evaluated further at the grading plan stage. Any additional requirements of the City Engineer shall be fully implemented.</p> <p><b>GEO-4(e)</b> Recommended removal depths shown on RTF&amp;A's Figure 2.1 (report 10/22/01) range from 3 to 70 feet. The deep removals shall be analyzed in detail at the grading plan stage relative to groundwater conditions and backcut stability. Per RTF&amp;A (2001), uncertified existing fills will be removed prior to the placement of compacted fill. Any unsuitable materials underlying the fills shall also be removed.</p> <p><b>GEO-4(f)</b> In order to reduce the potential for erosion, all cut and fill slopes should be seeded or planted with proper ground cover as soon as possible following grading. The ground cover should consist of drought-resistant, deep-rooting vegetation. A landscaping expert should be consulted for ground cover recommendations.</p> <p><b>GEO-4(g)</b> Implement canyon subdrains in the main drainage areas to receive fill, and backdrains for buttress fills to help protect the proposed fills from groundwater infiltration.</p> <p><b>GEO-4(h)</b> Per standard grading practices, water shall not be allowed to stand or pond on the future graded building pads nor should it be allowed to flow over natural or constructed slopes, but should be directed to the natural slope drainage devices.</p>	
<p><b>Impact GEO-5</b> Some onsite soils are potentially expansive. This is considered a Class II, <i>significant but mitigable impact</i>.</p>	<p><b>GEO-5</b> If potentially expansive units are encountered in the final pad or street grades, they shall be evaluated by the Project Geotechnical Engineer. Special foundation designs and reinforcement can be utilized to mitigate expansive material. Optionally, the expansive material can be removed to a specified depth determined by the Project Geotechnical Engineer and replaced with compacted fill with very low to non-expansive characteristics, or the expansive soil may be treated with additives to lower the expansion index.</p>	<p>Less than significant.</p>



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
<b><i>HYDROLOGY AND WATER QUALITY</i></b>		
<p><b>Impact H-1</b> During project construction, the soil surface would be subject to erosion and the downstream watershed would be subject to pollution. However, compliance with the requirements of the NPDES permit would reduce these impacts to a less than significant level (Class III).</p>	<p>Implementation of BMPs to be developed as part of the SWPPP for the site would be required (see above). Additional mitigation is not required.</p>	<p>Less than significant.</p>
<p><b>Impact H-2</b> The proposed project would increase impervious surface and runoff to Newhall Creek, which could increase the potential for downstream flooding and stream channel erosion. This is considered a Class II, <i>significant, but mitigable impact</i>.</p>	<p><b>H-2(a)</b> The drainage plan for the project shall include post-development designs for detention basins and on-site infiltration to reduce <math>Q_{50B}</math> peak discharge to the pre-development level for Newhall Creek. The Los Angeles Flood Control District and the City of Santa Clarita Engineer shall review all hydrology and drainage plans for the site to determine if the drainage plans adequately reduce peak flows to predevelopment levels.</p> <p><b>H-2(b)</b> The RCB under Sierra Highway shall be improved to have adequate capacity to accommodate the Capital Flood. Additionally, the natural channel approaching the RCB shall be improved to prevent flooding of the Highway. Alternatively, a retention basin with adequate capacity to eliminate the need for improvement of the RCB can be provided at the Hondo Oil and Gas site.</p> <p><b>H-2(c)</b> Onsite drainage facilities for the developed areas shall be designed for the 25-year Urban Design Storm. The 50-year Capital Flood storm shall be used for all open channels, closed conduits under major and secondary road, and detention facilities.</p> <p><b>H-2(d)</b> Slope protection along Railroad Canyon and Newhall Creek shall be designed to meet LACPWD standards. Rock riprap slope protection side slopes shall not be greater than 2:1 and gunite side slopes shall be no greater than 1.5:1.</p>	<p>Less than significant.</p>
<p><b>Impact H-3</b> Portions of the site are within the 100-year flood zone and may therefore be subject to flooding. This is considered a Class II, <i>significant, but mitigable impact</i>.</p>	<p><b>H-3(a)</b> The finished floor elevation of the buildings within the A and AO zones shall be a minimum of 1 foot above the existing adjacent grade.</p> <p><b>H-3(b)</b> The applicant shall obtain a revision to the Flood Insurance Rate Map. This process will first entail a conditional letter of map revision (CLOMR). Then, after the project is built, a letter of map revision</p>	<p>Less than significant.</p>



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
	(LOMR) showing the actual “as built” plans shall be submitted. FEMA will require that the CLOMR and LOMR indicate, with supporting technical data, how the sites will be protected from erosive forces. This can be accomplished in a variety of ways, including demonstrating non-erosive velocities or placement of rock rip rap along the channel.	
<b>Impact H-4</b> With the proposed project, runoff to Newhall Creek could be adversely affected with pollutants such as oil, pesticides, and herbicides. This is considered a Class II, significant but mitigable impact.	<p><b>H-4</b> A Storm Water Management Plan that incorporates Best Management Practices (BMPs) for the long-term operation of the site shall be developed and implemented by the applicant to minimize the amount of pollutants that are washed from the site. The plan shall be developed in accordance with the requirements of the City of Santa Clarita. Examples of BMPs that apply to both initial development of the lots and to long-term operation of the project are listed below.</p> <p><i>Education</i></p> <ul style="list-style-type: none"> <li>• Stencil all storm drains inlets and post signs along channels to discourage dumping by informing the public that water flows to the Santa Clara River</li> <li>• Provide educational flyers to each new building unit regarding toxic chemicals and alternatives for fertilizers, pesticides, cleaning solutions and automotive and paint products.</li> <li>• Provide educational flyers to each new building unit regarding proper disposal of hazardous waste and automotive waste.</li> </ul> <p><i>Source Reduction/ Recycling</i></p> <ul style="list-style-type: none"> <li>• Development of an integrated pest management program for landscaped areas of the project. These areas would include slope-stabilization landscaping, and commercial area landscaping. Integrated pest management emphasizes the use of biological, physical, and cultural controls rather than chemical controls. Examples include use of insect resistant cultivars, manual weed control, use of established thresholds for pesticide and herbicide application, use of chemical controls that begin preferentially with dehydrating dusts, insecticidal soaps, boric acid powder, horticultural oils, and pyrethrinbased insecticides.</li> </ul> <p><i>Cleaning/ Maintenance</i></p>	Less than significant.



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
	<ul style="list-style-type: none"> <li>• Routine cleaning of streets, parking lots and storm drains. Regular maintenance and cleaning of catch basins, debris basins, and siltation basins; maintenance logs shall be regularly submitted to the appropriate agencies.</li> </ul> <p><i>Structural Treatment Methods</i></p> <ul style="list-style-type: none"> <li>• Catch basin inserts or storm drain devices such as storm cepters shall be installed with the initial development. The use of vegetated swales and strips, infiltration basins or oil separators as needed to manage stormwater pollution from each developed lot shall be provided at the time the buildings are constructed.</li> <li>• Trash storage areas and storage areas for materials that may contribute pollutants to storm water shall be covered by a roof and protected from surface runoff.</li> </ul>	
<b>AIR QUALITY</b>		
<p><b>Impact AQ-1</b> Construction activity associated with the proposed project would result in the emission of air pollutants, including fugitive dust. Because emissions would exceed SCAQMD significance thresholds, construction impacts are considered Class I, <i>unavoidably significant</i>.</p>	<p><b>AQ-1(a)</b> Water trucks shall be used during construction to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. Increased watering is required whenever wind speed exceeds 15 mph. Grading shall be suspended if wind gusts exceed 25 mph.</p> <p><b>AQ-1(b)</b> The amount of disturbed area shall be minimized and on-site vehicle speeds shall be kept to 15 mph or less.</p> <p><b>AQ-1(c)</b> Soil with 5% or greater silt content that is stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting material shall be tarped from the point of origin or shall maintain at least two feet of freeboard.</p> <p><b>AQ-1(d) Fugitive Dust Control Measures</b></p> <ul style="list-style-type: none"> <li>• All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering should occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day.</li> <li>• All clearing, grading, earth moving, or excavation activities shall cease during periods of high winds (i.e., greater than 20 mph averaged over one hour) so as</li> </ul>	Unavoidably significant.



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
	<p>to prevent excessive amounts of dust.</p> <ul style="list-style-type: none"> <li>• All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.</li> <li>• The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized so as to prevent excessive amounts of dust.</li> <li>• All inactive portions of the construction site shall be seeded and watered until grass cover is grown; or, a sealer is placed over these portions of the site.</li> <li>• All active portions of the construction site shall be sufficiently watered to prevent excessive amounts of dust.</li> </ul> <p><b>AQ-1(e) General Dust Controls</b></p> <ul style="list-style-type: none"> <li>• All areas with vehicle traffic should be watered periodically, at a minimum, this will require twice daily applications (once in late morning and once at end of workday).</li> <li>• Streets adjacent to the project site shall be swept as needed to remove silt that may have accumulated from construction activities so as to prevent excessive amounts of dust.</li> </ul> <p><b>AQ-1(f) Ozone Precursor Control Measures:</b></p> <ul style="list-style-type: none"> <li>• Equipment engines shall be maintained in good condition and in proper tune as per manufacturer's specifications.</li> <li>• New technologies to control ozone precursor emissions shall be used as they become available in the future.</li> <li>• The applicant shall use low-VOC architectural coatings in construction whenever feasible and shall coordinate with the SCAQMD to determine which coatings would reduce VOC emissions to the maximum degree feasible.</li> </ul>	
<p><b>Impact AQ-2</b> Operational emissions associated primarily with project-generated traffic would exceed SCAQMD significance thresholds for ROC and NO<sub>x</sub>. This is considered a Class I, <i>unavoidably significant</i> impact.</p>	<p>The proposed project includes a number of features designed to provide transportation alternatives that minimize air emissions. These include the provision of sidewalks and ample landscaping along all project site roads, and a network of hiking/ equestrian trails through the portions of the site that would remain undeveloped. To further reduce emissions associated with the proposed project, the following measures are recommended:</p> <p><b>AQ-2(a)</b> On-site industrial structures shall be</p>	Unavoidably significant.





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<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
	<p>fitted with photovoltaic roof tiles or other technologies that allow the use of solar energy for heating and lighting to the maximum degree feasible.</p> <p><b>AQ-2(b)</b> Energy-efficient windows shall be installed in all buildings.</p> <p><b>AQ-2(c)</b> On-site parking areas shall be designed to accommodate electric vehicle charging stations.</p>	
<p><b>Impact AQ-3</b> Project traffic, together with other cumulative traffic increases in the area, would increase carbon monoxide concentrations at some area intersections. However, because concentrations would remain below state and federal standards, this impact is considered Class III, <i>less than significant</i>.</p>	None required.	Less than significant.
<b>TRANSPORTATION AND CIRCULATION</b>		
<p><b>Impact TC-1</b> The proposed project would generate significant traffic impacts under City criteria at 13 of 19 study area intersections under existing + project conditions. These impacts are considered Class II, <i>significant but mitigable</i>.</p>	Table 4.5-7 summarizes mitigation measures in the form of intersection improvements that effectively mitigate the project's direct impacts.	Less than significant.
<p><b>Impact TC-2</b> The proposed project would generate significant traffic impacts under City criteria at 10 of 19 study area intersections under interim year + project conditions. These impacts are considered Class II, <i>significant but mitigable</i></p>	Intersection and roadway improvements will be required in order to maintain acceptable levels of service in the future. Table 4.5-9 in Section 4.5 summarizes these improvements and lists the proposed project's percent share of the improvement. Also included in the table are the ICU values that result from applying the recommended mitigation. For locations where "with-project" conditions are LOS B or better, mitigation consists of payment of Bridge and Thoroughfare District Fees in lieu of specific improvements for that location.	Less than significant.
<p><b>Impact TC-3</b> Installation of traffic signals is warranted at each of the new intersections created by the project as well as at the existing Pine Street/San Fernando Road and SR-14 Southbound ramps/San Fernando Road intersection. These impacts are considered Class II, <i>significant but mitigable</i>.</p>	<p>In conjunction with project development, traffic signals shall be added at the following intersections:</p> <p>141. SR-14 SB Ramp &amp; San Fernando Road            215. Pine Street &amp; San Fernando Road            216. 'A' Street &amp; San Fernando Road            217. Sierra Highway &amp; 'A' Street</p>	Less than significant.
<p><b>Impact TC-4</b> The proposed project</p>	The following mitigation measures are	Less than significant.



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
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<p>would not create any significant impacts under Los Angeles County CMP criteria. Impacts relating to CMP criteria are considered Class III, <i>less than significant</i>.</p>	<p>recommended to meet Santa Clarita Transit bus stop requirements:</p> <p><b>TC-4(a)</b> Bus stop improvements shall be installed at the following locations:</p> <ul style="list-style-type: none"> <li>• Southbound 'A' Street, near side of "E" Street</li> <li>• Southbound 'A' Street, at lot line of lots 18 and 19</li> <li>• Southbound 'A' Street, far side of 'C' Street</li> <li>• North bound 'A' Street, far side of 'C' Street</li> <li>• Northbound 'A' Street, opposite lot line of lots 18 and 19, adjacent to water tank access road</li> <li>• Northbound 'A' Street, far side of "E" Street</li> <li>• Northbound Sierra Highway, far side of 'A' Street</li> <li>• Westbound San Fernando Road, far side of 'A' Street</li> <li>• Eastbound San Fernando Road, near side of 'A' Street</li> </ul> <p><b>TC-4(b)</b> All bus stop locations shall be equipped with 10 foot by 20 foot concrete pads placed behind the sidewalk. Concrete pads may require the dedication of additional right-of-way. In a bus stop location, the sidewalk shall touch the street for a length of no less than 80 feet.</p> <p><b>TC-4(c)</b> With respect to the bus stops at the locations of westbound San Fernando Road, far side of 'A' Street, and eastbound San Fernando Road, near side of 'A' Street, the following requirements shall apply:</p> <ul style="list-style-type: none"> <li>• The stops shall be equipped with bus turnouts and permanent stylized bus shelters.</li> <li>• The shelter shall include a bench and trash receptacle.</li> <li>• Architecture of the shelter shall be approved by City staff.</li> <li>• The shelter shall be hard wired for lighting.</li> <li>• Bus turnouts shall require an additional 12 feet of right-of-way to accommodate their width.</li> </ul> <p><b>TC-4(d)</b> At all intersections where there are bus stops, there shall be a safe, traffic-controlled way to cross the street. This may be</p>	



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	<p>accomplished by either traffic signals, stop signs, or pedestrian overcrossings. At intersections where there are traffic signals or stop signs, crosswalks shall be provided on all four sides of the intersection.</p> <p><b>TC-4(e)</b> The project applicant shall provide a park-and-ride lot at the intersection of San Fernando Road and 'A' Street, or funds in lieu of the lot as provided by the Development Agreement.</p> <p><b>TC-4(f)</b> Although transit impact fees do not apply to the project at this time, the applicant shall pay any fees that may be in place at the time of building permit issuance.</p>	
<p><b>Impact TC-5</b> The proposed development would need to provide an estimated 8,891 overall parking spaces to serve the project. Assuming that each individual development onsite complies with its Code requirements for parking, impacts to parking would be Class III, <i>less than significant</i>.</p>	<p>None required beyond compliance with the parking requirements outlined in the City's Unified Development Code.</p>	<p>Assuming compliance with applicable parking requirements, no significant impacts are anticipated.</p>
<b>BIOLOGICAL RESOURCES</b>		
<p><b>Impact BIO-1</b> Project development would result in the direct permanent loss, and indirect degradation and fragmentation of several "common" habitat types onsite, including Mixed Chaparral, Riversidean Sage Scrub, and Annual Grassland habitats. This is considered a <i>significant but mitigable</i> impact (Class II).</p>	<p><b>BIO-1(a)</b> Landscaping within fire clearance zones shall include native species indigenous to the region. Modification of fire hazard fuels shall be limited to hand thinning of individual shrubs, clearing dead fuel, replanting with fire-resistant plants indigenous to the area, or other methods to attain fire safety while producing a viable natural and native vegetation community. No species identified as invasive on the CNPS, Channel Islands Chapter <i>Invasive Plants List</i> (1997) shall be utilized in the landscape plans and all landscaping plans shall be prepared by the City and approved by the City and the County Fire Department.</p> <p><b>BIO-1(b)</b> Revegetation and landscaping plans for the graded road areas onsite shall be prepared and approved by the City before each phase of the proposed project. Plant species, seed mixes, weed suppression, and planting methodology, and irrigation schedule shall be approved by a qualified biologist or landscape architect and shall utilize native species from onsite habitats. No species identified as invasive on the CNPS, Channel Islands Chapter <i>Invasive Plants List</i> (1997) shall be utilized in the landscape plans and all landscaping plans shall be prepared by the City and approved by the City and Fire Department.</p>	<p>Less than significant.</p>



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
<p><b>Impact BIO-2</b> The proposed project may cause the direct loss of special-status plants identified as List 1B or 4 species by the California Native plant Society (CNPS). This is a Class II, <i>significant but mitigable</i>, impact.</p>	<p><b>BIO-2</b> Prior to grading of each development phase, focused surveys shall be conducted during the prior flowering season for the slender and Plummer's mariposa lilies to determine the presence or absence of those special-status plants. If no specimens are found within the development footprint or fire clearance zone, then no additional mitigation is required.</p> <p>In the event either slender or Plummer's mariposa lilies are identified within the development or fire clearance areas, the applicant shall submit a special-status plant restoration plan for review and approval by a City of Santa Clarita Planning Department approved biologist. Target sites for mitigation shall be sampled for soil type and habitat criteria sufficient for the establishment and growth of the affected special-status species. The plan shall additionally include, but not be limited to, the following components:</p> <ol style="list-style-type: none"> <li>1) Performance criteria (i.e., what is an acceptable success level of revegetation to mitigate past impacts);</li> <li>2) Monitoring effort (who is to check on the success of the revegetation plan, and how frequently);</li> <li>3) Contingency planning (if the effort fails to reach the performance criteria, identify the remediation steps need to be taken); and</li> <li>4) Irrigation method/schedule (how much water is needed, where, and for how long).</li> </ol>	<p>Less than significant.</p>
<p><b>Impact BIO-3</b> Development of the proposed project could potentially affect the San Fernando Valley spineflower (SFVS), if present onsite. Potential impacts to this species would be considered Class II, <i>significant but mitigable</i>.</p>	<p>Due to the extreme rarity of the SFVS and its known presence at only two locations, the following mitigation measures are required.</p> <p><b>BIO-3(a)</b> In the April-June prior to onsite grading and development of each phase, a survey for the SFVS shall be conducted by a qualified biologist in all Mixed Chapparal, Riversidean Sage Scrub, Annual Grassland, and Disturbed areas where ground disturbance is anticipated. If no SFVS are found, no further mitigation is required. In the event the SFVS is discovered onsite, mitigation measures B-3 (b-d) shall be required.</p> <p><b>BIO-3(b)</b> In the event the SFVS is discovered onsite, the current and anticipated</p>	<p>Less than significant.</p>



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	<p>future distribution of the species shall be mapped by a qualified biologist. The CDFG and City of Santa Clarita shall be formally notified and consulted regarding the presence of this species onsite. If the SFVS becomes federally listed prior to grading of the site, the USFWS shall also be notified. A preservation and management plan shall be prepared for the SFVS by a qualified biologist and shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> <li>• Project development shall be located no closer than 200-feet to any SFVS that may be found onsite. This buffer zone shall be designated with appropriate fencing to exclude construction vehicles and public access, but not wildlife access;</li> <li>• Stormwater runoff, irrigation runoff, and other drainage from developed areas shall not pass through areas populated by the SFVS;</li> <li>• Spineflower areas shall not be artificially shaded by structures or landscaping within the adjacent development areas;</li> <li>• Pesticide use shall not be permitted within SFVS areas;</li> <li>• The agency responsible for monitoring the SFVS area during construction and after project completion shall be identified and the frequency and extent of monitoring shall be determined.</li> </ul> <p><b>BIO-3(c)</b> In the event it is determined that project development could potentially affect the SFVS, the CDFG shall be contacted to determine the need for a “take permit” under the California Endangered Species Act. If the SFVS is federally listed prior to site grading, the USFWS shall be contacted to determine the need for a take permit under the federal Endangered Species Act. Appropriate mitigation required to minimize or mitigate impacts to the SFVS shall be implemented and may include the following: the creation of a spineflower preserve, establishment of vegetated buffers or other setbacks, drainage modification of the adjacent areas, SFVS revegetation, and monitoring to ensure success of the mitigation.</p>	
<p><b>Impact BIO-4</b> The proposed project would directly remove up to 1,100 healthy oak trees and 709 dead or fire damaged oaks, and could indirectly</p>	<p><b>BIO-4(a)</b> All direct impacts to oak trees on site shall be avoided wherever feasible. For oak trees that are affected, an oak tree mitigation program shall be developed pursuant to the</p>	<p>Unavoidably significant.</p>



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<p>disturb an estimated 551 individual oak trees. An estimated 69 acres, or approximately 34%, of the oak woodland/ forest habitat onsite would be affected. Impacts to oak woodland/forest habitat are considered Class I, <i>unavoidably significant</i>.</p>	<p>City's oak tree preservation ordinance. This mitigation program shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>• Identifying specific protective measures for protecting and maintaining all oaks within potential encroachment areas;</li> <li>• Mature oak trees and shrubs shall not be removed during preparation of fire clearance zones;</li> <li>• Replacement tree planting, maintenance, and monitoring specifications, which shall at the minimum include the following:               <ol style="list-style-type: none"> <li>1) Performance and success criteria to ensure that at least 80% of the 500 planted coast live oak trees survive for at least five years;</li> <li>2) Monitoring effort (who is to check on the success of the revegetation plan, and how frequently);</li> <li>3) Contingency planning (if the effort fails to reach the performance criteria, identify the remediation steps needed to be taken);</li> <li>4) Irrigation method/schedule (how much water is needed, where, and for how long); and</li> <li>5) A final map, corresponding spreadsheet, and impact summary table indicating all oaks to be removed and that reflects impacts resulting from the final approved project.</li> <li>6) All native California oak trees removed as a result of project implementation shall be replaced with in-kind native California oak tree specimens obtained from regional (i.e., Santa Clarita Valley) stock.</li> </ol> </li> </ul> <p><b>BIO-4(b)</b> The proposed open space wilderness area and any other wildlife/corridor easement areas and/or fee transfers per previous City agreements shall be deeded and/or secured with the City at the time of final tract map approval.</p>	
<p><b>Impact BIO-5</b> The proposed development would cause direct and indirect impacts to CDFG and Corps jurisdictional drainages onsite. This is a Class II, <i>significant but mitigable</i> impact.</p>	<p>Compliance with the requirements of the appropriate Corps, CDFG, and RWQCB permits, and implementation of any mitigation measures contained therein, would offset the loss of waters of the U.S. and waters of the state. As discussed in Section 4.3, Hydrology and Water Quality, a National Pollution Discharge Elimination System (NPDES) permit is required for development of the</p>	<p>Less than significant.</p>



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	<p>proposed project. As a result Best Management Practices (BMPs) would be required to minimize impacts to water quality and quantity both onsite and offsite during construction. No additional mitigation is required beyond that specified in Section 4.3, Hydrology.</p> <p>Although the Corps and CDFG will require specific mitigation as part of their permitting processes, the following measures provide minimum requirements for the project.</p> <p><b>BIO-5(a)</b> Impacts to jurisdictional waters shall be mitigated at a minimum ratio of 2:1.</p> <p><b>BIO-5(b)</b> The project applicant shall provide a buffer between development and riparian habitat associated with drainage FF, which is located directly south of the Eternal Valley Cemetery, as required by CDFG.</p>	
<p><b>Impact BIO-6</b> The proposed development would disrupt wildlife movement corridors through the project area, and between the open space areas associated with the San Gabriel and Santa Susana Mountains. This impact is considered <i>unavoidably significant</i> (Class I).</p>	<p><b>BIO-6(a)</b> The open space area in lot 55 shall be maintained for continued wildlife access. Dense native vegetation reflecting species currently present onsite shall be planted along the borders of these areas as necessary to provide appropriate cover and resources for wildlife. A pathway for animal movement shall be located between the vegetated buffers.</p> <p><b>BIO-6(b)</b> Solid barrier fencing onsite shall be prohibited around areas that border open spaces or routes of animal movement. Fencing in these areas shall consist of “ranch style” post fencing or barb-wire style fencing. Fencing shall allow at least one-foot of clearance above ground to permit wildlife movement.</p> <p><b>BIO-6(c)</b> Wildlife guzzlers (2) shall be constructed in open space areas along wildlife movement corridors in locations to be determined by a qualified biologist.</p> <p><b>BIO-6(d)</b> The following low-light design features shall be implemented adjacent to open space and wildlife corridor areas:</p> <ul style="list-style-type: none"> <li>• Low sodium lights shall be used on all roadways to reduce glare and direct it away from wildlife corridor and open space areas;</li> <li>• Streetlight poles shall be of an appropriate height to reduce the glare and pooling of light into open space and corridor areas;</li> </ul>	Unavoidably significant.



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	<p>and</p> <ul style="list-style-type: none"> <li>• Street light elements shall be recessed or hoods shall be used to reduce glare impacts on open space and corridor areas.</li> </ul>	
<p><b>Impact BIO-7</b> The proposed development may cause the direct loss of special-status wildlife through conversion of onsite habitats to developed areas. Indirect impacts on special-status wildlife species could occur through the habitat fragmentation and degradation because of the introduction of non-native plants. This impact is considered <i>significant but mitigable</i> (Class II).</p>	<p><b>BIO-7(a)</b> Two weeks prior to removal of trees during the raptor nesting season (February through October), a survey for raptor nests shall be made by a qualified biologist. If active nests are located, then all construction work must be conducted at least 500 feet from the nest until the adults and young are no longer dependent upon the nest site.</p> <p><b>BIO-7(b)</b> Not more than two weeks prior to ground disturbing construction within Mixed Chaparral, Riversidean Sage Scrub, and Annual Grassland habitats, a preconstruction survey for the coast horned lizard, coastal western whiptail, coast patch-nosed snake, rosy boa, California horned lark, the Southern California rufous-crowned sparrow and any other special-status species shall be conducted by a qualified biologist. As all potential special-status species that may occur in these habitats are Species of Concern and not formally listed, any individuals found shall be captured, when possible, and transferred to adjacent appropriate habitat within the open space/wilderness preserve onsite.</p>	<p>Less than significant.</p>
<b>NOISE</b>		
<p><b>Impact N-1</b> Construction activity would temporarily generate high noise levels on-site. Because noise could exceed thresholds in the City Noise Ordinance, impacts are considered Class II, <i>significant but mitigable</i>.</p>	<p><b>N-1(a)</b> All diesel equipment shall be operated with closed engine doors and shall be equipped with factory-recommended mufflers.</p> <p><b>N-1(b)</b> Whenever feasible, electrical power shall be used to run air compressors and similar power tools.</p> <p><b>N-1(c)</b> For all construction activity on the project site, noise attenuation techniques shall be employed as needed to ensure that noise remains below 80 dBA in commercial/industrial areas and below 65 dBA at residences. Such techniques include, but are not limited to, the use of sound blankets on noise generating equipment and construction of temporary barriers between construction sites and affected uses.</p>	<p>Less than significant.</p>





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<p><b>Impact N-2</b> Daytime operations are not expected to violate the City Noise Ordinance, but noise levels could exceed Noise Ordinance standards for nearby residential uses if on-site truck activity occurs at night. Impacts relating to project operation are therefore considered Class II, <i>significant but mitigable</i>.</p>	<p>The following measures are recommended to minimize the potential for noise disturbance.</p> <p><b>N-2(a)</b> Loading dock operations on Lots 2-4, 7- 9, 14, and 15 shall be oriented away from residential areas.</p> <p><b>N-2(b)</b> Onsite trash pickup services, street and parking lot sweeping, and truck deliveries shall be restricted to between the hours of 7:00 AM and 6:00 PM.</p>	<p>Less than significant.</p>
<p><b>Impact N-3</b> Project-generated traffic would incrementally increase traffic noise levels along major roadways in the site vicinity. However, the increases would be less than the significance thresholds; therefore, project-related traffic noise impacts are considered Class III, <i>less than significant</i>.</p>	<p>Significant impacts are not anticipated; therefore, mitigation is not required.</p>	<p>Less than significant.</p>
<p><b>HUMAN HEALTH AND SAFETY</b></p>		
<p><b>Impact HHS-1</b> Several areas on-site potentially have soil and/or groundwater contamination that could pose a risk to human health and safety. This is considered a Class II, <i>significant but mitigable</i> impact.</p>	<p><b>HHS-1(a)</b> The sampling program outlined below shall be implemented prior to issuance of grading permits for areas suspected of being contaminated:</p> <ul style="list-style-type: none"> <li>• Collect soil samples in the vicinity of the former or existing underground storage tanks on the Turner and Stevens property. Complete a geophysical survey to determine if the tanks are still present on the property.</li> <li>• Collect soil samples from beneath the leach lines of the septic tank located on the Turner &amp; Stevens property, formerly utilized by the Elmore Pipe Jacking Facility.</li> <li>• Collect soil samples in the vicinity of any oil wells not previously sampled and any wells not scheduled for abandonment. Also, collect soil samples from directly beneath the former tank farm locations, formerly located on various areas of the property.</li> <li>• Collect soil samples from near the current (SCE and ARCO) and former (Mobil) oil and gas pipeline easements located on the project site.</li> <li>• Collect soil samples from near the railroad tracks located on the western portion of the property.</li> <li>• Collect sediment samples from Newhall creek and its tributary located on the project site.</li> </ul>	<p>Less than significant.</p>



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
	<ul style="list-style-type: none"> <li>• Collect soil and groundwater samples on the project site adjacent to the border of the Newhall County Water District property.</li> <li>• Collect groundwater samples from the project site adjacent to the former Newhall Refinery (across Sierra Highway).</li> <li>• Collect soil and groundwater samples from the project site adjacent to the Historic Pioneer Refinery.</li> <li>• Collect soil samples from beneath the three 5-gallon buckets of hydraulic oil observed on the Arklin property.</li> </ul> <p>If contamination exceeding regulatory action levels is found in any of the above locations, appropriate remediation shall be undertaken prior to issuance of grading permits for the contaminated areas. Any remedial activity shall be conducted to the satisfaction of the appropriate regulatory oversight agency (for example, the County Health Department, Department of Conservation, Regional Water Quality Control Board, Department of Toxic Substances Control).</p> <p><b>HHS-1(b)</b> The debris and trash, including tires, electrical appliances, mattresses, abandoned automobile and trailer home and miscellaneous empty drums located on various portions of the property, including within Newhall Creek, shall be removed and properly disposed of offsite prior to issuance of grading permits.</p>	
<p><b>Impact HHS-2</b> Disturbance of oil and gas lines on-site during site grading could potentially result in hazardous conditions for site workers. Implementation of appropriate safety precautions would reduce such impacts to a Class II, <i>significant but mitigable</i> level.</p>	<p>The following measures are recommended for all grading activity in the vicinity of onsite oil or gas pipelines.</p> <p><b>HHS-2(a)</b> Pipeline operators shall be notified in advance of any grading activity in the vicinity of an oil or gas pipeline. Any specific requirements of the operator to avoid disturbance that could create a safety hazard shall be fully implemented. Possible methods to protect underground utilities include dielectric coating, cathodic protection, mortar coating or encase in cement-slurry or concrete.</p> <p><b>HHS-2(b)</b> Prior to grading in the vicinity of oil or gas pipelines, the locations of the pipelines shall be marked. Underground Service Alert shall be notified 48 hours in advance of grading and shall clear the</p>	Less than significant.



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
	pipeline locations prior to grading activity.	
<b>Impact HHS-3</b> Project development would expose site workers to electromagnetic radiation from the high voltage overhead transmission line onsite. However, such hazards are considered Class III, <i>less than significant</i> .	None required.	Less than significant.
<b>Impact HHS-4</b> The project would introduce new industrial park development in the vicinity of the rail line along Pine Street. Although this would incrementally increase the potential for safety conflicts with rail activity, compliance with standard safety requirements would reduce such impacts to a Class III, <i>less than significant</i> level.	None required.	Less than significant.
<b>PUBLIC SERVICES</b>		
<b>Impact PS-1</b> The proposed project would increase demand for fire protection service. However, provision of funding for additional fire protection equipment and facilities, and adherence to guidelines regarding access to all property would reduce the impact to fire protection service to a Class II, <i>significant but mitigable</i> , level.	<p><b>PS-1(a)</b> The applicant will provide a fire station site and a helo-pad site as provided in a separate agreement with the County Fire Department.</p> <p><b>PS-1(b)</b> Coordination with the Los Angeles County Fire Department is required in order to determine the need for a fire station within the development and its inclusion in the tract map. If the Fire Department requests an on-site station, a fire station site shall be provided on-site in a location satisfactory to the Department as provided in a separate agreement between the applicant and the County Fire Department.</p> <p><b>PS-1(c)</b> All applicable building codes and ordinance requirements for construction, access, water mains, fire hydrants, fire flows, brush clearance and fuel modification plans must be met. The Los Angeles County Fire Department has set forth specific guidelines regarding access issues. These guidelines are as follows:</p> <ul style="list-style-type: none"> <li>• The roadway to every building shall be accessible by an all weather surface that is not less than the prescribed width, unobstructed and clear to sky and be extended to within 150' of all portions of the exterior walls.</li> <li>• When a bridge is required as part of a fire access road, it shall be designed for a live load of a minimum of 75,000 pounds.</li> </ul>	Less than significant.



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
	<ul style="list-style-type: none"> <li>• The maximum allowable grade shall not exceed 15% except where the topography makes it impractical to keep within such a grade, and then an absolute maximum of 20% will be allowed for up to 150 feet in distance. The average maximum allowed grade, including topography difficulties, shall be no more than 17%. Grade breaks shall not exceed 10% in 10 feet.</li> <li>• No portion of lot frontage shall be more than 200' via vehicular access from a public fire hydrant, and no portion of a building shall exceed 400 feet via vehicular access from a properly spaced public fire hydrant.</li> <li>• A cul-de-sac shall not be more than 500' in length and shall have a turning radius of at least 42'; when extending beyond 200' a hydrant shall be required at the corner and mid-block</li> <li>• On-site driveways shall provide a minimum unobstructed width of 26' clear to sky and are to be within 150' of all portions of the exterior walls of the first story of any building. Driveway widths are required to be greater than 26' depending on the height of the building and the amount of parking allowed on the access road.</li> <li>• Limited access devices (gates etc.) shall be 26' wide if used for both directions of travel and 20' if used for one direction of travel. They shall be positioned 50' from a public right-of-way and shall have a turnaround with a minimum of a 32' radius. If an intercom system is used, the 50' shall be measured from the right-of-way to the intercom control device.</li> <li>• Any proposals for traffic calming measures (speed bumps, traffic circles etc.) shall be submitted to the Fire Department for review prior to implementation.</li> </ul>	
<p><b>Impact PS-2</b> The proposed project would be located in a Very High Fire Severity Zone as designated by the Los Angeles County Fire Department. Impacts relating to wildfire hazards are considered Class II, <i>significant but mitigable</i>.</p>	<p><b>PS-2(a)</b> The applicant shall develop a Fuel Modification Plan for all development areas adjacent to or potentially exposed to wildfire hazard areas. The plan shall be subject to review and approval by the Los Angeles County Fire Department Fuel Modification Unit.</p> <p><b>PS-2(b)</b> The landscape palette for the project shall prohibit the use of highly flammable</p>	Less than significant.



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
	<p>species near areas of open space.</p> <p><b>PS-2(c)</b> Landscaping of manufactured slopes shall use plant species appropriate for use in fuel modification zones. Use of native plants shall maintain the natural landscape of the project area and will reduce the use of exotic and possibly invasive non-native species.</p>	
<p><b>Impact PS-3</b> The project would generate a modest increase in demand for police services. Provision of funding for additional police protection personnel and equipment and adherence to the crime prevention guidelines suggested by the Los Angeles County Sheriff's Department would reduce the impacts to a <i>significant but mitigable</i> (Class II) level.</p>	<p><b>PS-3</b> The project shall incorporate the following crime prevention measures:</p> <ul style="list-style-type: none"> <li>• Adequate lighting in open areas and parking lots</li> <li>• Visibility of doors and windows from public streets and between buildings</li> <li>• Adequate parking spaces in all parking lots</li> <li>• Well lit building address numbers that are large enough to be readily apparent from the street</li> <li>• A four-lane roadway as the major street access through the site (note: this is consistent with the applicant's proposal)</li> </ul>	Less than significant.
<p><b>Impact PS-4</b> The proposed project would not directly generate additional students at local public schools. Any indirect increase in school enrollment associated with on-site job generation would be mitigated through implementation of applicable developer school impact fees. Impacts to schools are considered Class III, <i>less than significant</i>.</p>	<p>The City is strictly limited in the mitigation measures it may impose against developers of residential projects to address school crowding issues. The presumption of State law is that the developer's payment of school impact fees to the local school district, in an amount established by the school districts, would address school capacity impacts.</p>	Less than significant.
<p><b>Impact PS-5</b> The proposed project would not directly generate demand for library services. Impacts to libraries would be Class III, <i>less than significant</i>.</p>	<p>None required other than payment of standard library fees by future residential developers.</p>	Less than significant.
<b>PUBLIC UTILITIES</b>		
<p><b>Impact PU-1</b> Development of the project would generate demand for an estimated 386 acre-feet of water per year. Although the Newhall County Water District would be able to supply the projected demand, impacts to water supply are considered Class II, <i>significant but mitigable</i> because of ongoing concerns about regional water supplies.</p>	<p><b>PU-1(a)</b> Interior water conservation measures, as required by the State of California, shall be incorporated into the project. These include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Installation of low flow toilets and urinals in all new construction.</li> <li>• Installation of a water heating system and pipe insulation in all new construction to reduce water used before water reaches equipment or fixtures</li> <li>• Installation of self-closing faucets in all lavatories</li> </ul>	Less than significant.



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
	<p><b>PU-1(b)</b> Exterior water conservation features as recommended by the State Department of Water Resources, shall be incorporated into the project. These include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Landscaping of common areas with low water-using plants</li> <li>• Minimizing the use of turf by limiting it to lawn dependent uses</li> <li>• Wherever turf is used, installing warm season grasses</li> </ul> <p><b>PU-1(c)</b> The project shall, to the extent feasible, use reclaimed water for irrigation of landscaping.</p> <p><b>PU-1(d)</b> Landscaped areas shall use vegetation that will eventually naturalize and require minimal irrigation.</p>	
<p><b>Impact PU-2</b> Project implementation could potentially affect the existing MWD Foothill Feeder Newhall Tunnel pipeline, which traverses the central portion of the site. Conflicts with MWD right-of-way that could result in an interruption of MWD service or facilities would be considered a Class II, <i>significant but mitigable</i>, impact.</p>	<p><b>PU-2</b> During project construction and throughout project operations, the applicant and future occupants shall comply with all requirements of the MWD’s “Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of the Metropolitan Water District of Southern California.” Per these guidelines, the applicant shall identify on-site MWD facilities on all applicable project maps and plans. The project applicant and/or future occupants shall obtain approval from MWD for all landscaping, structures, or other facilities within the MWD pipeline easement.</p>	Less than significant.
<p><b>Impact PU-3</b> Buildout of the proposed project would generate an estimated 0.276 million gallons of wastewater per day. Because the wastewater treatment plants serving the site have adequate capacity to accommodate this amount of wastewater, this impact is considered Class III, <i>less than significant</i>.</p>	<p>No mitigation is required. The project site would need to be annexed into District No. 32 so that the LACSD may provide sewage treatment services to the proposed project. In addition, the District’s Sphere of Influence would need to be amended to include the project site, and the project applicant would be required to pay the applicable fee for this amendment.</p>	Less than significant.
<p><b>Impact PU-4</b> The local wastewater conveyance system is anticipated to be adequate to accommodate project-generated wastewater. Therefore, the impact to the wastewater conveyance system is considered Class III, <i>less than significant</i>.</p>	<p>No mitigation is required. The project applicant would be required to pay wastewater conveyance connection fees to the County Sanitation Districts. The connection fee is required so that necessary expansions to the sewage collection system can accommodate new development. In addition, the plans for the necessary pumping station and sewer collection infrastructure will need to be reviewed by Los Angeles County Public Works and approved by the Sanitation Districts and the City of Santa Clarita.</p>	Less than significant.



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
<p><b>Impact PU-5</b> The proposed project would consume an estimated 107 million kilowatt-hours per year. SCE indicates that it anticipates being able to serve the proposed development; therefore, impacts are considered Class III, <i>less than significant</i>.</p>	<p>No mitigation measures are required. The proposed project would be required to comply with energy efficiency standards of California Administrative Code Title 24. To comply with these requirements, the proposed project may include energy conservation measures such as incorporating specialized glass to reduce heating/cooling loads, installing insulation, or using ventilation devices to reduce the demand on heating/cooling systems.</p>	<p>Less than significant.</p>
<p><b>Impact PU-6</b> The proposed project would consume an estimated 292 million cubic feet of natural gas per year. Southern California Gas Company could provide service to the project site; therefore, impacts are considered Class III, <i>less than significant</i>.</p>	<p>No mitigation measures are required. Per state and local energy guideline requirements, the proposed project will be required to meet the Energy Building Regulations adopted by the California Energy Commission (Title 24). Meeting these standards would conserve non-renewable natural resources to levels acceptable to the State of California.</p>	<p>Less than significant.</p>
<p><b>Impact PU-7</b> The proposed project would generate about 29.1 tons of solid waste per day. Participation in Citywide and Countywide waste reduction efforts would reduce waste sent to area landfills to just under 15 tons per day. Because existing landfills serving the City have adequate capacity to accommodate project-generated waste, impacts related to solid waste are considered Class III, <i>less than significant</i>.</p>	<p><b>PU-7(a)</b> Construction contractors shall provide recycling bins for glass, metals, paper, wood, plastic, green wastes, and cardboard during construction.</p> <p><b>PU-7(b)</b> Building materials shall be made of recycled materials, to the greatest extent possible.</p> <p><b>PU-7(c)</b> Reduce yard waste on the project site through the use of xeriscape techniques and the use of drought-tolerant and native vegetation in common area landscaping wherever possible.</p> <p><b>PU-7(d)</b> Business park tenants shall receive educational material on the City's waste management efforts.</p>	<p>Less than significant.</p>
<p><b>AESTHETICS</b></p>		
<p><b>Impact AES-1</b> The proposed project would alter scenic views from public viewing locations and alter City-designated Primary and Secondary ridgelines. This is considered a Class I, <i>unavoidably significant</i> impact.</p>	<p><b>AES-1</b> The proposed water tanks shall be fully screened from public view with landscape material.</p>	<p>Unavoidably significant.</p>
<p><b>Impact AES-2</b> The proposed project would produce new sources of light and glare that would extend the area of daytime glare and night light across the currently vacant property, which would alter the nighttime sky. Light and glare impacts are considered Class II, <i>significant but mitigable</i>.</p>	<p><b>AES-2(a)</b> Prior to development, proposed lighting shall be indicated on site plans that demonstrate that spill-over of lighting would not affect surrounding areas. The lighting plan shall incorporate lighting that directs light pools downward or otherwise shield adjacent areas from glare. Light fixtures that shield excessive brightness at night shall be included in the</p>	<p>Less than significant.</p>



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
	<p>lighting plan. Non-glare lighting shall be used.</p> <p><b>AES-2(b)</b> All lighting of the landscaped areas shall be of an accent nature. Any security lighting shall be screened such that lighting globes are not visible from a distance of more than 20 feet.</p> <p><b>AES-2(c)</b> All on-site street lighting shall use cutoff luminaires. This would avoid creating high levels of glare and light pollution for motorists.</p> <p><b>AES-2(d)</b> Project design and architectural treatments shall incorporate additional techniques to reduce light and glare, such as use of low reflectivity glass, subdued colors for building materials in high visibility areas, and the use of plant material along the perimeter of the structures to soften views.</p>	
<p><b>Impact AES-3</b> Project development may include structures and facilities that could be found to be inconsistent with the goals and policies of the City General Plan Community Design Element.</p>	<p><b>AES-3</b> Specific designs of future all on-site development shall adhere to all applicable standards and guidelines of the <i>Ridgeline Preservation and Hillside Development Ordinance</i> and the Community Design Element of the General Plan to the satisfaction of the Director of Planning and Building Services.</p>	<p>Compliance with City-adopted standards, guidelines, goals, and policies would ensure that proposed landscaping and structures result in a high quality aesthetic environment that is generally compatible with the surrounding area.</p>
<p><b>Impact AES-4</b> Some of the topographic modifications could be considered in conflict with the City's <i>Ridgeline Preservation and Hillside Development Ordinance</i>. A determination that the project is consistent with the requirements of the Ordinance would be required for project approval.</p>	<p>Measures BIO-4(a) and BIO-4(b) in Section 4.6, <i>Biological Resources</i>, would mitigate oak tree impacts to the degree feasible through development and implementation of an oak tree replacement program that As discussed in Section 4.1, <i>Land Use</i>, in order for the project to be approved, the City Planning Commission would need to make the following findings relative to the City's <i>Ridgeline Preservation and Hillside Development Ordinance and Guidelines</i>:</p> <ul style="list-style-type: none"> <li>• The proposed use is proper in relation to adjacent uses, the development of the community and the various goals and policies of the General Plan.</li> <li>• The use or development will not be materially detrimental to the visual character of the neighborhood or community, nor will it endanger the public health, safety or general welfare.</li> <li>• The appearance of the use or development will not be different than the appearance of adjoining ridgeline</li> </ul>	<p>The City Planning Commission would need to make the findings discussed above in order to approve the project as proposed.</p>





<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
	<p>areas so as to cause depreciation of the ridgeline appearance in the vicinity.</p> <ul style="list-style-type: none"> <li>• The establishment of the proposed use or development will not impede the normal and orderly development and improvement of surrounding property, nor encourage inappropriate encroachments to the ridgeline area.</li> <li>• It has been demonstrated that the proposed use or development will not violate the visual integrity of the significant ridgeline area through precise illustration and depiction.</li> </ul>	
<b>CULTURAL RESOURCES</b>		
<p><b>Impact CR-1</b> The proposed project would not disturb any known archaeological resources; however, site development has the potential to disturb as-yet undetected areas of prehistoric archaeological significance. This is considered a Class II, <i>significant but mitigable</i>, impact.</p>	<p><b>CR-1(a)</b> Should unanticipated cultural resource remains be encountered during construction or land modification activities, the applicable procedures established by the Advisory Council on Historic Preservation concerning protection and preservation of Historic and Cultural Properties (36 CFR 8700) should be followed. In this event, work shall cease until the nature, extent, and possible significance of any cultural remains can be assessed and, if necessary, remediated. If remediation is needed, possible techniques include removal, documentation, or avoidance of the resource, depending upon the nature of the find.</p> <p><b>CR-1(b)</b> In the event that human remains are discovered during construction or land modification activities, the procedures in Section 7050.5 of the California Health and Safety Code shall be followed. These procedures require notification of the coroner and the Native American Heritage Commissions if the coroner determines the remains to be of Native American ancestry.</p>	Less than significant.
<p><b>Impact CR-2</b> The proposed project would not directly affect any identified significant historic resources. However, possible indirect impacts to the Pioneer Oil Refinery are considered Class II, <i>significant but mitigable</i>.</p>	<p><b>CR-2(a)</b> As provided in the Development Agreement, the applicant shall make a payment to the City which the City, at its discretion, may apply towards the construction of a new fence that will be effective in preventing unauthorized individuals from entering the Pioneer Oil Refinery site.</p> <p><b>CR-2(b)</b> Construction contractors shall take precautions to either avoid using heavy equipment in the vicinity of the acid tank on the Refinery property or stabilize the acid tank to prevent its collapse and potential destruction.</p> <p><b>CR-2(c)</b> The drainage system for the areas surrounding the Refinery shall be designed to</p>	Less than significant.



<b>Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts</b>		
<b>Impact</b>	<b>Mitigation Measures</b>	<b>Significance After Mitigation</b>
	prevent any further deposition of materials onto the Refinery site.	
<b>RECREATION</b>		
<b>Impact REC-1</b> The project would remove existing informal trails on portions of the project site. However, these trails and recreational use of the project site are on private property and do not constitute public recreational resources. Therefore, this impact is considered Class III, <i>less than significant</i> .	None required.	Less than significant.
<b>Impact REC-2</b> The proposed industrial park may create demand for daytime recreational facilities. However, it would not directly generate additional resident population and therefore would not conflict with City park standards. In addition, the project would provide additional recreational amenities on-site. The impact relating to demand for recreation is considered Class III, <i>less than significant</i> .	None required.	Less than significant.
<b>Impact REC-3</b> The proposed project would provide a trail system that appears to generally meet City standards. This is considered a Class III, <i>less than significant</i> impact.	<p>Although the proposed trail system appears to generally meet the intent of City policies relating to provision of trails, the following measures are recommended to maximize the utility of the system and minimize the potential for safety conflicts.</p> <p><b>REC-3(a)</b> The on-site trail system should provide a direct connection to William S. Hart Park. The applicant shall coordinate with the County of Los Angeles to determine the most appropriate location for such a connection.</p> <p><b>REC-3(b)</b> All trail crossings of internal roadways shall be appropriately signed and/or striped to alert drivers to the presence of a crossing.</p> <p><b>REC-3(c)</b> Trail easements for areas going through or across manufactured slopes or outside of road rights-of-way shall be included in the trail plan.</p> <p><b>REC-3(d)</b> A water meter for City use shall be included onsite.</p> <p><b>REC-3(e)</b> Onsite trails shall include safety fencing as required by the City Parks Department.</p>	Less than significant.



## 1.0 INTRODUCTION

This document is a Final Environmental Impact Report (EIR) for the subdivision of 584 acres of developed and undeveloped land within the community of Santa Clarita into 60 lots for commercial and industrial buildout. The buildout would require amending the land use designation on about 223 acres, or 38% of the proposed project area and would consist of 170.1 acres of industrial/commercial use, 64.3 acres of right-of-ways and water wells, and 349.6 acres of slopes, trails, large oak groves and open space. The project would require approval of the following: Tentative Tract Map 50283, General Plan Amendment 99-003, Zone Change 99-002, Oak Tree Permit 99-029, Conditional Use Permit 99-013, Hillside Review 99-004, and Development Agreement 99-002.

This Final EIR incorporates responses to comments on the Draft EIR that was circulated for public review in January 2002. Written responses to all written comments received are included in Appendix H. The text of the EIR has also been revised as necessary in response to the comments received and to correct minor typographical errors. All substantive changes from the text of the Draft EIR are indicated with a line in the right margin.

As a result of the Draft EIR findings and the series of hearings on the project before the City of Santa Clarita Planning Commission, the applicant decided to pursue approval of Alternative 5 (the Reconfigured 'C' Street Alternative) discussed in Section 6.0. Consequently, several of the mitigation measures included in Section 4.0 have been revised slightly to reflect Alternative 5.

### 1.1 PURPOSE AND LEGAL AUTHORITY

This EIR has been prepared in accordance with the California Environmental Quality Act (CEQA), and the *CEQA Guidelines*. In accordance with Section 15121(a) of the *CEQA Guidelines*, the purpose of this EIR is to serve as an informational document that:

*"...will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project..."*

The EIR will be prepared as a **Project EIR** pursuant to Section 15161 of the *CEQA Guidelines*. A Project EIR is appropriate for a specific development proposal. As stated in the *CEQA Guidelines*:

*"...this type of EIR should focus on the changes in the environment that would result from the development. The EIR shall examine all aspects of the project, including planning, construction and operation."*

This report is to serve as an informational document for the public and City of Santa Clarita decision-makers. The process will culminate with Planning Commission and City Council hearings to consider certification of a Final EIR and a decision whether to approve the proposed project, possibly with conditions of approval.



## 1.2 SCOPE AND CONTENT

In accordance with the *CEQA Guidelines*, an Initial Study was prepared for the project and a Notice of Preparation (NOP) was distributed to affected agencies and the public for review and comment on February 23, 2001. The NOP response period ended March 26, 2001. The NOP, Initial Study, and responses to the NOP are presented in Appendix A of this report. The City of Santa Clarita held an EIR scoping meeting on March 29, 2001 to gather additional input from the community on the scope and content of the EIR.

This EIR addresses the issues determined to be potentially significant by the Initial Study, responses to the NOP, and scoping discussions among the public, consulting staff, and the City. Issues that were determined not to warrant further analysis include population/housing and energy. Issues that are addressed in this EIR include:

- *Land Use/Planning*
- *Geology*
- *Hydrology and Water Quality*
- *Air Quality*
- *Transportation/Circulation*
- *Biological Resources*
- *Noise*
- *Human Health and Safety*
- *Public Services*
- *Public Utilities*
- *Aesthetics*
- *Cultural Resources*
- *Recreation*

This EIR addresses the issues referenced above and identifies potentially significant environmental impacts, including site-specific and cumulative effects of the project, in accordance with the provisions set forth in the *CEQA Guidelines*. In addition, the EIR recommends feasible mitigation measures that would reduce or eliminate adverse environmental effects.

In preparing the EIR, use was made of pertinent City policies and guidelines, existing EIRs and background documents prepared by the City. A full reference list is contained in Section 7.0, *References and Preparers*.

The analysis sections of the EIR include a description of the physical and regulatory setting within each issue area, followed by an analysis of the project's impacts. Each specific impact is called out separately and numbered, followed by an explanation of how the level of impact was determined. When appropriate, feasible mitigation measures to identify significant impacts are included following the impact discussion. Measures are numbered to correspond to the impact that they mitigate. Finally, following the mitigation measures is a discussion of the residual impact that remains following implementation of recommended measures.



The Alternatives section of the EIR was prepared in accordance with Section 15126.6 of the *CEQA Guidelines* and focuses on alternatives that are capable of eliminating or reducing significant adverse effects associated with the project while feasibly attaining most of the project's basic objectives. In addition, the EIR identifies the "environmentally superior" alternative from the alternatives assessed. The alternatives evaluated include the CEQA-required "No Project" scenario, buildout under the current City General Plan land use designations, and two alternative development scenarios for the site.

The level of detail contained throughout this EIR is consistent with the requirements of CEQA and applicable court decisions. The *CEQA Guidelines* provide the standard of adequacy on which this document is based. The Guidelines state:

*An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but, the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure. (Section 15151).*

### **1.3 LEAD, RESPONSIBLE AND TRUSTEE AGENCIES**

The *CEQA Guidelines* require identification of "lead," "responsible" and "trustee" agencies. The City of Santa Clarita is the lead agency for the project because it has the principal responsibility for approving the project. Discretionary approval of the project is vested with the City Council and Planning Commission.

A "responsible agency" is a public agency other than the "lead agency" that has discretionary approval over the project. The County Sanitation Districts of Los Angeles County are a responsible agency because annexation to District 32 would be required. The U.S. Army Corps of Engineers is considered a responsible agency because it will need to issue a Department of the Army 404 Permit pursuant to the Clean Water Act of 1977 for the discharge of fill material into stream channels on the project site. The Regional Water Quality Control Board (RWQCB) will need to issue a State 401 Certification pursuant to the State Water Resources Control Board Resolution No. 88-112 related to the U.S. Army Corps of Engineers Nationwide Permit, thus the RWQCB is a responsible agency. The Los Angeles County Fire Department is considered a responsible agency since the proposed development will strain the response capabilities of the jurisdictional fire station for the project area. The California Department of Fish and Game (CDFG) is also considered a responsible agency because CDFG would need to issue a Streambed Alteration Agreement pursuant to Section 1601-1603 of the State Fish and Game Code. Lastly, the Public Utilities Commission (PUC) has approval authority over actions that affect rail lines such as the MTA line that crosses through the site and is therefore also a responsible agency.

A "trustee agency" refers to a state agency having jurisdiction by law over natural resources affected by a project. CDFG has jurisdiction over biological resources, including wetlands that may be affected by project development. The CDFG is therefore a trustee agency. The Santa



Monica Mountains Conservancy does not have approval authority over an aspect of the project, but is empowered to implement the Santa Monica Mountains Comprehensive Plan. The Rim of the Valley Trail that is part of the Comprehensive Plan includes a spur that crosses through the Newhall Wedge. Therefore, the Santa Monica Mountains Conservancy is also a trustee agency for the project.

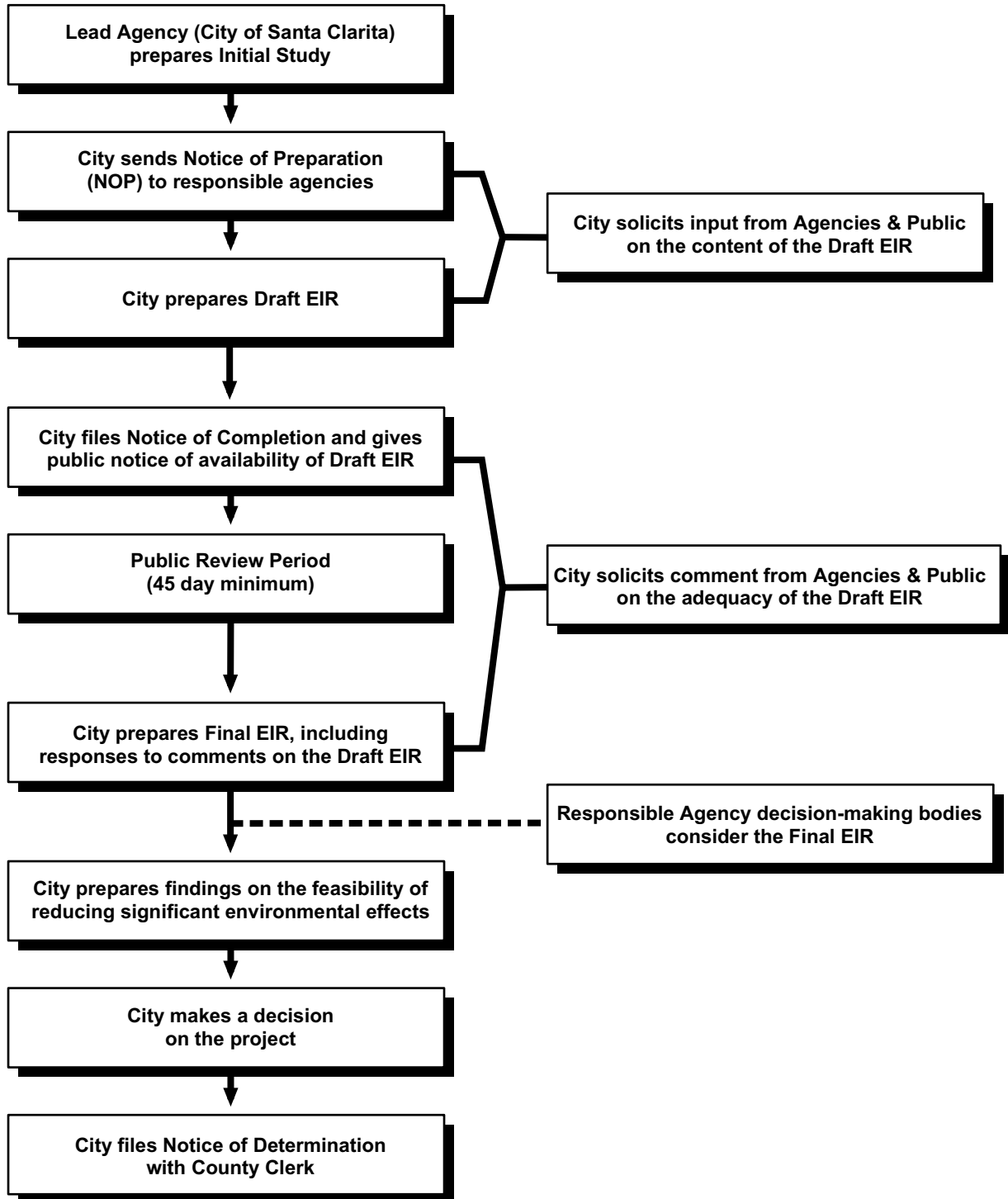
## 1.4 ENVIRONMENTAL REVIEW PROCESS

The environmental review process, as required under CEQA, is presented below and illustrated generally in Figure 1-1.

1. **Notice of Preparation (NOP).** After deciding that an EIR is required, the lead agency must file an NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. The NOP is typically accompanied by an Initial Study that identifies the issue areas for which the proposed project could create significant environmental impacts. A scoping meeting to solicit public input on the issues to be assessed in the EIR is not required, but may be conducted by the lead agency.
2. **Draft Environmental Impact Report (DEIR) Prepared.** The DEIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Completion.** A lead agency must file a Notice of Completion with the State Clearinghouse when it completes a Draft EIR and prepare a Public Notice of Availability of a Draft EIR. The lead agency must place the Notice in the County Clerk's office for 30 days (Public Resources Code Section 21092) and send a copy of the Notice to anyone requesting it (*CEQA Guidelines* Section 15087). Additionally, public notice of DEIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit comments from the public and respond in writing to all written comments received (Public Resources Code Sections 21104 and 21253). The minimum public review period for a DEIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless a shorter period is approved by the Clearinghouse (Public Resources Code 21091).
4. **Final EIR.** A Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments.
5. **Certification of FEIR.** Prior to making a decision on a proposed project, the lead agency is must certify: a) the FEIR has been completed in compliance with CEQA;



# THE EIR PROCESS



Environmental Review Process

Figure 1-1

- b) the Final EIR was presented to the decision-making body of the lead agency; and
  - c) the decision-making body reviewed and considered the information in the Final EIR prior to approving a project (*CEQA Guidelines* Section 15090).
6. **Lead Agency Project Decision.** A lead agency may: a) disapprove a project because of its significant environmental effects; b) require changes to a project to reduce or avoid significant environmental effects; or c) approve a project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043).
7. **Findings/Statement of Overriding Considerations.** For each significant impact of the project identified in the EIR, the lead or responsible agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.
8. **Mitigation Monitoring/Reporting Program.** When an agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.

## 1.5 AREAS OF CONTROVERSY

Public controversy surrounding the proposed project, as noted in the comments on the Notice of Preparation and the Draft EIR, included concerns by several public agencies and community groups about possible impacts to on-site oak trees, wildlife movement corridors, ridgelines, and cultural resources.





## 2.0 PROJECT DESCRIPTION

### 2.1 PROJECT APPLICANT

Gate King Properties, LLC  
700 Emerson Street  
Palo Alto, California 94301

### 2.2 PROJECT LOCATION

The project site consists of approximately 25 parcels (three owners) totaling 584 acres in the City of Santa Clarita, Los Angeles County, California. The site is situated in the southern portion of Santa Clarita, within the community of Newhall. Specifically, the project site is west of the Antelope Valley Freeway (SR 14), and is bounded by Sierra Highway to the east and San Fernando Road to the north. Pine Street and the Metropolitan Transit Authority (MTA) right-of-way are located along the site's western boundary. Undeveloped mountainous terrain is located to the south. Figure 2-1 shows the regional location of the project site, while Figure 2-2 illustrates the site within its local context.

### 2.3 EXISTING SITE CHARACTERISTICS

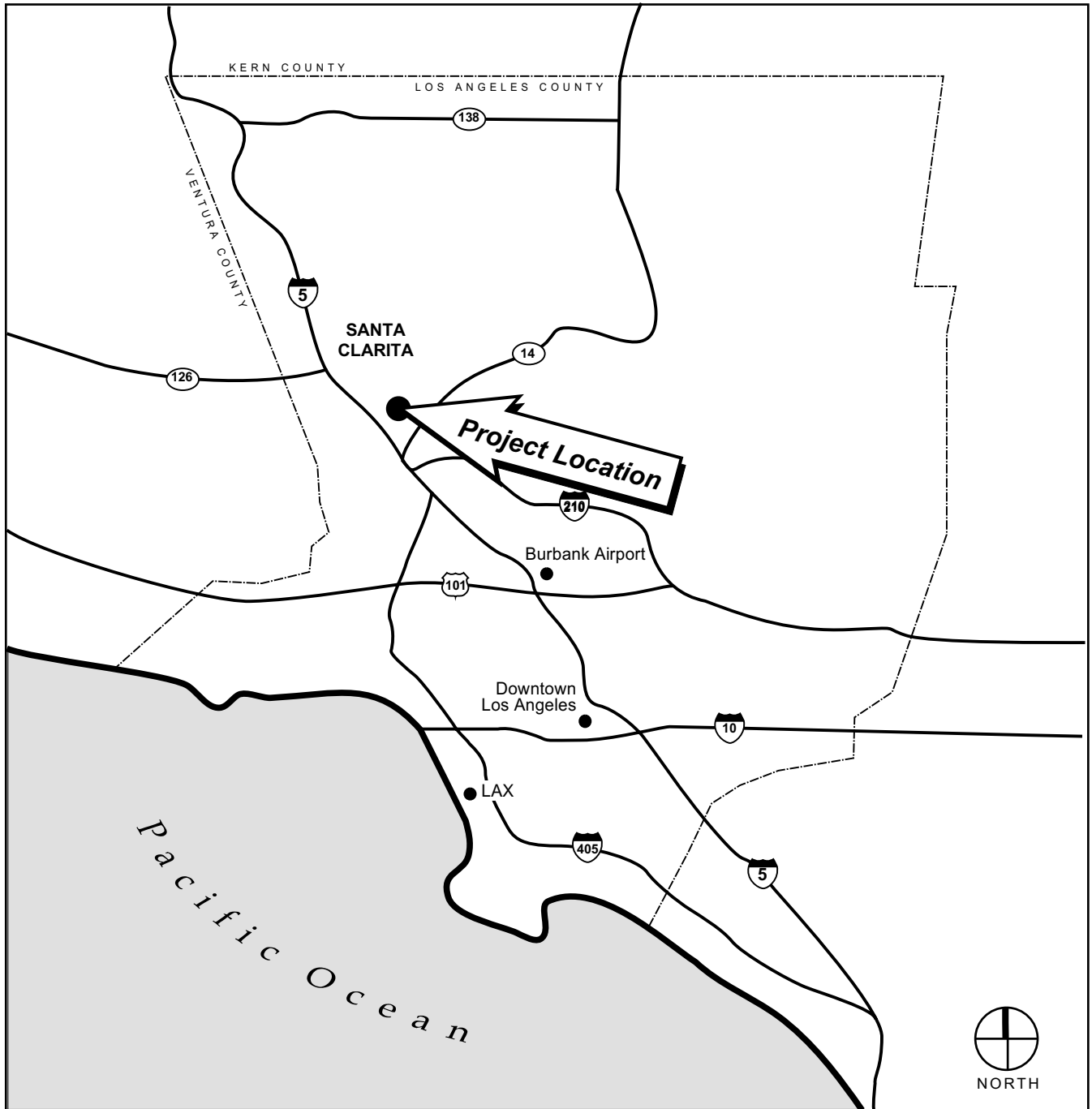
#### 2.3.1 Physical Characteristics

The main characteristics of the project site are summarized in Table 2-1. The majority of the site, historically known as Needham Ranch, is undeveloped, natural terrain with an estimated 10,680 live on-site oak trees.

The dominant natural feature on the project site is the significant topography. Site elevations range from about 1,350 feet to 1,900 feet above mean sea level. The site includes several moderately steep to steep slopes. The larger canyons on-site are "U" shaped with flat bottoms and generally contain a well-developed soil profile, while the smaller canyons and ravines are "V" shaped and generally contain a well-developed zonal soil profile only on the lower slopes. The bottoms of the ravines normally contain only thin deposits of sandy gravel or gravelly sand with boulders. The site contains two Secondary ridgelines, and one Primary ridgeline, as designated by the City's Ridgeline Map. The north-south running Primary ridgeline extends along the central portion of the site, with the two secondary ridgelines extending east-west toward Sierra Highway and the MTA rail line. The site also includes some of the area overlying the Southern Pacific Railway tunnel, and an area west of the railway that consists of a small, sloping, flat-bottomed valley and a portion of a high, steep-sided ridge.

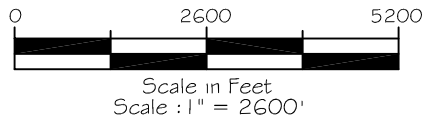
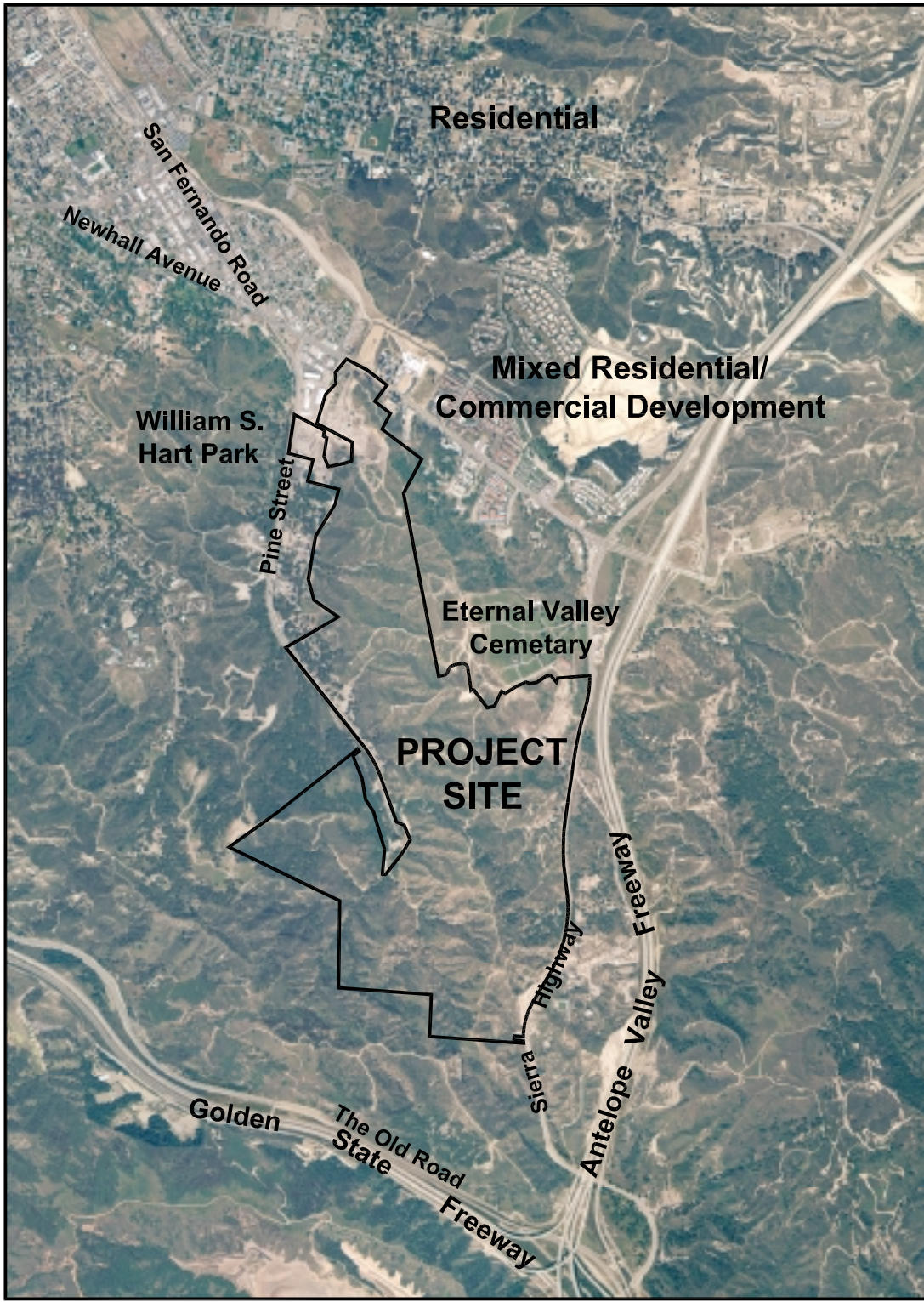
The property is bisected by Southern California Edison and MTA rights-of-way and a Metropolitan Water District easement, and is crossed by three natural gas easements and three oil pipelines. In addition, the property contains in excess of 20 inactive or abandoned oil wells adjacent to Sierra Highway. A water tank is located near the center of the site at an elevation of 1,710 feet.





**Regional Location**

Figure 2-1



North

Project Vicinity

Figure 2-2

**Table 2-1 Current Site Information**

Site Characteristic	Description
Site Size	584 acres
Current Land Use	<p><b>Vacant</b> - approximately 452.4 acres  <b>Commercial and Miscellaneous Uses</b> – approximately 131.6 acres, as follows:</p> <p><u>Along Sierra Highway and adjacent to Cemetery</u></p> <ul style="list-style-type: none"> <li>• Cemetery facilities, access roads, buildings, tanks, water line access, and graded areas – 15+/- acres</li> <li>• Oil well/production areas/access roads – 22+/- acres</li> <li>• City disposal site for Sierra Highway slope earthquake repair – 3+/- acres</li> </ul> <p><u>End of Pine Street</u></p> <ul style="list-style-type: none"> <li>• Residential area, buildings, yard area, access roads – 3+/- acres</li> <li>• MTA disposal site and access road – 6+/- acres</li> <li>• Edison ROW and access roads – 28.6+/- acres</li> <li>• Mobil Oil ROW and access – 4 acres</li> <li>• Gas line ROW and access roads – 19 acres</li> <li>• Fire roads – 5 acres</li> </ul> <p><u>San Fernando Road/Pine Street</u></p> <ul style="list-style-type: none"> <li>• Arklin Storage – 8 acres</li> <li>• Recycling facility and access roads – 18 acres</li> </ul>
Current General Plan Designations <sup>a</sup>	IC – 337.5 acres; CC – 29.2 acres; RE – 124.1 acres; OS – 93.2 acres
Surrounding Land Use	<p><b>North:</b> San Fernando Road; commercial development along San Fernando Road; residential areas on north side of San Fernando Road</p> <p><b>South:</b> Undeveloped hillside terrain; SR-14/I-5 interchange</p> <p><b>East:</b> Sierra Highway; Eternal Valley Cemetery; undeveloped hillside terrain; Newhall Refinery site and small scale commercial; SR-14</p> <p><b>West:</b> Pine Street; small-scale commercial development; undeveloped hillside terrain; MTA railroad right-of-way; William S. Hart Park and Heritage Junction</p>
Site Access	Current access to the project site is from San Fernando Road, Sierra Highway, and Pine Street. A limited network of dirt fire and utility roads has been built in the hilly, undeveloped portions of the site.
Utilities and Public Service Providers	<p><b>Water:</b> Santa Clarita Water Company  <b>Sewer:</b> Los Angeles County Sanitation District No. 32  <b>Gas:</b> Southern California Gas Company  <b>Electric:</b> Southern California Edison  <b>Telephone:</b> Pacific Bell Telephone Company  <b>Schools:</b> William S. Hart Union High School District and Newhall Elementary School District</p>

<sup>a</sup> IC = Industrial/Commercial; CC = Community Commercial; OS = Open Space

The site contains both developed and undeveloped parcels. An estimated 452.4 acres (77% of the site) are currently undeveloped. The remainder of the site is developed with a variety of uses. Along Sierra Highway, cemetery facilities occupy about 15 acres, oil well production facilities occupy about 22 acres, and a City disposal site occupies 3 acres. Near the Pine Street/San Fernando Road intersection are the Arklin storage facility (8 acres) and a concrete recycling facility and associated access roads (18 acres). Toward the end of Pine Street in the



western portion of the site are about 3 acres of residential uses, a 6-acre MTA disposal site, and an estimated 51.6 acres of oil and gas rights-of-way and access roads. About 5 acres of fire roads are located throughout the site.

### 2.3.2 Site History

The Newhall area, including Needham Ranch, has a rich history dating to the mid-nineteenth century, when gold was discovered in nearby Placerita Canyon. Key points in the history of the area are listed in Table 2-2.

**Table 2-2 Key Historical Events in the Site Vicinity**

Year	Event
1850	Cyrus and Sanford Lyon opened Lyon's Station (today the site of the Eternal Valley Cemetery) as a stagecoach stop. The station grew from a small rest stop to a successful store, post office, stage depot, and tavern that was the mail and supply point of the Santa Clarita Valley for a quarter-century.
1863	Edward Beale excavated a 93-foot by 20-foot cut in the hill adjacent to Needham Ranch. Beale's toll road was the main trail to Los Angeles through the Santa Susana and San Gabriel Mountains. For a 30-year period from 1910, Beale's Cut served as a location for numerous western movie scenes.
1866	Two petroleum stills were erected at Lyon's Station.
1875	The Southern Pacific Railroad began constructing the San Fernando tunnel through the present Needham Ranch site, with a mail stop and hamlet for the construction workers called "The Tunnel." At 6,940 feet in length, the tunnel was at the time the third longest tunnel in the country and fourth longest in the world.
1875	Henry Mayo Newhall bought what is currently the Needham Ranch property and sold a right-of-way to Southern Pacific. The town of Newhall was founded the following year, situated in the narrow canyon that provided the most feasible route for transport, utility, and communications from the Central Valley to Los Angeles.
1876	The two petroleum stills were moved from Lyon's Station to Pine Street, operating as the Pioneer Oil Refinery until 1884. The refinery processed crude oil from the various fields in the Santa Clarita Valley, making lubricating oil, axle grease, fuel oil, kerosene, and asphalt.
1888	Kansas Governor John St. John purchased over 10,000 acres from the Newhall Land and Farming Company and sent Henry Clay Needham to establish the "St. John's Prohibition Colony." The dry colony failed, but H. Clay Needham remained in the area and engaged in many civic and political activities, opening a hardware-lumber store and establishing the water company. He also permitted burials on his 750-acre property.
1889	H. Clay Needham founded the Pearle and Zenith Oil companies for oil drilling on the Needham property.
1920	Numerous oil wells were drilled on the Needham Ranch. Production continued through 1990.
1957	Gates, Kingsley, and Gates purchased the Needham Ranch.
1958	Los Angeles County approved, on the basis of the existing cemetery, the use of approximately 200 acres of the Needham Ranch for the Eternal Valley Cemetery, owned and operated by the Gates family (the cemetery was sold to Service Corporation International in 1972).
1965	Approximately 200 acres of the Needham Ranch were purchased by the State of California for construction of the Antelope Valley Freeway.
1977	A right-of-way for an underground tunnel to transport water was sold to the Metropolitan Water District in connection with the State Water Project.

Other key historical elements in the Newhall area include Sierra Highway and William S. Hart Park. Sierra Highway, which borders the project site to the east, was completed in 1921. In 1934, it was straightened through Mint Canyon and became part of the first state highway (SR-7) through the Santa Clarita Valley. William S. Hart Park is a 265-acre ranch that is the former



home of William S. Hart, a silent film star who made 65 films from 1914 to 1925. Hart left the ranch, including a 22-room mansion that houses Hart's collection of western art, Native American artifacts, and Hollywood memorabilia, to the County of Los Angeles upon his death in 1946.

### 2.3.3 Surrounding Land Uses

The project site is in a transitional area between the developed areas of Newhall to the north and west and undeveloped mountainous terrain to the south and east. The developed areas north and west of the site are characterized by a mix of commercial and residential uses. Immediately to the north and west are the Eternal Valley Cemetery located along the west side of Sierra Highway, the historic Pioneer Oil Refinery located near the corner of San Fernando Road and Pine Street, and several small-scale commercial buildings and residences along the east side of Pine Street.

San Fernando Road, which fronts the site on the north, is primarily a commercial corridor, though several multi-family residential developments are also present. Single family development is currently under construction in hillside areas north of San Fernando Road and the City's General Plan envisions additional residential development in that part of the City. Further to the west along San Fernando Road are William S. Hart Park and downtown Newhall, which is characterized by a historic commercial district.

Areas to the south and east consist primarily of undeveloped hillside terrain. These areas are primarily designated for "Residential Estate" development (2-acre lots), although the area between Sierra Highway and SR-14 (the former Newhall Refinery site) is designated for business park uses. East of the City limits is the Angeles National Forest.

### 2.3.4 Current General Plan Land Use Designations and Zoning

As shown in Table 2-1, the site currently has several City of Santa Clarita General Plan land use designations. These are described below:

- About 337.5 acres (57.8% of the site) are designated IC (Industrial/Commercial). This designation allows low patronage commercial uses and quasi-industrial and light industrial activities. The purpose of this designation is to allow for the continuation of the commercial and manufacturing activity now in existence in the Honby, Pine Street, and Sierra Highway areas. Allowable development intensity for this designation ranges from a floor-to-area ratio (FAR) of 0.5:1 to 1.0:1.
- About 124.1 acres (21.3% of the site) are designated RE (Residential Estate). This designation allows residential development at a density of 1.1-3.3 dwelling units per acre, though hillside grading restrictions may further reduce allowable building density.
- About 93.2 acres (16.0% of the site) are designated OS (Open Space). This designation primarily applies to publicly owned land. Privately owned land with this designation, including the project site, is permitted residential development at a maximum density of one unit per 20 to 40 net acres. Limited recreational uses are also permitted within the OS designation.



- About 29.2 acres (5% of the site) in the western portion of the site along Sierra Highway are designated CC (Community Commercial). This designation allows retail uses of a community-wide nature that will attract people from beyond the immediate neighborhood. The development intensity within this designation can range from an FAR of 0.25:1 to 0.5:1.

Current zoning for the project site corresponds to the current General Plan land use designations: the 337.5 acres with a General Plan designation of Industrial Commercial are zoned Industrial; the 124.1 acres designated Residential Estate are zoned Residential; the 93.2 acres designated Open Space are also zoned Open Space; and the 29.2 acres designated Community Commercial are zoned Commercial.

### 2.3.5 Newhall Redevelopment Project

The northernmost portion of the project site is within the Newhall Redevelopment Area (see Figure 2-3). One of the redevelopment project's goals is to provide for "a general program of redevelopment incentives that will serve to eliminate blight and strengthen the commercial and industrial base in the project area, thereby creating lasting improvements to the community's tax and employment bases." As outlined in the Five-Year Strategic Plan for Downtown Newhall, the top eight issues for Newhall redevelopment are:

- Old Town Newhall Association (OTNA) mesh with Agency and Committee
- Bring new businesses & services/ Arts
- Ownership of San Fernando Road
- Streetscape/ Aesthetics/ Parking
- Safety/ Pride/ Perception
- Promotion of available programs/ Publicity/ Arts
- Interim financing strategy/ Bonds/ Business Improvement District (BID)
- Code enforcement

## 2.4 PROJECT CHARACTERISTICS

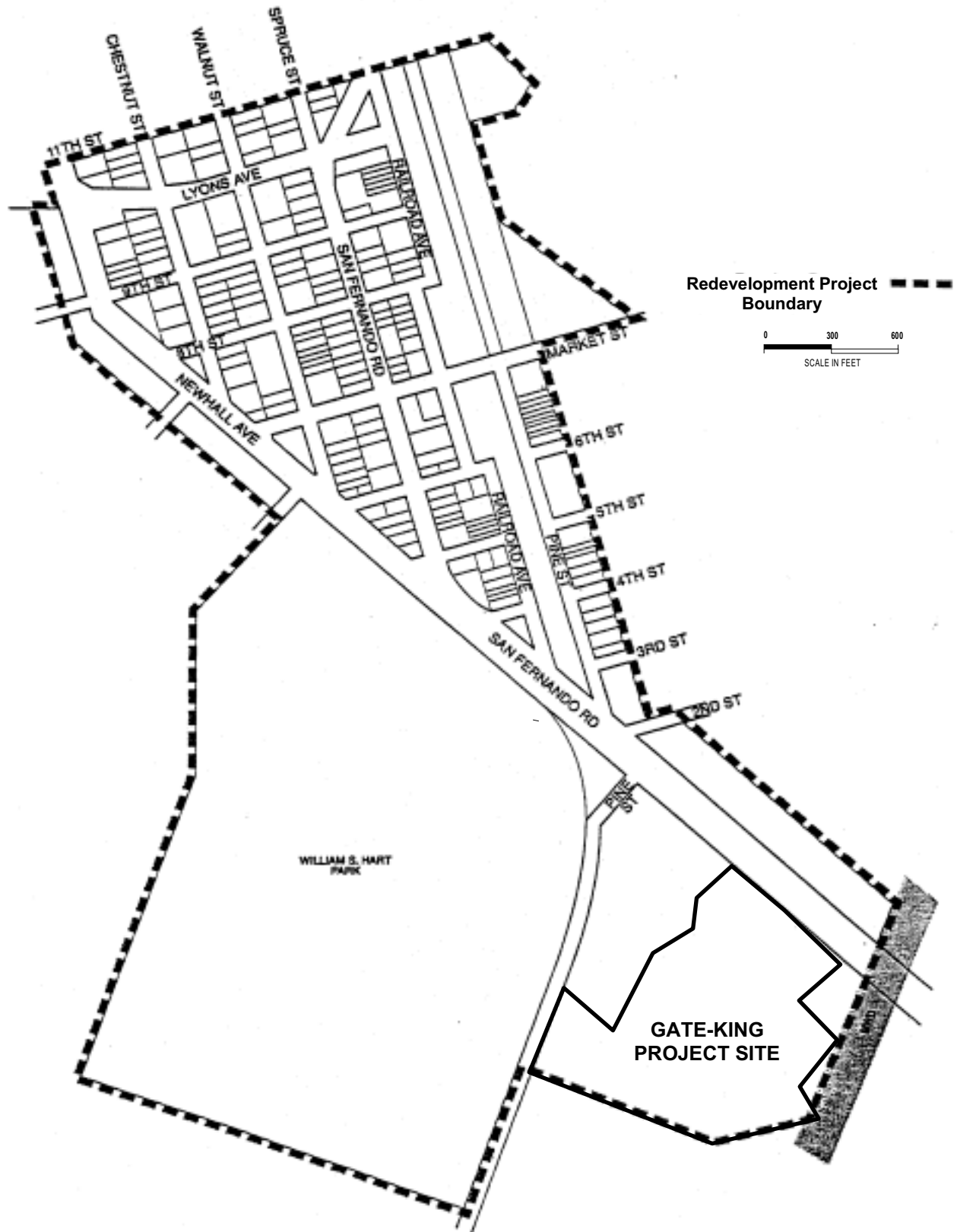
### 2.4.1 Proposed Land Use Designation Amendments and Zone Changes

The applicant is proposing to subdivide the 584-acre project site into 60 lots and is requesting General Plan amendments to change the land use designations in several areas of the site. The proposal involves amending the land use designation on about 223 acres, or about 38% of the site. The proposed changes would eliminate the residential (RE) and commercial (CC) designations from the site, and would increase the area designated IC from 337.5 acres to about 344 acres. The area designated OS would increase from 93.2 acres to about 240 acres.

Table 2-3 compares acreages for the current land use designations and those proposed by the project applicant. Figure 2-4 shows the proposed land use designations for the site.

Zone changes would be made to correspond to the proposed General Plan land use designation amendments. The applicant is proposing a Planned Development (PD) overlay on Industrial

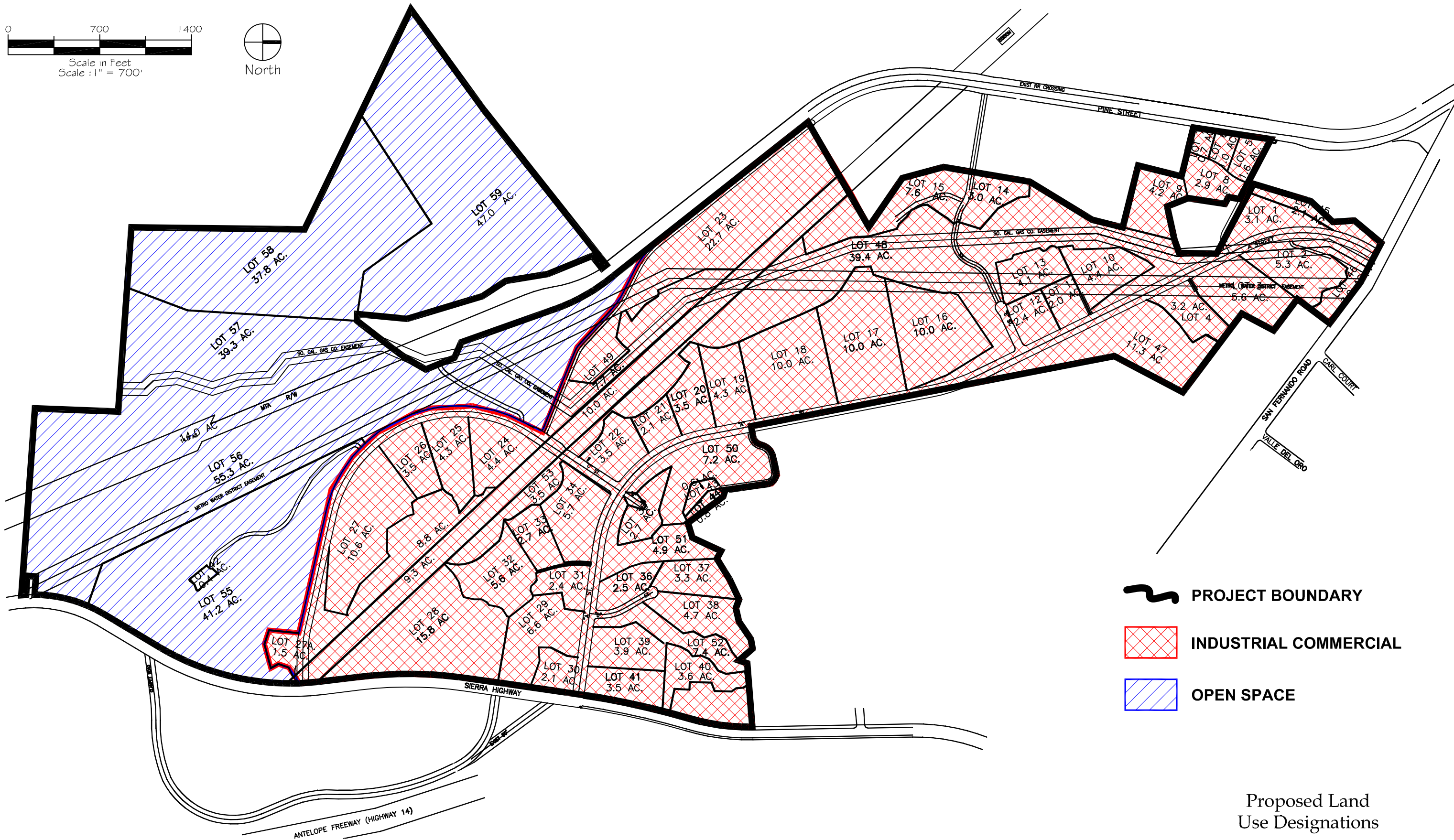
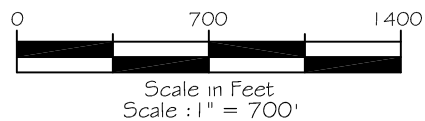




**Downtown Newhall  
Redevelopment Project**

Figure 2-3  
City of Santa Clarita





-  PROJECT BOUNDARY
-  INDUSTRIAL COMMERCIAL
-  OPEN SPACE

Proposed Land Use Designations

**Table 2-3 Comparison of Current and Proposed Land Use Designations On-Site**

Land Use Designation	Acreage		
	Current	Proposed	Net Change
IC	337.5	344.0 <sup>a</sup>	+6.5
CC	29.2	0	-29.2
RE	124.1	0	-124.1
OS	93.2	240.0 <sup>b</sup>	+146.8
Total	584.0	584.0	

<sup>a</sup> The acreage proposed for the IC designation includes all industrial commercial lots, lots 43 and 44 (water tanks), about 14.3 acres within the SCG right-of-way, landscaped slopes and trails, and public streets, as shown in Table 2-3.

<sup>b</sup> The acreage proposed for the OS designation includes all open space lots, lot 42 (water tank), about 5 acres within the SCG right-of-way, and the 14 acres within the MTA right-of-way, as shown in Table 2-3.

lots 24, 25, 26, 27, 27A, 28, 34-41, and 50-52 (see Figure 2-5). The PD overlay is intended to: (1) permit greater flexibility and, consequently, more imaginative designs than generally is possible under conventional zoning regulations; (2) promote more economical and efficient use of the land while providing a harmonious variety of choices, a higher level of amenities, and preserving natural and scenic qualities; and (3) ensure that development substantially conforms to plans and exhibits submitted by the applicant for a zone change. The PD overlay would also apply to the SCE easement and the roads within the vicinity of the PD overlay lots.

### 2.4.2 Buildout Characteristics

The buildout characteristics of the development proposal are summarized in Table 2-4.

**Table 2-4 Proposed Development**

Lots	Proposed Use	Total Acres	Buildable Acres	Total Building Area <sup>a</sup> (square feet)
1-13, 16-41, 27A	Industrial Commercial	193.2	163.7	4,278,463
14-15	Industrial Commercial Condo	10.6	6.4	167,271
42-44	Water Tanks	1.8	--	--
45-54	Landscaped Slopes & Trails	95.3	--	--
55-59	Natural Open Space	220.6	--	--
SCE R/W	Right-of-way	19.3	--	--
MTA R/W	Right-of-way	14.0	--	--
	Public Streets	29.2	--	--
<b>TOTAL</b>		<b>584.0</b>	<b>170.1</b>	<b>4,445,734</b>

<sup>a</sup> Assumes a 0.6 floor-to-area ratio (FAR)



Lots 1-41, which encompass about 35% of the site, are proposed to be industrial/business park lots. Lots 42-44, which comprise about 1.8 acres, would accommodate two water tanks to serve site development. Lots 45-54, which comprise about 16% of the site, consist of landscaped slopes and trails. Lots 55-59, which comprise about 38% of the site, would be designated as permanent open space. The remainder of the site would consist of rights-of-way, including public streets (29.2 acres) and the MTA (14 acres) and SCE (19.3 acres) rights-of-way. Figure 2-6 shows the various uses proposed, the proposed layout of individual lots, and the proposed internal circulation system.

Full buildout of the site under the applicant's proposal would involve the development of about 170.1 acres (29.1% of the site) with industrial/commercial uses. This acreage would accommodate up to about 4.45 million square feet of industrial/commercial development. An additional 64.3 acres (11% of the site) would be rights-of-way (SCE, MTA, roads) and water wells. The remaining 349.6 acres (59.9% of the site) would include a combination of slopes, trails, areas within industrial/commercial lots that would not be developed due to the presence of large oak groves, and natural open space.

### 2.4.3 Proposed Land Uses

The project involves the development of roughly one-third of the 584-acre project site with an industrial/commercial business park and dedication of another third of the site as natural open space. The remainder of the site would consist of graded landscaped slopes, water tanks, and public and private rights-of-way. Each of the uses proposed for the site is described in detail below.

**a. Industrial/Commercial Areas.** The project would involve the development of an estimated 170.1 acres, or about 29.1% of the site, with industrial/commercial uses. The development lots (Lots 1-41) range in size from 0.7 acres (Lot 7) to 19.9 acres (Lot 23). The largest lots are located along the loop roads ("A" Street and "C" Street) in the east-central portion of the site ("A" Street and "C" Street). The smallest lots are located in the northwestern portion of the site along Pine Street.

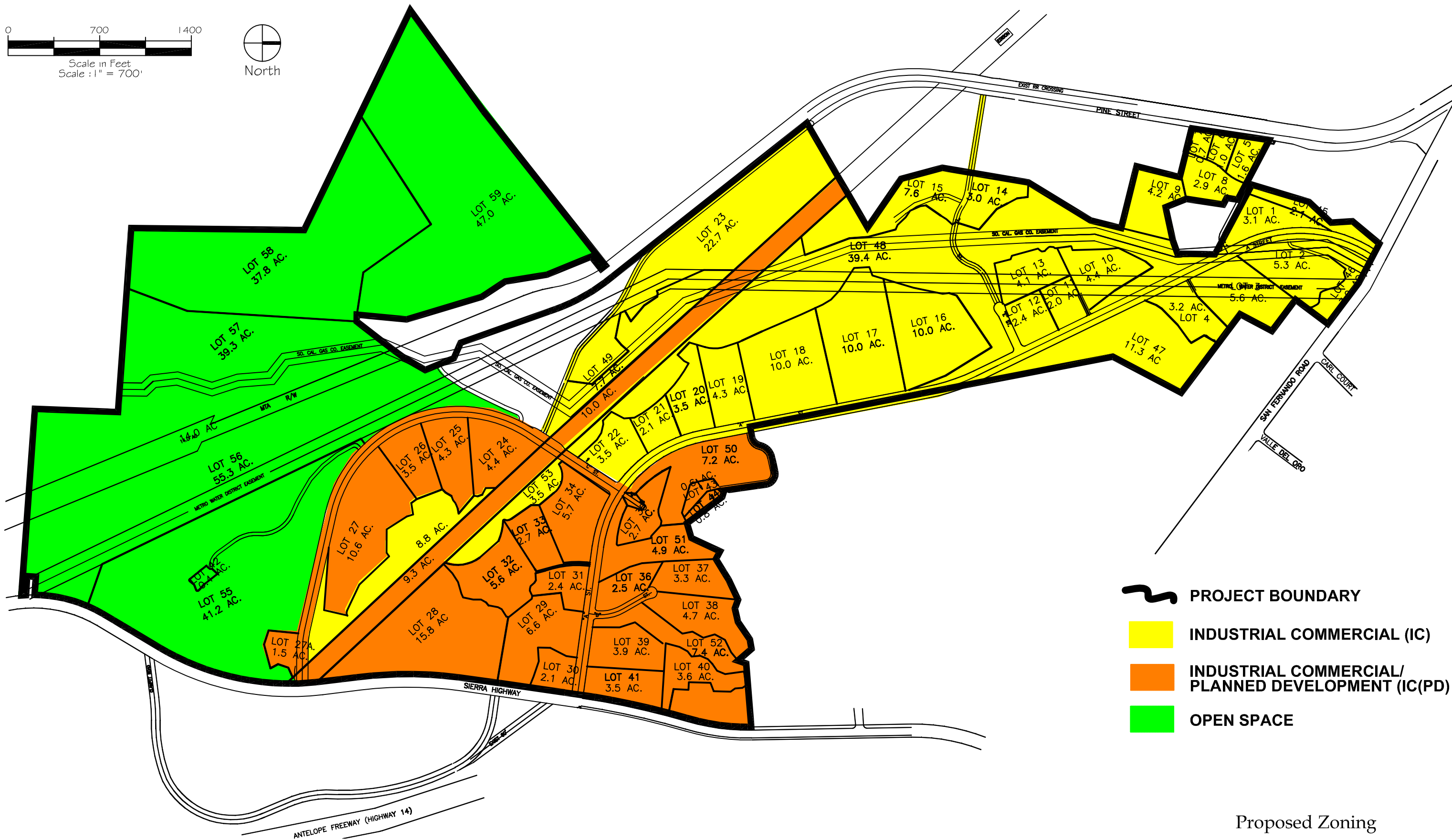
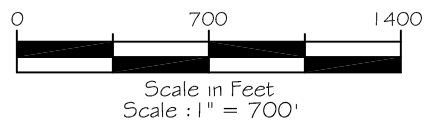
Under the Santa Clarita General Plan, the Industrial Commercial category permits a limited, low patronage range of commercial uses, quasi-industrial and light industrial activities, and research and development activities. The category is intended to encourage the provision of employee recreation opportunities and act as a transitional or mixed land use.

The allowable development intensity for the Industrial Commercial land use zone is a floor-to-area ratio (FAR) of 0.75: 1.<sup>1</sup> For purposes of analysis, it was assumed that the FAR for the development pads on-site would be 0.6:1 due to development restrictions associated with the City's Ridgeline Preservation and Hillside Development Ordinance. That Ordinance further limits allowable development intensity in areas where slopes exceed 10%, as is the case in portions of the site. Based upon the 0.6:1 FAR, total buildout of the 170.1 buildable acres on-site would yield approximately 4.45 million square feet of industrial/commercial development.

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<sup>1</sup> FAR is calculated by dividing the total square footage of buildings by the area of the site.



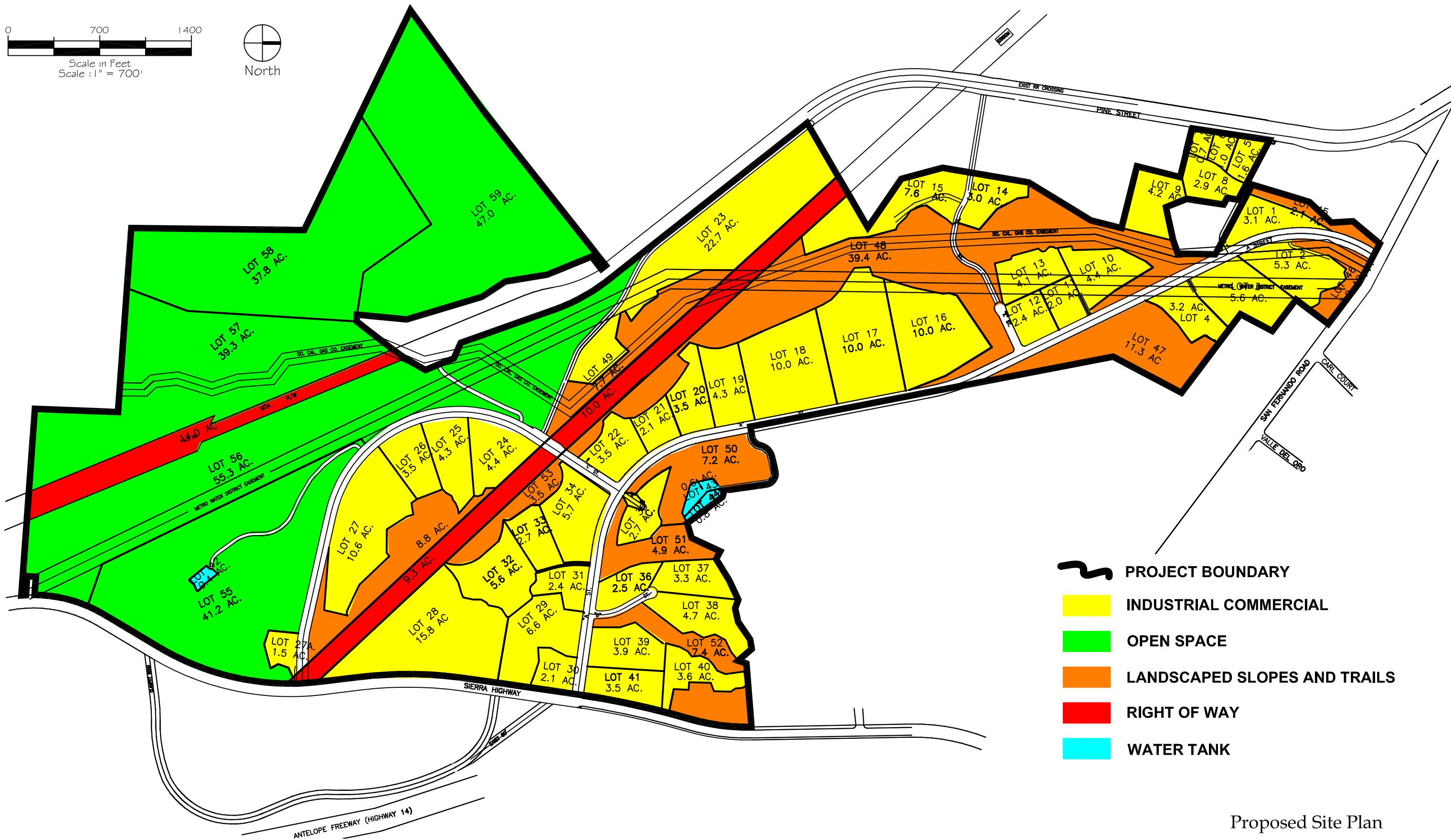
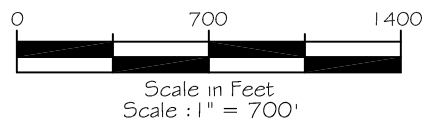







-  PROJECT BOUNDARY
-  INDUSTRIAL COMMERCIAL (IC)
-  INDUSTRIAL COMMERCIAL/  
PLANNED DEVELOPMENT (IC(PD))
-  OPEN SPACE

Proposed Zoning

Base Map Source: Sikand, December 2000

Figure 2-5



-  PROJECT BOUNDARY
-  INDUSTRIAL COMMERCIAL
-  OPEN SPACE
-  LANDSCAPED SLOPES AND TRAILS
-  RIGHT OF WAY
-  WATER TANK

Proposed Site Plan

The industrial commercial development is planned to occur in six phases over an approximate five-year time period. The phasing for the project is illustrated on Figure 2-7 and summarized in Table 2-5.

**Table 2-5 Proposed Project Phasing**

Phase	Lots	Buildable Acreage	Building Area (square feet)
1	1-13, 16-18, 43-47, & a portion of 48	67.0	1,751,113
2	19-22, 28-35	45.5	1,189,188
3	24-27	21.4	559,310
4	36-41	19.1	499,198
5	14, 15	6.4	167,270
6	23	10.7	279,655
<b>Total</b>		<b>170.1</b>	<b>4,445,734</b>

*Source: Sikand Engineering, January 2001*

Three lots in the western portion of the site near Pine Street (Lots 14, 15, and 23) and four lots in the southern portion of the site near Sierra Highway (Lots 28-31) are designated as “oak grove” lots. These lots have significant numbers of oak trees and the proposed building footprint for these lots has been reduced to minimize oak tree removals.

The proposed building area for the seven oak grove lots avoids an estimated 13.8 acres with large clusters of oak trees. This would preserve an estimated 417 oak trees on these lots, although up to 91 oak trees in these portions of the site could still be removed. Further discussion of oak tree removals associated with the proposed project can be found in Sections 2.4.3 and 4.6.

**b. Landscaped Slopes, Trails, and Open Space Areas.** The project includes an estimated 95.3 acres (16.3% of the site) of landscaped slopes and trails, and 220.6 acres (37.8% of the site) of permanent natural open space. The landscaped slopes and trails include Lots 45-54, while the proposed natural open space area encompasses Lots 55-59. Maintenance of the landscaped slope areas would be the responsibility of the applicant and/or an association. Maintenance of the trail easements and natural open space areas would be the responsibility of the City.

The landscaped slopes would be scattered throughout the site and would consist primarily of steeply-sloped portions of the site that are not buildable. These areas would be graded and re-contoured as part of the site development, but would be revegetated and left undeveloped.

The permanent natural open space area would encompass about 38% of the site. The intent is to dedicate this portion of the site to the City or other designated agency for preservation as a permanent wilderness area that serves as a migratory corridor for wildlife as well as a passive recreational amenity for area residents. With the exception of about 22 acres that would be graded to provide an access easement for the water tank in Lot 42, the proposed natural open space area would be left in its natural condition.



The proposed trail system would wind through the landscaped slope and open space areas of the site. This system, illustrated on Figure 2-8, would be required to meet City trail specifications regarding grade, width, and fencing. It would provide pedestrian links for the industrial component of the project and a recreational trail system in the open space area to provide on-site recreational opportunities. The system would include connections at San Fernando Road and Sierra Highway through the industrial lots and the open space area and would include a trail at the north end of the site that passes by the historic Pioneer Oil Refinery.

**c. Water Tanks.** The project includes three water tank lots (Lots 42-44). An existing water tank is located on Lot 43 along the north-south Primary ridgeline, near the southeast corner of the adjacent Eternal Valley Cemetery. Lots 42 and 44 would include new water tanks. Lot 42 is located in the open space area in the southern portion of the site, while Lot 44 is located immediately adjacent to the existing tank on Lot 43.

**d. Rights-of-Way.** Upon buildout, the project site would include an estimated 59.7 acres dedicated to public rights-of-way. This includes the existing SCE and MTA rights-of-way as well as 26.4 acres of public streets that would be developed in conjunction with site development. The proposed street system is described in detail in Section 2.4.3.

## 2.4.2 Site Alteration and Grading

The areas proposed to be graded are shown on Figure 2-9 and the proposed grading plan is summarized in Table 2-6. The proposed project would involve grading of an estimated 271.9 acres, or about 46.5% of the 584-acre site. This includes 170.1 acres for building pads, 75.4 acres for graded slopes, and 26.4 acres for on-site public streets.

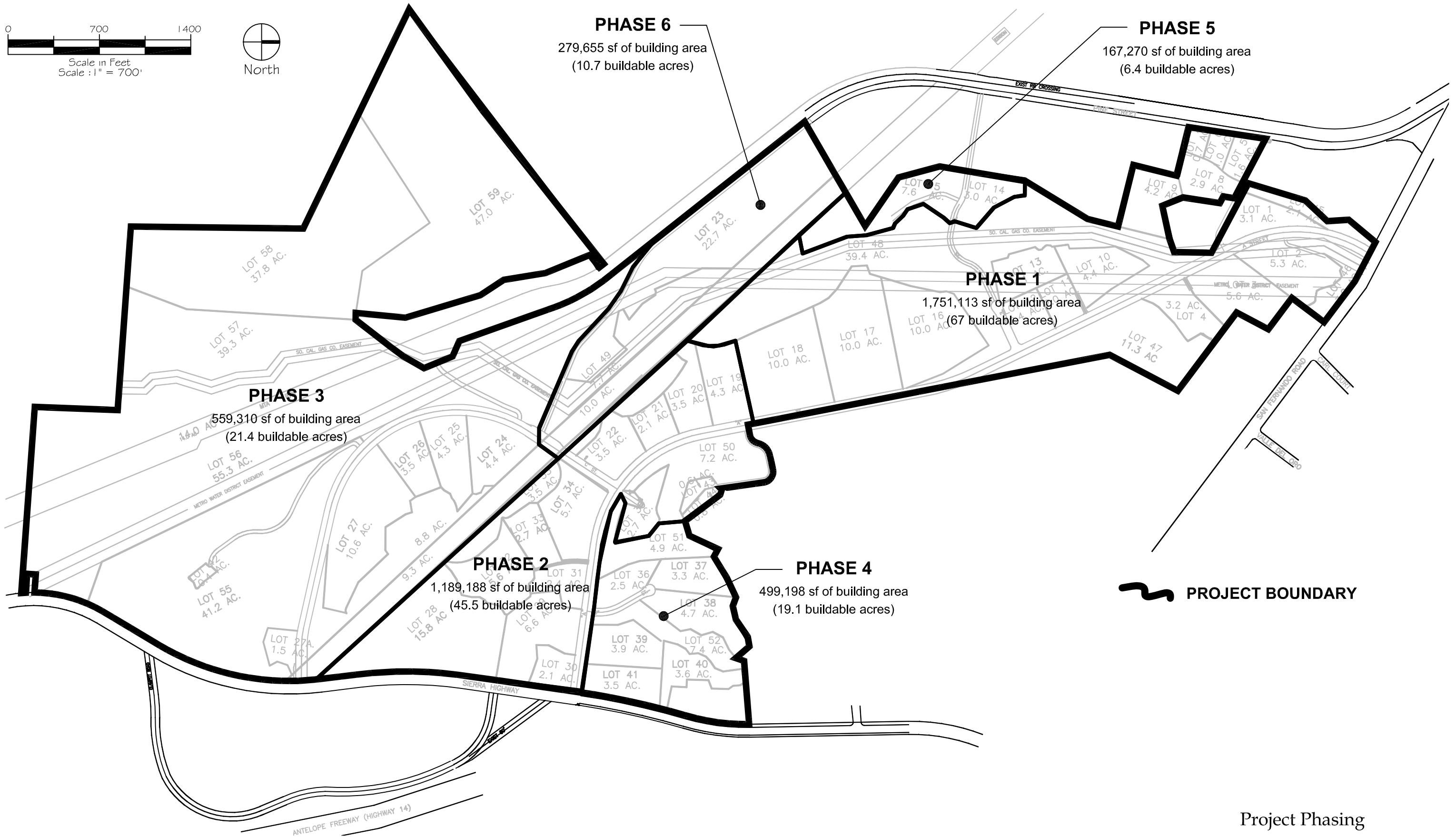
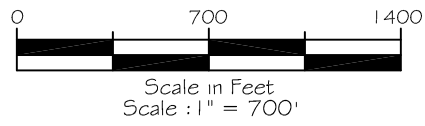
**Table 2-6 Grading Summary**

Phase	Lots	Area to Be Graded (acres)		Earthwork Balance (million cubic yards)
		Graded Pads	Graded Slopes	
1	1-13, 16-18, 43-47 & a portion of 48	67.0	31.9	3.30
2	19-22, 28-35, portion of 48, 50, 51, 53	45.5	15.5	1.63
3	24-27, 27A, 42, 54-59	21.4	30.2	1.60
4	36-41, 52	19.1	7.9	0.30
5	14, 15	6.4	2.9	0.21
6	23, 49	10.7	6.1	0.20
<b>Total</b>		<b>170.1</b>	<b>94.5</b>	<b>7.24</b>

Source: Sikand Engineering, January 2001

The total amount of earth to be moved is estimated at 7.24 million cubic yards (see Table 2-6). Nearly half (46%) of this total would be for Phase 1. About 23% of the total earth movement



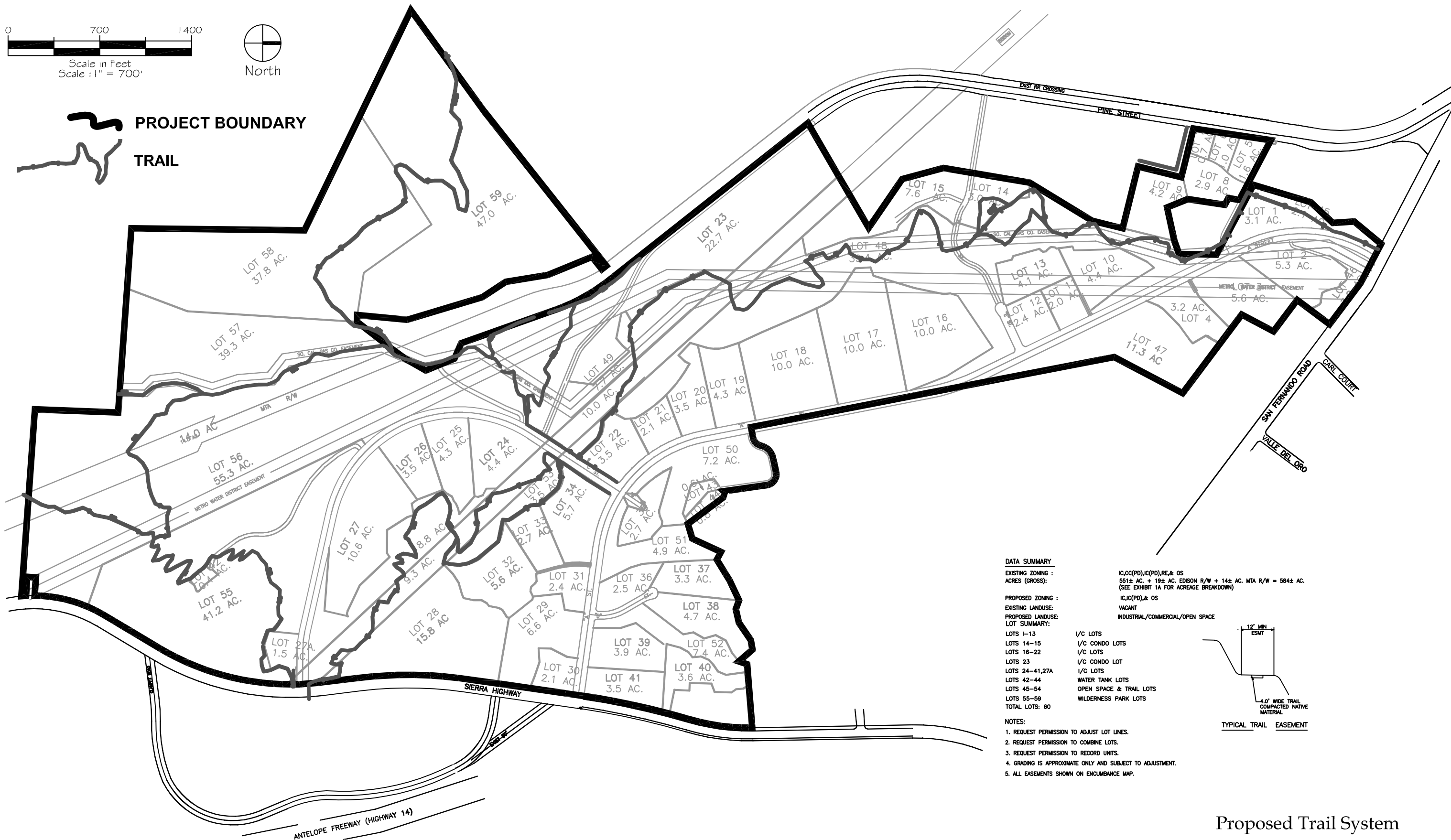
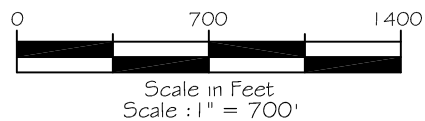


PROJECT BOUNDARY

Project Phasing

Figure 2-7





**DATA SUMMARY**

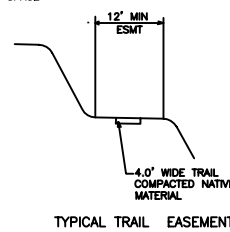
EXISTING ZONING :  
ACRES (GROSS):  
  
PROPOSED ZONING :  
EXISTING LANDUSE:  
PROPOSED LANDUSE:  
LOT SUMMARY:  
LOTS 1-13  
LOTS 14-15  
LOTS 16-22  
LOTS 23  
LOTS 24-41,27A  
LOTS 42-44  
LOTS 45-54  
LOTS 55-59  
TOTAL LOTS: 60

IC,CC(PD),IC(PD),RE,& OS  
551± AC. + 19± AC. EDISON R/W + 14± AC. MTA R/W = 584± AC.  
(SEE EXHIBIT 1A FOR ACREAGE BREAKDOWN)  
IC,IC(PD),& OS  
VACANT  
INDUSTRIAL/COMMERCIAL/OPEN SPACE

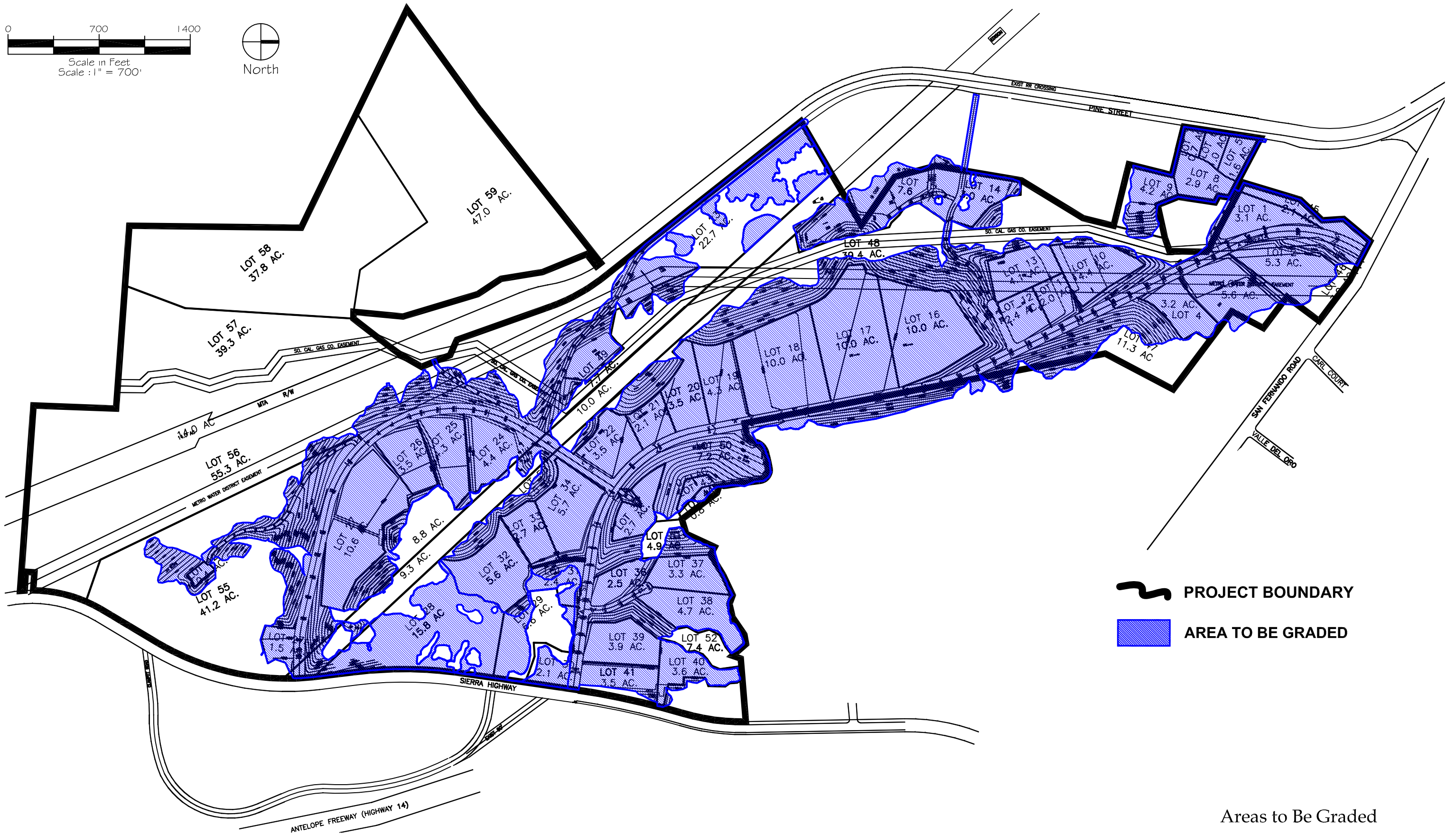
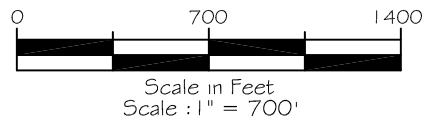
I/C LOTS  
I/C CONDO LOTS  
I/C LOTS  
I/C CONDO LOT  
I/C LOTS  
WATER TANK LOTS  
OPEN SPACE & TRAIL LOTS  
WILDERNESS PARK LOTS

**NOTES:**

1. REQUEST PERMISSION TO ADJUST LOT LINES.
2. REQUEST PERMISSION TO COMBINE LOTS.
3. REQUEST PERMISSION TO RECORD UNITS.
4. GRADING IS APPROXIMATE ONLY AND SUBJECT TO ADJUSTMENT.
5. ALL EASEMENTS SHOWN ON ENCUMBRANCE MAP.



Proposed Trail System



Areas to Be Graded

(1.63 million cubic yards) would occur during Phase 2 and about 22% of the total (1.6 million cubic yards) would occur during Phase 3. Phases 4, 5, and 6 would entail relatively small amounts of grading (0.2 to 0.3 million cubic yards each).

Overall cut-and-fill would be balanced on-site for each development phase. The maximum depth of cut would be 110 feet and the average depth of cut would be 30 feet. The maximum depth of fill would be 100 feet and the average depth of fill would be 30 feet.

### 2.4.3 On-Site Oak Trees

**a. Existing Oaks and Proposed Removals.** The project site includes an estimated 10,680 live oaks and an additional 1,041 oaks that are either dead or have experienced severe fire damage. An estimated 9,836 of the living oaks on-site (92% of the total) are coast live oaks (*Quercus agrifolia*), while the remaining 844 oaks (8% of the total) are scrub oaks (*Quercus berberidifolia*). Oaks can be found scattered throughout the site, although they are concentrated within drainages.

The potential for impacts to on-site oaks is summarized in Table 2-7. The proposed development would directly remove 1,000 oaks, or about 9% of the total number of oaks on-site. Oaks to be removed include 696 coast live oaks and 304 scrub oaks. The 696 coast live oaks to be directly removed does not include 64 trees that were previously removed from Lot 28 without City oak tree removal permits (see discussion below). Two of the oaks that would be directly removed are Heritage oaks.

**Table 2-7 Live Oak Tree Inventory and Removals**

Oak Type	Oaks to be Directly Removed	Oaks in Buffer Areas (Potential Indirect Effects)	Remaining Oaks in Industrial/Open Space/Park Lot Areas	Totals
Coast Live Oaks	696	322	8,818	<b>9,836</b>
Scrub Oaks	304	14	526	<b>844</b>
<b>Total</b>	<b>1,000<sup>a</sup></b>	<b>336</b>	<b>9,344</b>	<b>10,680</b>

Source: Sikand Engineering, May 2001.

Excludes dead trees and trees that have experienced strong fire damage.

Excludes 64 previously removed trees

<sup>a</sup> Up to 100 additional oak trees (1,100 trees total) could potentially be removed as part of the "oak tree bank" proposed by the applicant and discussed in Section 4.6, Biological Resources.

In addition to the oaks that would be directly removed by grading, 336 oaks, or about 3% of the site total, could be indirectly affected by site grading and development because of their proximity to areas proposed for grading. Four of these oaks are Heritage oaks. Section 4.6, *Biological Resources*, discusses impacts to oak trees in detail and includes maps showing the locations of major oak tree clusters on the site.

**b. Previous Oak Tree Removals.** The 64 oak trees previously removed from the site without permits were cut down in April 1997. The tree removals were discovered when the Los Angeles County Fire Department responded to a report of downed power lines on the property. Upon inspecting the site, the Fire Department notified the County Sheriff's Department that the damage to the power line was the result of an oak tree being cut down. A Sheriff's Deputy also



noted that a number of oak trees within a canyon on the property had been cut down and ordered the men who were cutting down the trees to stop because they could not produce a valid oak tree permit. The property owner states that these men had not been given permission to remove oak trees.

The City's Code Enforcement Division filed a complaint regarding the unpermitted oak tree removals and, along with the City's oak tree consultant, conducted an inspection of the site in June 1997. Staff noted that there were 64 tree stumps in the area where the power lines were down and estimated that 1,056 inches of diameter had been removed. The International Society of Arborists (ISA) values of the removed trees was estimated at \$227,800 (Tate, May 2001). The applicant submitted a retroactive oak tree application in September 1997 and submitted a mitigation plan in December 1997 in lieu of paying the ISA value of the removed trees.

City staff reviewed the applicant's mitigation plan and revised it to include the planting of 350 saplings on the applicant's property, a five-year monitoring and maintenance program for the saplings, and possible future land use restrictions. On March 3, 1998, the Planning Commission approved Resolution P98-10, which approved an oak tree permit that included the staff-recommended measures as well as payment of \$500,000 to an oak tree mitigation fund.

The applicant appealed the Planning Commission conditions to the City Council, which heard testimony regarding the appeal on June 9, 1998. The Council continued the item to November 10, 1998 and directed staff to work with the applicant to prepare an alternative plan. At the November 10, 1998 meeting, the Council again continued the item to allow staff and the applicant sufficient time to negotiate a Memorandum of Understanding (MOU) for the site. The City of Santa Clarita approved an MOU in October 1999. The parameters of the MOU are discussed in Section 2.8 of this Project Description.

**c. Oak Tree Bank.** The applicant's proposal includes an "oak tree bank" that would allow for the future removal of up to 100 additional oak trees. These trees would not be removed under the current grading plan for the site, but the applicant is requesting entitlement at this time for future tree removal.

#### **2.4.4 Site Access and Roadways**

The proposed roadway system for the site is illustrated on Figure 2-4. The primary access to the site would be provided by two four-lane industrial collector streets ("A" Street and "C" Street). "A" Street would traverse the central portion of the site, providing access to San Fernando Road and Sierra Highway. "C" Street would provide a second connection on Sierra Highway and connect with "A" Street in the southern portion of the site. These two roads would entail 88 feet of right-of-way, with 68 feet of pavement and landscaped parkways and sidewalks on either side. "A" Street is intended to allow north-south travelers an alternative route between San Fernando Road and Sierra Highway. This would allow motorists to by-pass the San Fernando Road/Sierra Highway intersection, which is anticipated to experience increasing congestion as the Newhall area builds out in accordance with the Santa Clarita General Plan.

Two additional roads "B" Street and "E" Street would provide access to specific industrial commercial lots. These roads would have 66-foot rights-of-way with 46 feet of pavement and landscaped parkways and sidewalks on either side of the road. Access to Lots 14 and 15 would



be provided by private driveways. The typical section for these driveways would consist of 26 feet of pavement. Access to Lot 23 is an extension of Pine Street to “C” Street, with 26 feet of pavement and a seven-foot landscaped parkway/sidewalk on either side of the public street (40-foot right-of-way).

Primary access to Lots 5-7, 14, 15, and 23 would be from Pine Street, an existing two-lane road that roughly parallels the MTA right-of-way along the west side of the project site. Pine Street would be extended roughly 3,000 feet from its current terminus to connect to “C” Street in the southern portion of the site. The 40-foot right-of-way for the existing section of Pine Street would be maintained for the proposed new section. Emergency access to the western portion of the site along Pine Street would also be provided via an extension of “E” Street. This extension would be gated and would be used only for emergencies.

Additional pedestrian access would be provided by the proposed trail system described in Section 2.4.2.b and illustrated on Figure 2-6. The nearby Newhall Metrolink Station (Railroad Avenue and Market Street) would provide rail service to the site, while Santa Clarita Transit provides bus service to various parts of the City and has bus stops along San Fernando Road and Sierra Highway.

### 2.4.5 Project Employment

Table 2-8 provides an estimate of on-site employment at buildout of the proposed project. Full site employment is estimated at 6,527. About 55% of these jobs are expected to be in the manufacturing/warehousing sector, while the remaining 45% are expected to be office jobs.

**Table 2-8 Estimated On-Site Employment at Project Buildout**

Employment Sector	Estimated Building Area (square feet) <sup>a</sup>	Square Feet of Building Area/Employee	Total Employees
Manufacturing/Warehouse	3,560,000	1,000	3,560
Office	890,000	300	2,967
<b>Total</b>	<b>4,450,000</b>		<b>6,527</b>

Source: EPS Economic & Planning Systems, Inc., 2001.

<sup>a</sup> Assumes that 80% of the site building area is used for manufacturing/warehousing and 20% of the site is used for offices.

### 2.4.6 Infrastructure Improvements

The applicant’s proposal includes the provision of necessary infrastructure improvements (water, sewer, electrical, natural gas, and communication line extensions) to serve site development. Proposed infrastructure extensions and other improvements are described in Section 4.10, *Utilities*. In addition, several miscellaneous infrastructure improvements are proposed to mitigate current adverse environmental conditions. These include:

- Provision of improved access and parking for the historic Pioneer Oil Refinery, which is located just off the project site near the corner of San Fernando Road and Pine Street



- Construction of a concrete structure to constrict Newhall Creek and prevent further erosion, which has the potential to damage Sierra Highway
- Provision of a tunnel under Sierra Highway to provide a wildlife habitat linkage between the wilderness areas south and east of SR-14, the Hondo site between SR-14 and Sierra Highway, and Needham Ranch

## 2.5 CONSTRUCTION SCHEDULE

The applicant has indicated that the current plan is to complete construction within five years and has provided a tentative schedule for each of the project phases, as shown in Table 2-9. During the five-year construction period, grading is estimated to extend over about 26 months. The final phasing of construction would depend upon a variety of factors, including timing of approvals, market demand, and specific user needs.

**Table 2-9 Estimated Construction Start Dates and Grading Duration**

Phase <sup>a</sup>	Start Construction <sup>b</sup>	Grading Duration <sup>c</sup>
1	April 2002	7 months
2	April 2003	5 months
3	April 2003	5 months
4	April 2004	3 months
5	April 2004	3 months
6	April 2005	3 months

Source: Sikand Engineering, January 2001.

<sup>a</sup> Phases are subject to adjustment depending upon user requirements.

<sup>b</sup> Assumes concurrent expedited processing.

<sup>c</sup> Assumes 30,000 cubic yards/day earthwork movement for Phases 1, 2, and 3 and 10,000 cubic yards/day for all other phases with one month for initial site preparation and one month for final site finish work.

## 2.6 PROJECT OBJECTIVES

The objectives of the proposed project are as follows:

- To develop up to 4.45 million square feet of industrial/commercial buildings
- To create an economically feasible project
- To provide recreational and open space facilities for use by Santa Clarita residents
- To protect sensitive resources on the project site through the provision of open space areas and a wildlife corridor on-site
- To provide an employment center in proximity to alternative transportation modes, including Metrolink commuter rail service and bus service
- To contribute to redevelopment efforts in the downtown Newhall area through the following:
  - Adding to the district's tax increment
  - Increasing local employment opportunities
  - Increasing patronage in Old Town Newhall through an increased daytime employment population in the immediate vicinity



- Stimulating private investment in the area through physical improvements along San Fernando Road and Sierra Highway
- To retain major open areas that act as regional ecological preserves and migration corridors

## 2.7 REQUIRED APPROVALS

Implementation of the proposed project would require the following discretionary approvals from the City of Santa Clarita:

- Tentative Tract Map 50283, an industrial subdivision consisting of 60 lots on 584 acres
- General Plan Amendment 99-003 to change the Open Space designation to Industrial Commercial; Community Commercial to Industrial Commercial; Industrial Commercial to Open Space; and Residential Estate (RE) to Open Space (as part of the project, an estimated 124.1 acres designated RE would be dedicated to the City as permanent open space, requiring a General Plan amendment to OS).
- Zone Change 99-002 to accommodate the same changes as required by General Plan Amendment 99-003 and to place a Planned Development (PD) overlay on portions of the IC zone (23.5 acres)
- Oak Tree Permit 99-029 for the removal of approximately 1,100 of the 10,680 live oak trees on-site, including the oak tree bank, and a retroactive Oak Tree Permit for the oak trees previously removed without a permit and for the removal of 1,041 dead and damaged trees.
- Conditional Use Permit 99-013 to permit development within the Planned Development overlay zone
- Hillside Review 99-004 to allow an estimated 7.24 million cubic yards of cut and fill on-site
- A finding that the project complies with applicable provisions of the City's Ridgeline Preservation and Hillside Development Ordinance
- Development Agreement 99-002, which would include, among other things: (1) direct removal of approximately 1,100 oak trees; (2) dedication of an estimated 220.6 acres with trails as public open space; and (3) other financial considerations

The project would also require the following approvals from other agencies:

- U.S. Army Corps of Engineers approval of a Clean Water Act Section 404 permit for disturbance of Waters of the U.S. onsite
- California Department of Fish and Game approval of a Streambed Alteration Agreement for disturbance of Waters of the State onsite
- Regional Water Quality Control Board approval of a Clean Water Act Section 401 certification for impacts to Waters of the State onsite
- Los Angeles County Fire Department approval of wildland fire protection methods to be implemented on-site
- Provision of sewer service by the County Sanitation Districts of Los Angeles County
- Metropolitan Transit Authority and Public Utilities Commission approval



## 2.8 MEMORANDUM OF UNDERSTANDING/ DEVELOPMENT AGREEMENT

As discussed previously, the applicant and City have negotiated a Memorandum of Understanding (MOU) for the project site. The purpose of the MOU is to outline a non-binding understanding between the City and property owners that allows the applicant to move forward with submittal of applications for the development of the site. Ultimately, the MOU would lead to a development agreement between the applicant and the City.

The MOU deal points include the dedication by the applicant of at least 150 acres of natural open space as mitigation for past and future oak tree removals, construction of a road link between San Fernando Road and Sierra Highway, and development of an on-site trail system. The applicant would be allowed to pay Bridge and Thoroughfare fees at the building permit stage. In addition, a retroactive oak tree permit would be issued covering the oak trees cut without a permit. Finally, the applicant would be given a 15-year term on the development agreement for the project.





## 3.0 ENVIRONMENTAL SETTING

This section describes the general historic, current, and projected environmental conditions in the City of Santa Clarita and within the project area. More detailed descriptions of the setting for individual issue areas can be found in the discussions contained within Section 4.0, *Environmental Impact Analysis*.

### 3.1 LOCAL GEOGRAPHY

The Santa Clarita Valley is an irregularly shaped area draining the Santa Clara River, a watershed of approximately 500 square miles. This drainage area is generally defined by significant mountain ridges of the San Gabriel, Santa Susana and the Sierra Pelona Mountains, several significant canyons, the valley floor, and the Santa Clara River bed.

The project site lies within a watershed of approximately 1,008 acres and can be divided into two major basins: the easterly and westerly subareas. The westerly subarea drains into what is commonly referred to as Railroad Canyon and the easterly subarea drains into the headwaters of Newhall Creek. The drainage basins are confined by major ridgelines on both sides. The only storm drain facilities consist of a few minor reaches of channel protection and structural facilities to convey storm flows under major roads and the rail line.

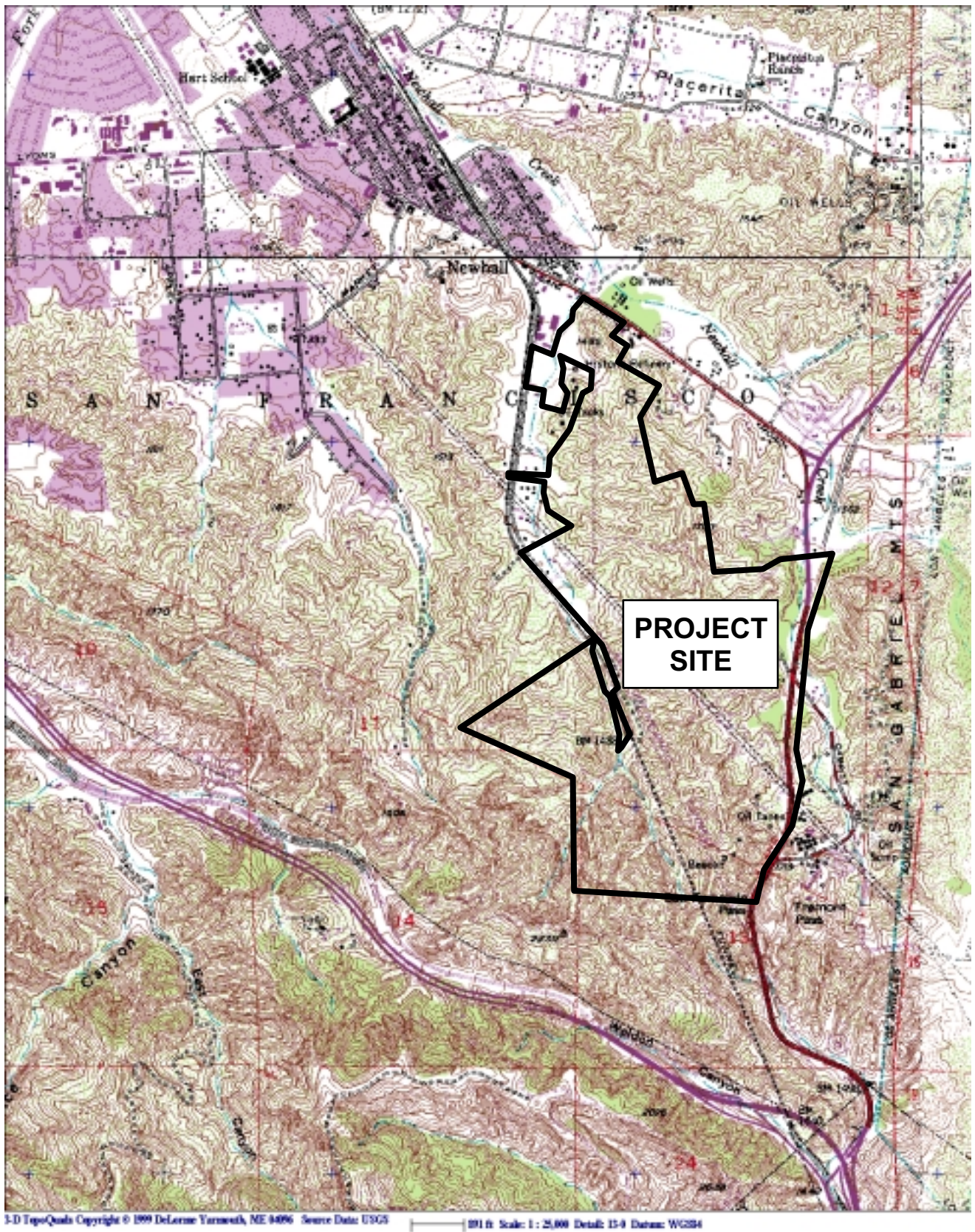
The topography of the area is varied, with elevations ranging from 1,000 feet above mean sea level along the Santa Clara River near Castaic Junction to approximately 3,200 feet along the ridgelines near Pico and Towsley Canyons, in the southwest portion of the City. Elevations in the San Gabriel Mountains east of the City range from 4,000 to 6,000 feet above sea level (see Figure 3-1).

Elevations on site range from about 1,350 feet to 1,900 feet above mean sea level. The site includes several moderately steep to steep slopes. Per the City's designated ridgeline map, two Secondary ridgelines and one Primary ridgeline traverse the project site. The north-south running Primary ridgeline extends along the central portion of the site, while the two east-west running Secondary ridgelines extend toward Sierra Highway and the MTA rail line. These ridgelines are illustrated on Figure 4.11-1 in Section 4.11, *Aesthetics/Light and Glare*.

### 3.2 REGIONAL CLIMATE

Santa Clarita is in a transitional microclimatic zone that includes two climatic types: valley marginal and high desert. Summers are generally hot and dry, while winters are generally temperate and semi-moist. Overall, the area's climate is relatively mild, with summertime high temperatures averaging about 90 degrees Fahrenheit (°F) and wintertime lows in the 30s and 40s. Annual precipitation in the Valley averages from about 13 inches, with almost all rainfall occurring between October and early April. Precipitation in neighboring mountain areas is substantially higher, reaching 22 inches per year and higher.





Area Topography

Figure 3-1

### 3.3 HISTORICAL DEVELOPMENT

At historic contact, the lower Santa Clara River Valley was believed to have been occupied by the Ventureño Chumash, while the upper Santa Clara River drainage area was occupied by the southern California Shoshonean-speaking Alliklik or Tatavium. Since the late 1700s, the Santa Clarita Valley has been influenced by European settlement. Around 1797, the Valley became part of the San Fernando Mission and cattle grazing activities began. In 1842, gold was discovered in Placerita Canyon, thus fueling the California gold rush. Later in the nineteenth century, oil was discovered in Pico Canyon and oil field development ensued in the region.

Early American-era development in the Santa Clarita Valley was generated primarily by railroad and oil operations. The area has also historically attracted motion picture filming. Most recently, the Valley has developed into a series of residential communities that provide housing to serve the employment base within the greater Los Angeles region. Although the current development character is predominantly single-family residential, the City includes scattered pockets of multi-family residential, industrial, service/strip commercial, institutional, and recreational uses.

Following years of rapid residential growth commencing in the 1960s, the City incorporated in 1987. The current City limits include several distinct communities, including Saugus, Newhall, Valencia, and Canyon Country.

The project site, historically known as Needham Ranch, has a long and colorful history. The area was first settled in 1850, when Cyrus and Sanford Lyon opened Lyon's Station (today the site of the Eternal Valley Cemetery) as a stagecoach stop. The station grew from a small rest stop to a successful store, post office, stage depot, and tavern that was the mail and supply point of the Santa Clarita Valley for a quarter-century. Sixteen years later, two petroleum stills were erected at Lyon's Station. Ten years later, the stills were moved from Lyon's Station to Pine Street, operating as the Pioneer Oil Refinery until 1884. In 1888, Kansas Governor John St. John purchased over 10,000 acres from the Newhall Land and Farming Company and sent Henry Clay Needham to establish the "St. John's Prohibition Colony." The dry colony failed, but Henry Clay Needham remained in the area, permitting burials on his 750-acre property and founding the Pearle and Zenith Oil companies for oil drilling on the property. Numerous oil wells were drilled on the Needham Ranch, with production continuing through 1990. In 1957, Gates, Kingsley, and Gates purchased Needham Ranch. In 1958, the County of Los Angeles approved the use of approximately 200 acres of the ranch for the Eternal Valley Cemetery. Eight years later, the State of California purchased another 200 acres of the ranch for construction of the Antelope Valley Freeway.

Today, Needham Ranch encompasses about 584 acres. About 77% of the site (452.4 acres) is undeveloped, while the remaining 23% (131.6 acres) is developed with a variety of uses. As discussed further in Section 2.0, *Project Description*, developed areas of the site consist of approximately 15 acres of cemetery facilities, 22 acres of oil well production facilities, 3 acres of residential uses, the 8-acre Arklin Storage Facility, an 18-acre recycling facility, a 3-acre City disposal site, and over 50 acres of oil and gas rights-of-way, easements, and associated access roads.



### 3.4 POPULATION AND EMPLOYMENT

Since incorporation, Santa Clarita has continued to grow at a relatively rapid rate. The City is currently home to about 151,260 residents and is expected to grow to approximately 188,000 by 2010. The City's population is relatively young, with an average of 34.5 years.

Although Santa Clarita is largely recognized as a suburban residential community, the Santa Clarita Valley includes a diversity of employment opportunities. The largest employers in the area include Six Flags Magic Mountain (4,000 employees – located just outside the City), the U.S. Postal Service (1,780 employees), Henry Mayo Newhall Memorial Hospital (1,780 employees), and William S. Hart Unified School District (1,400 employees). The local labor force of about 66,000 is employed in a range of occupations. The largest occupational types include manufacturing (29% of the labor force), services (24%), retail trade (16.8%), and local government (11%).

### 3.5 REGIONAL ACCESS/PROJECTED TRAFFIC GROWTH

Santa Clarita is located at the junction of Interstate 5, a major north-south interstate highway, and State Route 14, a freeway that provides access to high desert areas to the northeast, including the cities of Palmdale and Lancaster (See Figure 2.1). Santa Clarita is also linked to downtown Los Angeles via Metrolink rail service. The City is currently served by three Metrolink Stations: (1) the Santa Clarita Station located off Soledad Canyon Road in the central portion of the City; (2) the Via Princessa Station in the southeastern portion of the City; and the Newhall station located in the southwestern portion of the City.

Traffic has grown dramatically in the Santa Clarita Valley in recent years, paralleling the growth in population in the area. This growth, in combination with the absence of substantial improvements in the City's circulation system, has resulted in significant traffic congestion in many parts of the City. This trend is projected to continue into the future, with generally declining levels of service on area roadways, slower traffic speeds, and increased commute times. According to Southern California Association of Governments (SCAG), Regional Comprehensive Plan and Guide (1995), the total number of automobile trips in the Santa Clarita Valley is anticipated to increase by more than 40% by 2015. Traffic delays are projected to more than triple over the same time period.

### 3.6 CUMULATIVE DEVELOPMENT

Cumulative impacts are defined as two or more individual events that, when evaluated together, are considerable or would compound other environmental impacts. Cumulative impacts are the changes in the environment that result from the incremental impact of development of the proposed project and other nearby projects. For example, traffic impacts of two nearby projects may be inconsequential when analyzed separately, but could have a substantial impact when analyzed together.

Section 15130 of the *CEQA Guidelines* requires a discussion of cumulative impacts. The *CEQA Guidelines* indicate that discussion of related or cumulative projects may be drawn from either a "list of past, present, and probable future projects producing related or cumulative impacts" or



a “summary of projections contained in an adopted general plan or related planning document or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.”

To assess potential cumulative impacts associated with development in the Santa Clarita area, this EIR considers both buildout under the City’s General Plan and pending development in the site vicinity. Buildout potential in the City based upon the current land use plan is shown in Table 3-1. Pending projects in the area are listed in Table 3-2 and shown on Figure 3-2.

**Table 3-1 Cumulative Development Potential in Santa Clarita**

Use	Development Potential
Residential	
Single Family	89,153 units
Multiple Family	34,724 units
<b>Total</b>	<b>123,877 units</b>
Non-Residential	
Commercial	10,688 ksf
Office	16,231 ksf
Industrial	32,015 ksf
<b>Total</b>	<b>58,934 ksf</b>

*ksf = thousand square feet*  
*Source: Santa Clarita Valley Traffic Model, 2001.*

**Table 3-2 Pending Projects in the Site Vicinity**

Project Number	Project Name	Master Case Number	Project Description
1	Golden Valley Ranch	M.C. 97-212	520 units, 100,000 GSF commercial
2	Northpark	M.C. 98-183	Annex 1,350 existing units
3	Senior Housing	M.C. 01-047	200 DU
4	Stonecrest	M.C. 01-068	Annex 425 existing units
5	Townsley Canyon	M.C. 89-016a	Annex 60 acres of park
6	Zone Change, General Plan Amendment	M.C. 01-254	Connect 7 buildings and 21 condo units
7	Sand Canyon Gateway	M.C. 97-069	100,000 GSF commercial, 60 manufactured DU

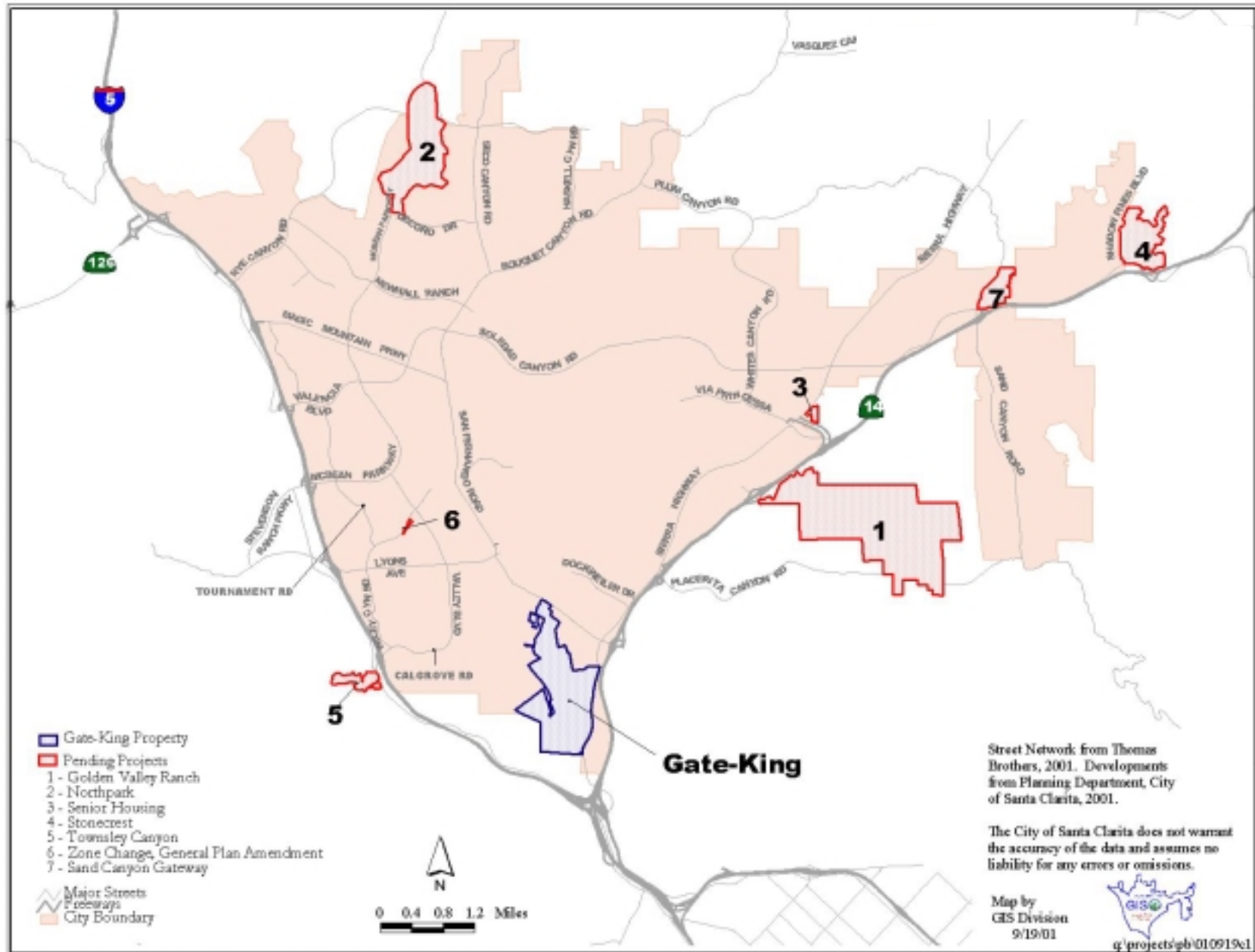
*GSF = gross square feet*  
*DU = dwelling units*

The proposed Gate-King Industrial Park must be considered as an element in the buildout of the City of Santa Clarita and must therefore also be considered in order to completely describe cumulative impacts. The project would involve changing the General Plan and underlying zoning by increasing the amount of land zoned for open space by about 150 acres, reducing the amount of land zoned for residential use by about 125 acres, reducing the amount of land zoned



for community commercial uses by about 30 acres, and increasing the amount of land zoned for industrial/commercial uses by about 5 acres.





Pending Projects

Figure 3-2

## 4.0 ENVIRONMENTAL IMPACT ANALYSIS

This section contains a discussion of the possible environmental effects of the proposed Gate-King Industrial Park for the specific issue areas that were identified through the Initial Study process as having the potential to experience significant impacts. “Significant effect” is defined by the *State CEQA Guidelines* §15382 as “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant.”

The assessment of each issue area describes both the setting for that issue and an analysis of potential impacts. Within the impact analysis, the first subsection identifies the methodologies used and the “significance thresholds”, which are those criteria adopted by the City, other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the proposed project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text, with the discussion of the effect and its significance following. Each bolded effect listing also contains a statement of the significance determination for the environmental effect as follows:

***Class I. Unavoidably Significant:*** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the State CEQA Guidelines.

***Class II. Significant But Mitigable:*** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings to be made under §15091 of the State CEQA Guidelines.

***Class III. Less than Significant:*** An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.

***Class IV. No Impact:*** The project would have no change in environmental conditions.

Following each environmental effect discussion is a listing of recommended mitigation measures (if required) and the residual effects or level of significance remaining after the implementation of the measures. In those cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed as a residual effect. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed project in conjunction with other future development in the area, as envisioned in the Santa Clarita General Plan.





## 4.1 LAND USE AND PLANNING

### 4.1.1 Setting

**a. Regional Land Use.** The project site is located in the southern portion of the City of Santa Clarita within the community of Newhall. Within the city limits, existing development is urban and suburban in character, with highest densities occurring on the Valley floor and the lower canyons, and scattered development throughout the City's center. Development in the City is predominantly single family residential, with scattered pockets of industrial/service commercial uses and strip retail commercial uses along established thoroughfares. Around the periphery of the Santa Clarita Valley, development is generally less intense and more rural in character. The steeply sloped mountainous areas that ring the valley are generally undeveloped, though development is extending farther into these areas.

**b. Land Uses in the Project Site Vicinity.** The majority of the 584- acre project site is on what has historically been known as Needham Ranch. This site is located west of the Antelope Valley Freeway (SR 14), bounded by the Sierra Highway to the east and San Fernando Road to the north. Pine Street and the Metropolitan Transit Authority (MTA) right-of way are located along the site's western boundary. To the south is primarily undeveloped mountainous terrain. The site is primarily undeveloped. It is bisected by Southern California Edison and MTA rights-of way and a number of other utility and oil pipelines. The site also contains a number of active and abandoned oil wells, which are primarily located adjacent to Sierra Highway. A water tank is located near the center of the site at an elevation of 1,710 feet. Approximately 131.6 acres of the site have been developed for commercial and miscellaneous uses, including the Eternal Valley Cemetery storage and maintenance facilities, truck storage, concrete crushing, and easements and rights-of-way.

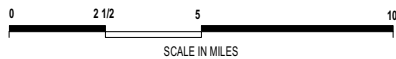
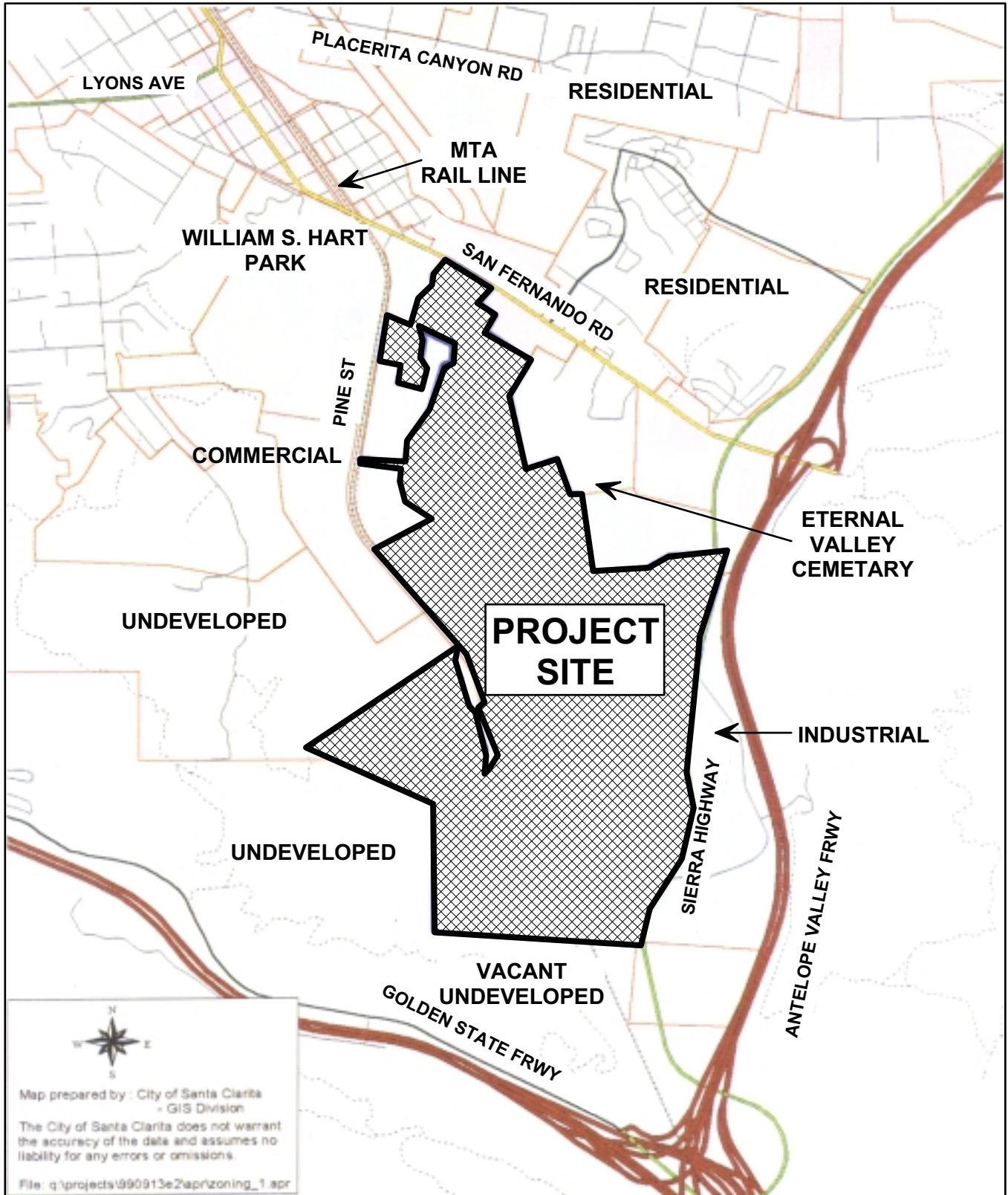
The project site is located in a transitional zone between developed areas of the City and undeveloped areas to the south and east within unincorporated Los Angeles County. Land uses in the project area shown on Figure 4.1-1. To the east of the site are Sierra Highway, Eternal Valley Cemetery, small commercial users, the Newhall Refinery site, and undeveloped hillside terrain. To the north is San Fernando Road. This corridor is primarily commercial in character, although single and multiple family residential development is also occurring on both sides of the road. Directly to the south are undeveloped hillsides and the State Route 14/ Interstate 5 interchange. To the west is Pine Street, which contains small-scale commercial development, including an automotive repair shop and a filming props storage facility, as well as an equestrian facility and several residences under conditional use permits.

### **c. Regulatory Setting.**

General Plan. The project site currently contains several City of Santa Clarita General Plan land use designations, including: Industrial/Commercial, Industrial/Commercial (Planned Development), Community Commercial, Residential Estate, and Open Space. The various land use designations are described below:

- About 337.5 acres (57.8% of the site) are designated IC (Industrial/Commercial). This designation allows low patronage commercial uses and quasi-industrial and





Project Area Land Uses

Figure 4.1-1

- light industrial activities. The purpose of this designation is to allow for the continuation of the commercial and manufacturing activity now in existence in the Honby, Pine Street, and Sierra Highway areas. Allowable development intensity for this designation ranges from a floor-to-area ratio (FAR) of 0.5:1 to 1.0:1.
- About 124.1 acres (21.3% of the site) are designated RE (Residential Estate). This designation allows residential development at a density of 1.1-3.3 dwelling units per acre, though hillside grading restrictions may further reduce allowable building density.
  - About 93.2 acres (16.0% of the site) are designated OS (Open Space). This designation primarily applies to publicly owned land. Privately owned land with this designation, including the project site, is permitted residential development at a maximum density of one unit per 20 to 40 net acres. Limited recreational uses are also permitted within the OS designation.
  - About 29.2 acres (5% of the site) in the western portion of the site along Sierra Highway are designated CC (Community Commercial). This designation allows retail uses of a communitywide nature that will attract people from beyond the immediate neighborhood. The development intensity within this designation can range from an FAR of 0.25:1 to 0.5:1.

In addition to establishing City land use designations, a primary goal of the Land Use Element is to protect the environmental setting and habitat of the City through the location of land uses and the use of sensitive design. The Open Space and Conservation Elements' two primary goals are natural resource and ridgeline preservation. Goal 1 is to preserve the special natural features that define the Planning Area and give it a distinct form and identity. Goal 2 is to preserve designated natural ridgelines in the Planning Area to maintain the Valley's aesthetic character. The goals and policies contained on pages OS-25 through OS-33 of the General Plan are incorporated by reference.

The General Plan also includes criteria for the development of hillsides and ridgelines. The General Plan objective is to protect the integrity, image, and visual quality of hillsides by minimizing the adverse effects of grading and promoting a natural appearance through contour grading, revegetation, and other techniques.

Grading. The Unified Development Code and the Ridgeline Preservation and Hillside Development Ordinance establish grading permit procedures within Santa Clarita. The purpose of these documents is to protect significant ridgelines, promote sensitive hillside development, and ensure appropriate and reasonable grading in accordance with sound engineering and design standards. A grading permit is required for any grading performed in the City.

Ridgeline Preservation and Hillside Development Ordinance. The City of Santa Clarita Ridgeline Preservation and Hillside Development Ordinance is intended to implement and define the goals and policies of the General Plan with respect to land use, development intensity, open space, and community image. The intent of the Ordinance is to regulate the development and alteration of hillside development and to provide for the safety and welfare of the City's residents. The Ordinance allows for the reasonable development of hillside areas through the following methods:



1. Provide development standards to maximize the positive impacts of site design, grading, landscape architecture and architecture, and provide development consistent with the goals and policies of the City of Santa Clarita General Plan.
2. Provide ridgeline preservation and development standards to protect certain ridges within the City and minimize the adverse impacts of development.
3. Maintain the essential natural characteristics of the area such as major landform, vegetation, and wildlife communities, hydrologic features, scenic qualities, and open space that contribute to a sense of place.
4. Retain the integrity of predominant off-site and on-site views in hillside areas in order to maintain the integrity, image, and environmental quality of the City.

The provisions of the Ridgeline Preservation and Hillside Development Ordinance apply to parcels of land having average slopes of 10% or more. Section 17.80.040 of the City's Unified Development Code sets forth the following development standards for ridgeline protection.

- **Ridgeline Development Classification.** Significant ridgelines are the ridgelines that surround or visually dominate the valley landscape either through their size in relation to the hillside or mountain terrain of which they are a part; their visual dominance as characterized by a silhouetting appearance against the sky; as a significant natural backdrop feature or separation of communities; through visual dominance due to proximity and view from existing development or major corridors; or as an area of significant ecological, historical, or cultural importance such as those which connect park or trail systems.
- **Significant Ridgeline Classification and Map.** Development is regulated on significant ridgelines due to their aesthetic, visual, ecological, and historical, or cultural importance to maintain a sense of place and identity for the City and to protect the visual quality and natural environment of the important hills, canyons, and valleys which compose the Santa Clarita Valley. Two categories of significant ridgelines have been identified. Significant ridgelines shall not be altered by grading or improvements except as approved through a Hillside Plan Review Permit.
  - *Primary Ridgelines.* Primary ridgelines are those ridgelines which are characterized by any combination of significant ridgeline criteria as identified above.
  - *Secondary Ridgelines.* Secondary ridgeline are those ridgelines which are characterized by any combination of the significant ridgeline criteria as identified above, but are secondary in nature to primary ridgelines due to the following features:
    - a. Smaller size and prominence of a feature or branch of a primary ridgeline.
    - b. Silhouette of a ridgeline against the open sky on a smaller size hill or silhouette of a ridgeline on a smaller hill which is back-dropped by a significant ridgeline.

Primary and secondary ridgelines are identified on the official map entitled "Ridgeline Preservation Map, City of Santa Clarita, 1992," which is on file at the Planning and Building Services Department.



- Ridgeline Preservation.** The Official Ridgeline Preservation Map identifies crests of significant ridgelines in the City. The precise area to be preserved is designated on a case-by-case basis. Any development that touches, crosses, includes, or affects any Primary ridgeline requires the preservation of all or part of the ridgeline in its natural state. No engineered slopes, housing construction, streets, utilities, or other man-made features shall be permitted within Primary ridgeline areas. Encroachments may be granted if the Planning Commission finds that the encroachment will be in compliance with the criteria of the Ordinance. Secondary ridgelines shall also be considered for hillside development proposals. Grading in these areas shall be reviewed for conformance with the design criteria of the Ordinance as reviewed and approved by a Hillside Plan Review Permit.

**d. Current and Projected Population, Housing, and Employment.** The Southern California Association of Governments (SCAG) has developed the Regional Comprehensive Plan and Guide (RCPG) to provide direction to local governments in addressing regional issues such as population growth for the six-county southern California region, which is comprised of 13 individual subregions.

Population, household, and employment growth projections for Santa Clarita and the North L.A. County subregion in which the City is located are shown in Table 4.1-1. Santa Clarita’s 2000 population of 136,500 (SCAG, 2001) is projected to reach 206,800 by 2020, which represents a 2.1% average annual growth rate. The subregional population is expected to grow by about 3.7% annually, resulting in a population of just over 1.2 million by 2020. The number of households within both the City and region are expected to grow proportionally.

**Table 4.1-1 Current and Projected Population, Housing, and Employment**

	Santa Clarita		North L.A. County Subregion	
	2000	2020	2000	2020
Population	136,500	206,800	590,200	1,213,400
Households	43,100	68,700	163,500	380,900
Employment	44,800	61,400	190,800	416,900

*Source: Southern California Association of Governments, 2001.*

Employment in Santa Clarita is projected to grow to about 61,400 jobs by 2020, which translates to an annual growth rate of about 1.6%. Similar to population and household growth, employment in the North L.A. subregion is expected to rise more in the region as a whole than in Santa Clarita. Employment in the subregion as a whole is expected to increase by about 4% annually from 2000 to 2020.

The ratio of jobs to households in Santa Clarita was 1.04:1 in 2000 and is expected to decline to 0.89:1 by 2020. For the subregion, the 2000 jobs/households ratio was 1.17:1. By 2020, the ratio is projected to decline slightly, to 1.09 jobs per household.



### 4.1.2 Impact Analysis

**a. Methodology and Significance Thresholds.** Land use compatibility impacts were assessed based upon the level of physical impact anticipated in the various issues that can affect compatibility (air quality, noise, human health and safety, and aesthetics). Impacts are considered significant if the proposed development would be markedly incompatible in scale or use with adjacent land uses, or if the project would result in land use conflicts that are demonstrably detrimental to the well-being of existing uses.

The analysis of impacts relating to growth is assessed based on regional projections. Impacts to population are generally social or economic in nature. Under CEQA, a social or economic change generally is not considered a significant effect on the environment unless the changes can be directly linked to a physical change. Population impacts are considered potentially significant if growth associated with the proposed project would exceed projections for the area and if such an exceedence would have the potential to create a significant physical change to the environment.

This analysis also includes an evaluation of the project's consistency with local and regional land use policies. Because inconsistencies with land use policies are not in themselves physical effects, they do not actually represent "environmental effects" as defined by CEQA. Therefore, policy consistency issues are not classified in the same way in which physical effects are classified in this EIR (i.e., Class I, Class III – see page 4-1 for definitions of these classifications). Rather, the project is simply identified as potentially consistent or inconsistent with applicable policies. It should be noted that the final determination of consistency with local planning policies would rest with the City decision makers.

#### **b. Project Impacts and Mitigation Measures.**

**Impact LU-1 The proposed development generally would not create compatibility conflicts with residential, commercial and industrial uses in the project vicinity. This impact is considered Class III, less than significant.**

The proposed project involves the development of roughly one-third of the 584-acre project site with an industrial/commercial business park and dedication of another third of the site as open space. The remainder of the site would consist of graded landscaped slopes, water tanks, and public and private rights-of-way. These uses would represent an increase of intensity of use on the primarily undeveloped site. However, this increase in intensification appears to be generally compatible with the existing land uses in project vicinity, as discussed below.

*Potential Scale, Use, and Visual Conflicts.* Total buildout of the 170 build able acres would yield approximately 4.45 million square feet of industrial/commercial development on lots ranging in size from 0.7 acres to 19.9 acres. The largest lots are located along the loop roads ("A" Street and "C" Street in the east-central portion of the site). The smallest lots are located along Pine Street that contains existing commercial industrial uses. The proposed layout of the industrial commercial lots with the smaller lots and less intense industrial proposed building pads closest to Pine Street would generally be in keeping with the existing scale and density of buildings along Pine Street.



The project would change the land use character of the site by adding structures, roads, and lighting, and would involve grading on a Primary ridgeline and two Secondary ridgelines for construction of an industrial collector road and industrial building pads. However, this change would not create a significant visual conflict with adjacent commercial and industrial uses. As discussed in Section 4.11, *Aesthetics*, although the project would incrementally change distant views from nearby private residences, it would not fundamentally block views from any residential property or fundamentally alter the nature of a viewshed. Therefore, although the grading of Primary and Secondary ridgelines has been classified as a significant visual effect, this change to the visual character of the site does not constitute a significant land use conflict.

*Potential Noise Conflicts.* As discussed in Section 4.7, *Noise*, on-site construction activity would generate temporary noise level increases on and around the project site. The substantial distance to off-site receptors and presence of intervening topography would serve to limit the effects of construction-related noise off-site. Nevertheless, construction noise associated with some project components may be audible at the Eternal Valley Cemetery and at facilities along Pine Street. This issue is further discussed in Section 4.7, *Noise*. This is considered a potentially significant, temporary conflict.

The primary long-term impact of the project would be the increase in noise on area roadways associated with project-generated traffic. As discussed in Section 4.5, *Transportation and Circulation*, significant traffic noise impacts are not anticipated in any study area roadways. The nearest noise-sensitive uses are a single residence along Pine Street and the Eternal Valley Cemetery.

The Pine Street residence would experience a modest increase in noise due to increased traffic on Pine Street and activity on-site. However, most project-generated traffic would be routed through "A" Street and "C" Street. Therefore, traffic-related noise along Pine Street would remain within normally acceptable levels.

Portions of the Cemetery would experience an increase in noise due to traffic on "A" Street. However, as discussed in Section 4.7, noise levels would remain well within the normally acceptable range (up to 75 dBA CNEL) for cemeteries. Consequently, this is not considered a significant conflict.

*Potential Safety Conflicts.* The Industrial Commercial category allows for light industrial and research and development activities. These types of uses would not generally be expected to involve the use of large quantities of hazardous materials that could pose safety conflicts. This, combined with the relatively long distances between site development and sensitive uses (residences, etc.), minimize the potential for safety conflicts relating to hazardous materials.

Increased traffic associated with the project would incrementally increase traffic safety hazards in the area. However, project-related traffic would generally be expected to be limited to major arterial roads in the area (Sierra Highway, San Fernando Road) and internal roadways. Pine Street would also experience an increase in traffic, but the vast majority of project traffic would be routed through the site via "A" Street and/or "C" Street. Therefore, significant traffic safety problems are not anticipated.



Mitigation Measures. Mitigation measures recommended in Sections 4.7, *Noise*, and 4.11, *Aesthetics*, would minimize compatibility conflicts with surrounding land uses.

Significance After Mitigation. With implementation of the mitigation measures recommended in Sections 4.7 and 4.11, significant land use conflicts are not anticipated.

**Impact LU-2 The proposed project would add an estimated 6,527 jobs within the City. Because this increase in employment is within citywide projections, this impact is considered Class III, less than significant.**

As discussed in Section 2.0, *Project Description*, the proposed project would generate an estimated 6,527 permanent employees at buildout. Some of these employees may already live in the SCAG Region and Santa Clarita Valley, while some would be new to the area.

Based on SCAG's regional growth forecasts, the City is projected to add 16,600 jobs between 2000 and 2020. The North L.A. County Subregion is projected to add 226,100 jobs over the same time period. The 6,527 employees associated with the proposed project are within both of these projections; therefore, the project would not cause an exceedence of regional employment projections and would not create any additional impacts relating to employment growth beyond those envisioned in the RCGP. In addition, it should be noted that the jobs associated with the project would help offset the projected reduction in jobs relative to households within the City (as discussed previously, the jobs/housing ratio in Santa Clarita is projected to fall from 1.04:1 in 2000 to 0.89:1 in 2020). Consequently, the project would help to preserve a balance of jobs and housing in Santa Clarita that would be expected to contribute to the attainment of regional goals relating to reduced commute distance and travel time. No significant impacts relating to population or employment growth are anticipated.

Mitigation Measures. None required.

Significance After Mitigation. Impacts to employment would be less than significant without mitigation.

**Impact LU-3 The proposed project is considered generally consistent with City Land Use Element goals and policies, but is potentially inconsistent with City policies pertaining to preservation/protection of significant ridgelines and oak trees.**

*Consistency with the Santa Clarita General Plan.* The proposed project would require General Plan Amendment 99-003 to change the Open Space designation to Industrial Commercial; Community Commercial to Industrial Commercial; Industrial Commercial to Open Space; and Residential Estate (RE) to Open Space (as part of the project, an estimated 124.1 acres designated RE would be dedicated to the City as permanent open space, requiring a General Plan amendment to OS).

A number of goals and policies contained in the City's Land Use Element are applicable to the proposed project. Below is a listing of the relevant goals and policies, and a discussion of the project's consistency with both.





*Goal 1: To preserve the character of the communities and the integrity of the Santa Clarita Valley by permitting orderly growth through the synchronization of development with the availability of public facilities such as roads, sewers, water service, and schools needed to support it.*

A variety of policies are in place to implement this goal relating to growth management. As described in Sections 4.9, *Public Services*, and 4.10, *Utilities*, adequate public facilities are available to serve the Gate-King Industrial Park development or can be made available through implementation of recommended mitigation measures.

*Goal 2: To achieve the development of a well-balanced, financially sound, and functional mix of residential, commercial, industrial, open space, recreation, institutional, and educational land uses.*

*Policy 2.5 Encourage the development of business park areas for future industrial/manufacturing land uses, with landscaping, employee recreation, pedestrian walkways, and other unified design standards.*

The project includes approximately 170 acres designated for use as an industrial/commercial business park that would accommodate up to about 4.45 million square feet of industrial/commercial development. The project design includes about 240 acres of public open space as well as extensive landscaped areas and an on-site trail system, as shown on Figure 2-6 in Section 2.0, *Project Description*. These features provide recreational and aesthetic amenities for both employees and the general public.

*Policy 2.12 Promote the retention of open space to preserve significant ridgelines, to provide land use buffers, and to provide for public safety and oak tree preservation.*

The proposed project would preserve about 41% of the 584-acre site as public open space. Three lots in the western portion of the site near Pine Street (lots 14,15 and 23) and four lots in the southern portion of the site near Sierra Highway (Lots 28-31) are designated as “oak grove” lots. These lots have a significant number of oak trees and the proposed building footprints for these lots have been reduced to minimize oak tree removal. Nevertheless, the proposed development would remove up to 1,100 oak trees (10% of the 10,680 oaks on-site). The project also involves grading of a City-designated Primary ridgeline and two Secondary ridgelines for the construction of an industrial collector road and industrial building pads. The Planning Commission would need to make findings that the project is consistent with the objectives and intent of the City’s Ridgeline Preservation and Hillside Development Ordinance to allow the grading of designated ridgelines and would need to approve an Oak Tree Permit allowing for the removal of oak trees and outlining a program for their replacement.

*Policy 2.14 Promote the development of commercial and industrial activities in all communities of the planning area.*

The project provides for the development of 4.45 million square feet of industrial/commercial activities in an area primarily designated for employee-generating uses.



*Goal 4: To ensure that the City is consistent with the overall community character and that it contributes in a positive way toward the City's image.*

*Policy 4.3 Encourage setbacks, landscaping, or other measures to provide physical and visual buffers between land uses to minimize potential land use conflicts between dissimilar uses.*

The project site is adjacent to land uses that are generally similar to the proposed project in terms of scale and use and does not appear to create any significant conflicts with nearby uses. The layout of the potential building pads incorporates substantial open space buffers between the proposed development and nearby uses along San Fernando Road, which serve to physically separate these uses. The north-south running Primary ridgeline extends along the central portion of the site and provides a visual buffer to uses to the south. The two secondary ridgelines extend east-west toward Sierra Highway and the MTA rail line, providing visual buffers to the east and west.

*Policy 4.13 Encourage the preservation of significant architectural, historical, and cultural structures and landmarks within the planning area whenever possible.*

As discussed in Section 4.12, *Cultural Resources*, a potentially significant historical landmark, the Pioneer Oil Refinery site, is found on this site. Several additional historic landmarks are located in the site vicinity. However, the project would not directly disturb any known resources identified as being of cultural significance.

*Policy 4.14 Regulate lighting in new and existing development so that it does not unduly contribute to nighttime visual pollution and glare, and is compatible with surrounding land uses (tailor standards for lighting so they are compatible with the setting).*

Development of the project site would add lighting along the streets; security and accent lighting around the commercial development. All lighting would be required to comply with City requirements. In addition, mitigation measures contained in Section 4.11, *Aesthetics*, are intended to ensure that spill-over of lighting would be prevented and that light pools would be directed downward to prevent glare on adjacent and surrounding areas.

*Goal 5: To provide protection of the environmental setting and habitat through the location of land uses and the use of sensitive design.*

*Policy 5.1 Allow only responsible and sensitive development of hillside areas and prohibit development of ridgelines designated as "Significant Ridgelines."*

Several significant ridgelines are located on the project site. The proposed development involves the grading of portions of a Primary and two Secondary ridgelines for the construction of an industrial collector road and building pads. The Planning Commission would need to make findings that the project is consistent with the objectives and intent of the City's Ridgeline Preservation and Hillside Development Ordinance (see further discussion under *Mitigation Measures*).



*Policy 5.2 Ensure that new development, grading, and landscaping are sensitive to the natural topography and major landforms.*

Grading proposed for the site generally follows the existing landforms on the site and blends into the site topography. Nevertheless, a Primary ridgeline and two Secondary ridgelines would be graded to accommodate the proposed development. The Planning Commission would need to make findings that the project complies with the objectives and intent of the Ridgeline Preservation and Hillside Development Ordinance and Guidelines (see further discussion under *Mitigation Measures*).

*Policy 5.6 Preserve and protect oak and mature specimen trees and other endangered indigenous plant and animal communities, from excessive and incompatible development.*

The proposed project would remove up to 1,100 on-site oak trees and would result in significant impacts to on-site biological resources, including sensitive plant and animal species. The proposed site plan generally avoids important biological resources such as oak groves to the degree feasible given the magnitude of the project and dedicates approximately 41% of the site as permanent public open space.

*Policy 5.8 Preserve and protect designated wildlife corridors from undue encroachment and disruption.*

The project site's location between the Santa Clara River and protected public open space to the south and east, combined with the varied topography of the site place it within a potential wildlife movement zone. The proposed wildlife corridor in the southern and western portions of the site would minimize the disturbance to wildlife movement to the degree feasible given the size of the project. However, as discussed in Section 4.6, *Biology*, development of the site has the potential to disrupt established wildlife movement corridors.

*Policy 5.11 Preserve and protect endangered fauna and flora species and their habitats.*

As discussed in Section 4.6, *Biology*, the proposed project would result in significant impacts to biological resources, including sensitive plants and animals. The proposed site plan avoids such resources to the degree feasible given the magnitude of the project and dedicates about 41% of the site as permanent public open space.

Goal 7: *To preserve the character of the communities and the integrity of the Santa Clarita Valley through orderly development practices and the provision of private and public capital improvements, facilities, and services to support existing and future development.*

*Policy 7.1 Ensure demand for public facilities and services does not exceed the ability to provide and maintain such facilities and services.*

The increased demand for additional public facilities and services that would be generated by the proposed project is addressed in Sections 4.9, *Public Services*, and 4.10, *Utilities*. With implementation of mitigation measures recommended in these sections, adequate public



services and utilities would be provided to serve the Gate-King Industrial Park development.

*Policy 7.5 Consider water availability when evaluating development proposals under the land use plan.*

Available water supply is evaluated in Section 4.10, *Utilities*. The Newhall County Water District states that it has water available to serve the proposed project.

***Consistency with the Unified Development Code.*** The Unified Development Codes' Zoning Map is consistent with the City's General Plan Land Use Map. Therefore, the proposed project would require zone changes to correspond with the proposed General Plan land use designation amendments. About 344 acres of the site would be zoned IC, while the remainder of the site (240 acres) would be zoned OS. Development intensity for the IC zone is to be governed by floor area ratios (FARs) ranging from 0.5-1.0:1. The proposed 4.45 million square foot development on 344 acres that would be zoned IC represents an FAR of about 0.3:1. This is less than the low end of the FAR range for the IC zone, reflecting the development constraints onsite associated with the area's severe topography. The project appears to be consistent with the IC zone.

The applicant is proposing a Planned Development (PD) overlay on Industrial lots 24, 25, 26, 27, 27A, 28, 34-41, and 50-52 (see Figure 2-5 in Section 2.0, *Project Description*). The PD overlay is intended to: (1) permit greater flexibility and, consequently, more imaginative designs than generally is possible under conventional zoning regulations; (2) promote more economical and efficient use of the land while providing a harmonious variety of choices, a higher level of amenities, and preserving natural and scenic qualities; and (3) ensure that development substantially conforms to plans and exhibits submitted by the applicant for a zone change. The PD overlay would also apply to the SCE easement and the roads within the vicinity of the PD overlay lots.

The PD overlay would allow modifications to the project's setback and other requirements if City decisionmakers find that the Planned Development is developed in a manner compatible with and complementary to existing and potential development in the immediate vicinity of the project site. The project would make about 38% of the site permanent open space and an additional 16% of the site would be landscaped areas and trails. City decisionmakers must decide whether the overall design of the proposed project meets the purpose and intent of the PD overlay zone.

***Consistency with the Ridgeline Preservation and Hillside Development Ordinance and Guidelines.*** The proposed development would involve grading on a portion of a designated Primary ridgeline that traverses the site in a north-south direction as well as two Secondary ridgelines that cross the site in an east-west direction (see Figure 4.11-1 in Section 4.11, *Aesthetics*). As discussed in Section 4.11, although the visual change from many vantage points would not be dramatic, the grading of significant ridgelines is considered an unavoidably significant aesthetic impact; therefore, a Statement of Overriding Considerations would need to be made for this aesthetic impact. For the grading of the Primary and Secondary ridgelines to be approved by the City, the Planning Commission would need to find that the proposed project has an innovative design and standards tailored to suit the site. To that end, the Commission would need to make the following specific findings:



- The proposed use is proper in relation to adjacent uses, the development of the community and the various goals and policies of the General Plan.
- The use or development will not be materially detrimental to the visual character of the neighborhood or community, nor will it endanger the public health, safety or general welfare.
- The appearance of the use or development will not be different than the appearance of adjoining ridgeline areas so as to cause depreciation of the ridgeline appearance in the vicinity.
- The establishment of the proposed use or development will not impede the normal and orderly development and improvement of surrounding property, nor encourage inappropriate encroachments to the ridgeline area.
- It has been demonstrated that the proposed use or development will not violate the visual integrity of the significant ridgeline area through precise illustration and depiction.

Mitigation Measures. Mitigation measures contained in Sections 4.6, *Biology*, 4.11, *Aesthetics*, 4.9, *Public Services*, 4.10, *Utilities*, and 4.12, *Cultural Resources*, would attain consistency with City General Plan goals and policies to the degree feasible. The following findings would need to be adopted for the proposed project.

#### **Consistency with the General Plan**

- SC 1-1 The Planning Commission shall adopt findings by resolution that the project is consistent with the goals and policies of the Land Use Element, Open Space and Conservation Element, and Economic Development/Community Revitalization Element of the Santa Clarita General Plan and that the proposed development is consistent with the intent of the Industrial Commercial (IC) zone.
- SC 1-2 The Planning Commission shall adopt a finding that the project is consistent with the overall goal of creating a balance between jobs and housing within the City.

#### **Consistency with the Unified Development Code**

- SC 1-3 In order to approve the project, the Planning Commission must recommend to the City Council approval of a Tentative Tract Map, General Plan amendment, Zone change (Planned Development Overlay), Oak Tree Permit, and Conditional Use Permit.
- SC 1-4 The Planning Commission must recommend the adoption of findings to the City Council, and the City Council must adopt the following findings for granting the General Plan amendment, Zone change, Tentative Tract Map, and Conditional Use Permit.



### Zone Change Findings

The Planning Commission shall recommend to the City Council one of the following findings in acting upon applications for a zone change:

- SC 1-5 That the proposed zone change is consistent with the objectives of the Development Code, the General Plan, and development policies of the City;  
or
- SC 1-6 That the proposed zone change or amendment is not consistent with the objectives of the Development Code, the General Plan, and development policies of the City and deny the application (action of the Planning Commission on a denial unless appealed), or continue the project to allow for changes to be made by the applicant to make the application consistent.

The Council shall make one of the following findings:

- SC 1-7 That the proposed zone change is consistent with the objectives of the Development Code, the General Plan, and development policies of the City, in which case the Council shall introduce an ordinance amending the Zoning Map and/or Development Code; or
- SC 1-8 That the proposed zone change or amendment is not consistent with the objectives of the Development Code, the General Plan, and development policies of the City, in which case the Council may deny the application, continue it and request that changes be made by the applicant to make the proposal consistent, or reject the proposal. If the changes are substantial in nature, the Council shall forward the application back to the Planning Commission for its recommendation on the amended proposal, unless such amendment had already been considered by the Commission.

### Conditional Use Permit Findings

- SC 1-9 That the location, size, design, and operating characteristics of the proposed use are in accordance with the purpose of the development policies and standards of the City; and
- SC 1-10 That the location, size, design, and operating characteristics of the proposed use will be compatible with and will not adversely affect or be naturally detrimental to adjacent uses, residents, buildings, structures, or natural resources, with consideration given to:
- a. Harmony in scale, bulk, coverage, and density;
  - b. The availability of public facilities, services, and utilities;
  - c. The harmful effect, if any, upon desirable neighborhood character;
  - d. The generation of traffic and the capacity and physical character of surrounding streets;



- e. The suitability of the site for the type and intensity of use or development which is proposed;
- f. The harmful effect, if any, upon environmental quality and natural resources; and
- g. Any other relevant impact of the proposed use.

SC 1-11 That the proposed location, size, design, and operating characteristics of the proposed use and the conditions under which it would be operated or maintained will not be detrimental to the public health, safety, or welfare, or materially injurious to properties or improvements in the vicinity.

SC 1-12 That the proposed use will comply with each of the applicable provisions of the Code.

#### Tentative Subdivision Map Findings

SC 1-13 The proposed subdivision, together with the provisions for its design and improvement, is consistent with the Santa Clarita General Plan and the Development Code;

SC 1-14 The site is physically suitable for the type of development proposed;

SC 1-15 The site is physically suitable for the proposed intensity of development;

SC 1-16 The design of the subdivision is not likely to cause substantial environmental damage or substantially injure fish or wildlife or their habitat;

SC 1-17 The design of the subdivision or type of improvements are not likely to cause serious health problems; and

SC 1-18 The design of the subdivision or type of improvements will not conflict with easements, acquired by the public at large, for access through or use of property within the proposed subdivision.

#### **Consistency with the Ridgeline Preservation and Hillside Development Ordinance and Guidelines**

The proposed project affects a portion of a Primary ridgeline, two Secondary ridgelines, and hillside slopes that have an average cross slope greater than 10%. Therefore, the Planning Commission shall recommend to the City Council either all of the findings in SC 1-19 or the finding in SC 1-20 in acting upon applications for a zone change:

SC 1-19 That the proposed project is consistent with the objectives of the Ridgeline Preservation and Hillside Development Ordinance and Guidelines because:

- The proposed use is proper in relation to adjacent uses, the development of the community and the various goals and policies of the General Plan.



- The use or development will not be materially detrimental to the visual character of the neighborhood or community, nor will it endanger the public health, safety or general welfare.
- The appearance of the use or development will not be different than the appearance of adjoining ridgeline areas so as to cause depreciation of the ridgeline appearance in the vicinity.
- The establishment of the proposed use or development will not impede the normal and orderly development and improvement of surrounding property, nor encourage inappropriate encroachments to the ridgeline area.
- It has been demonstrated that the proposed use or development will not violate the visual integrity of the significant ridgeline area through precise illustration and depiction.

SC 1-20 That the proposed project is not consistent with the objectives of the Ridgeline Preservation and Hillside Development Ordinance and Guidelines because it does not meet one or more of the criteria listed under SC 1-5 and deny the application (action of the Planning Commission on a denial unless appealed), or continue the project to allow for changes to be made by the applicant to make the application consistent.

The Council shall make one of the following findings:

- SC 1-21 That the proposed project is consistent with the objectives of the Ridgeline Preservation and Hillside Development Ordinance and Guidelines; or
- SC 1-22 That the proposed project is not consistent with the objectives of the Ridgeline Preservation and Hillside Development Ordinance and Guidelines, in which case the Council may deny the application, continue it and request that changes be made by the applicant to make the proposal consistent, or reject the proposal. If the changes are substantial in nature, the Council shall forward the application back to the Planning Commission for its recommendation on the amended proposal, unless such amendment had already been considered by the Commission.

#### **Conditional Use Permit and Planned Development Overlay Findings**

SC 1-23 Findings required for granting a Conditional Use Permit and Planned Development Overlay Zoning must state that the location, size, design and operating characteristics of the proposed use will be compatible with, and will not adversely affect, or be materially detrimental to adjacent uses, residents, buildings, structures, or natural resources. The analysis contained in this section concludes that the proposed use can be considered compatible with surrounding land uses, subject to implementation of mitigation measures recommended in this document.





Significance After Mitigation. The Planning Commission would need to make a finding that the project complies with the Ridgeline Preservation and Hillside Development Ordinance and Guidelines if it were to approve the project. With implementation of mitigation measures recommended throughout this EIR, the project could be found to be consistent with other City policies or ordinances.

**Impact LU-4 The proposed project appears to fully or partially implement most relevant policies of the Regional Comprehensive Plan and Guide.**

The following discussion evaluates the project's consistency with Regional Comprehensive Plan and Guide policies that SCAG has indicated that it believes are relevant to the proposed project.

Regional Mobility

- 4.01 *Transportation investments shall be based on SCAG's adopted Regional Performance Indicators: Mobility, Accessibility, Environment, Reliability, Safety, Livable Communities, and Equity.*
- 4.02 *Transportation investments shall mitigate environmental impacts to an acceptable level.*
- 4.04 *Transportation Control Measures shall be a priority.*
- 4.16 *Maintaining and operating the existing transportation system will be a priority over expanding capacity.*

The proposed project includes a trail system through the landscaped slope areas and the open space area. These pathways would provide pedestrian links for the industrial component of the project and a recreational trail system in the open space area to provide on-site recreational opportunities (i.e., biking, walking). The system would include connections at San Fernando Road and Sierra Highway through the industrial lots and the open space area and would include a trail at the north end of the site that passes by the historic Pioneer Oil refinery.

The project site is located in proximity to several existing Santa Clarita Transit bus routes and additional routes through the site are expected to be added if the project is approved. The Metrolink Train station is located within one mile of the project site and provides commuter rail service between Santa Clarita, the Antelope Valley, and downtown Los Angeles, and connections to other areas. Because the project site is located in the vicinity of two regional transit carriers and also incorporates multi-use trails, and pedestrian-friendly environments, it appears to be generally consistent with SCAG objectives under Policy 4.01.

As discussed in Section 4.5, *Transportation and Circulation*, the project's traffic impacts can be mitigated to a less than significant level under City thresholds. Thus, the project appears to be consistent with Policy 4.02. The proposed development is not a transportation project, nor does it involve development of transportation system priorities for the City. Therefore, Policies 4.04 and 4.16 do not appear to apply, although it should be noted that SCAG's transportation system emphases are consistent with those of the City.

Improvement of the Regional Quality of Life/Standard of Living

- 3.12 *Encourage existing or proposed local jurisdictions' programs aimed at designing land*



*uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bike.*

- 3.14 *Support local plans to increase density of future development located at strategic points along the regional commuter rail, transit systems, and activity centers.*
- 3.15 *Support local jurisdiction's strategies to establish mixed-use clusters and other transit-oriented developments around transit stations and along transit corridors.*
- 3.16 *Encourage developments in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling and redevelopment.*
- 3.18 *Encourage planned development in locations least likely to cause environmental impact.*
- 3.20 *Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.*
- 3.21 *Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites.*
- 3.22 *Discourage development or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.*
- 3.23 *Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.*

Several of the above policies (3.12, 3.14, 3.15, and 3.16) are aimed at reducing urban sprawl while concentrating development along or near transit centers, and at reducing environmental impacts. The project site includes developed and undeveloped property, and would require the extension of infrastructure including roadways, water lines, gas lines, electrical lines, and sewer lines. Infill sites which are accessible to transit could not accommodate the size and open space attributes of the proposed project; thus, utilizing infill sites or redevelopable areas within existing urbanized areas would not be feasible for the proposed project. In any event, the site is within the City of Santa Clarita and is planned for development under the City's General Plan. In addition, as noted above, bus transit is easily accessible from the project site and it is anticipated that bus service would be extended through the site if the project is approved. The site is also located in close proximity to the heavily traveled Antelope Valley Freeway (SR 14) and is within one mile of a regional commuter rail station (the Metrolink). Therefore, the proposed project could be found to be consistent with Policies 3.12, 3.14, 3.15, and 3.16.

Policies 3.18, 3.20, 3.21, 3.22, and 3.22 are aimed at protecting the environment and protecting the people from environmental hazards. Although the project site is in an area susceptible to seismic and wildfire hazards, measures recommended in Sections 4.2, *Geology*, and 4.9, *Public Services*, would mitigate impacts to a less than significant level. Proposed development would not adversely affect any known cultural resources. The project would preserve the majority of oak trees on-site and would dedicate about 240 acres as permanent public open space, but would result in the removal of up to 1,100 on-site oaks as well as the loss of other sensitive biological habitats (see Section 4.6, *Biological Resources*). The project could be found to be consistent with Policies 3.21, 3.22, and 3.23. It appears to partially implement Policies 3.18 and 3.20.



### Provision of Social, Political, and Cultural Equity

- 3.27 *Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.*

The proposed project is intended to provide recreational, and commercial opportunities within the City of Santa Clarita for all members of the public. The 170.1 acres of industrial/commercial development are in close proximity to the freeway are intended for use by freeway travelers as well as the general public. The proposed landscaped slopes, trails and open space areas would be available for use by area residents and the general public. The project does not appear to conflict with this policy.

### Air Quality Chapter

- 5.07 *Determine specific programs and associated actions needed (e.g., indirect source rules, enhanced use of telecommunications, provision of community based shuttle services, provision of demand management based programs, or vehicle-miles-traveled/emission fees) so that options to command and control regulations can be assessed.*
- 5.11 *Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional and local) consider air quality, land use, transportation and economic relationships to ensure consistency and minimize conflicts.*

The proposed development project is not an air quality program; therefore Policy 5.07 does not appear to apply. Nevertheless, it should again be recognized that the project is on a major transportation corridor that includes a major freeway (SR 14), several bus routes, and is within one mile of a Metrolink rail station. This environmental document examines land use, transportation issues in this section and in Sections 4.4 and 4.5. Therefore, it appears to comply with Policy 5.11.

### Water Quality Chapter

- 11.02 *Encourage "watershed management" programs and strategies, recognizing the primary role of local government in such efforts.*
- 11.03 *Coordinate watershed management planning at the subregional level by (1) providing consistent regional data; (2) serving as a liaison between affected local, state, and federal watershed management agencies; and (3) ensuring that watershed planning is consistent with other planning objectives (e.g., transportation, air quality, water supply).*
- 11.05 *Support regional efforts to identify and cooperatively plan for wetlands to facilitate both sustaining the amount and quality of wetlands in the region and expediting the process for obtaining wetlands permits.*
- 11.06 *Clean up the contamination in the region's major groundwater aquifers since its water supply is critical to the long-term economic and environmental health of the region. The financing of such clean-ups should leverage state and federal resources and minimize significant impacts on the local economy.*
- 11.07 *Encourage water reclamation through the region where it is cost-effective, feasible, and*



*appropriate to reduce reliance on imported water and wastewater discharges. Current administrative impediments to increased use of wastewater should be addressed.*

- 11.08 *Ensure wastewater treatment agency facility planning and facility development be consistent with population projections contained in the RCPG, while taking into account the need to build wastewater treatment facilities in cost-effective increments of capacity, the need to build well enough in advance to reliably meet unanticipated service and storm water demands, and the need to provide standby capacity for public safety and environmental protection objectives.*

The proposed development project is not a citywide or regional plan for watershed management, wetland restoration, water cleanup or reclamation, or wastewater treatment. Therefore, the above policies do not appear to apply. However, the issues addressed in these policies are discussed throughout the EIR, as described below.

- Section 4.3 discusses hydrological and water quality issues on the site and the applicant's proposed approach to addressing such issues. With implementation of City storm runoff requirements and Best Management Practices as required by the National Pollution Discharge Elimination System, significant impacts to hydrology and water quality are not anticipated.
- Section 4.6 discusses impacts to wetlands and provides mitigation for the replacement and/or restoration of wetlands that would be affected by the project.
- Section 4.9 discusses impacts to water supply and wastewater treatment capacity. The project is within the service capabilities of water and wastewater services providers. It should also be noted that local service providers are actively seeking ways to use reclaimed water and otherwise minimize demands on water supplies and wastewater treatment facilities.

Mitigation Measures. Mitigation measures included in Sections 4.2, *Geology*, 4.3, *Hydrology and Water Quality*, 4.4, *Air Quality*, and 4.6, *Biological Resources*, would achieve compliance with SCAG policies to the degree feasible.

Significance After Mitigation. With the recommended measures, the project appears to fully or partially implement most relevant SCAG policies.

**c. Cumulative Impacts.** The proposed project, in combination with other development in and around the City will continue to alter land use patterns, changing the community's character from rural to more suburban. The project would transform the character of the project site by adding approximately 4.45 million square feet of industrial/commercial space in a developed and undeveloped hillside area as contemplated by the General Plan, which also anticipates buildout of the City that could add up to about 124,000 residences and 59 million square feet of non-residential development (including the proposed project). This will greatly alter land use patterns in many areas of the City and use conflicts (increased noise, traffic, environmental hazards) will arise as the City builds out. However, such conflicts can generally be mitigated through careful site design and planning. Although the change in land use character associated with citywide buildout will be substantial, it is presumed that compatibility conflicts can be mitigated on a case-by-case basis, thus avoiding significant cumulative land use impacts.



## 4.2 GEOLOGY

This section describes the geologic and geotechnical conditions at the site, identifies potential geologic impacts caused by the proposed project, and provides mitigation measures to lessen or avoid impacts. The discussion is based upon a preliminary geotechnical review prepared by Allan E. Seward Engineering Geology, Inc. (AESEGI). That report, dated November 28, 2001, is included in its entirety in Appendix B. The Seward report involved a peer review of several geotechnical analyses prepared for the project applicant by R.T. Frankian and Associates (RTF&A).

### 4.2.1 Setting

**a. Site Topography.** The general topography of the site consists of moderate to steeply inclined ridges and narrow canyons oriented roughly east-west to west by southwest to north by northeast.”

The eastern portion of the site adjacent to the cemetery was previously graded, as were the developed northwest portions. Grading adjacent to the cemetery included cutting down of ridges and construction of artificial fill slopes located approximately 400 and 600 feet to the north and northwest of an existing water tank site. Fill was also placed in the canyon to the south of the cemetery between Sierra Highway and the ridges to the west resulting in a large level area. A 30- to 40-foot-deep stream channel separates most of the level area from Sierra Highway. The grading in the northwestern portion of site includes graded lots containing industrial related business and ranch homes (all from RTF&A, 2001).

Details of the site topography shown are on the Location Map and the Geologic Summary Map (Figure 4.2-1). Ground elevations range from a low point of approximately 1,330 feet above sea level near San Fernando Road to a high point of approximately 1,900 feet on the southwestern portion of the property.

**b. Regional Geology.** The project site is located at the southeastern end of the Ventura basin within the Transverse Ranges geomorphic province of California. The Ventura basin consists of a narrow, elongate sedimentary trough extending from Santa Barbara Channel on the west to the San Gabriel fault on the east. The axis of the trough trends east-west, reflecting the overall east-west trend of the Transverse Ranges, and generally coincides with the Santa Clara River Valley. The Ventura basin has been an area of subsidence and sediment accumulation since the beginning of the Tertiary period, with the present trough-like form developing near the beginning of the Miocene epoch (Winterer and Durham, 1962).

The structure of the basin is defined as a highly folded ‘synclinerium’ formed by north-south compressional forces (Kew, 1942), and containing a maximum 50,000± feet of marine and nonmarine Tertiary through Quaternary age sedimentary rocks (Bailey and Jahns, 1954). Within the Santa Clarita Valley the primary sedimentary rock formations are the Pico and Saugus Formations. The Pico Formation outcrops along the northern flanks of the Santa Susana Mountains and in the Hasley Canyon-Val Verde area. The Saugus Formation overlies the Pico Formation and comprises most of the hills of the valley between Newhall and Castaic. Other geologic materials exposed within the valley include Pleistocene fanglomerate deposits of the



Pacoima Formation (Oakeshott, 1958), exposed in the southern portion of the valley, sporadic remnant terrace deposits of Pleistocene age, and Holocene alluvium mantling the valley floor.”

The Pico and Saugus Formations have been deformed into a series of closely spaced anticlines and synclines whose moderately to steeply dipping flanks are cut off diagonally by the San Gabriel Fault (Bailey and Jahns, 1954). The San Gabriel fault, the dominant geologic feature in the Santa Clarita Valley, forms the eastern Ventura basin boundary, and separates the Ventura basin from the structurally similar Soledad basin.”

**c. Site Geology.** The project site is situated at the south end of the Santa Clarita Valley, just north of Newhall Pass, at the easterly end of the Santa Susana Mountains. The site lies between the east-west trending Santa Susana fault on the south, and the northwest trending San Gabriel fault on the northeast. The site is bounded on the north by the Legion fault. The Beacon fault transects the southerly half of the site, and Weldon fault crosses the southerly edge of the site. The Whitney Canyon fault is located offsite to the east. The Whitney Canyon fault trends north-south. The Legion, Beacon, and Weldon faults trend northwest and subparallel to the San Gabriel fault, which is the major geologic structural feature within the Santa Clarita Valley.

Two primary formations underlie the site. The Saugus Formation, which lies primarily north of the Beacon fault, and the Pico Formation to the south of the fault.

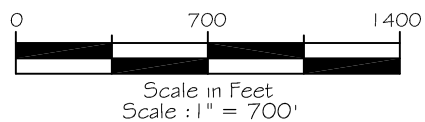
The major geologic structural feature within Tract 50283 is the Beacon fault, which transects the southern half of the site. The Beacon fault separates the Pico Formation to the south from the Saugus Formation to the north. Other structural features include the Legion and Weldon faults, bounding the site on the north and south, respectively; an east-west trending, gently folded anticline, south of the Beacon fault; and an east-west trending gentle syncline north of the fault. Bedding within both the Saugus and Pico Formations dips gently to the northwest or southwest in relation to the location and proximity of the Beacon fault and the two fold axes. Bedding observed in both formations generally strikes N74E to N44W, and dips 5 to 30 degrees to the west.

The locations of these geologic features are shown on Figure 4.2-1.

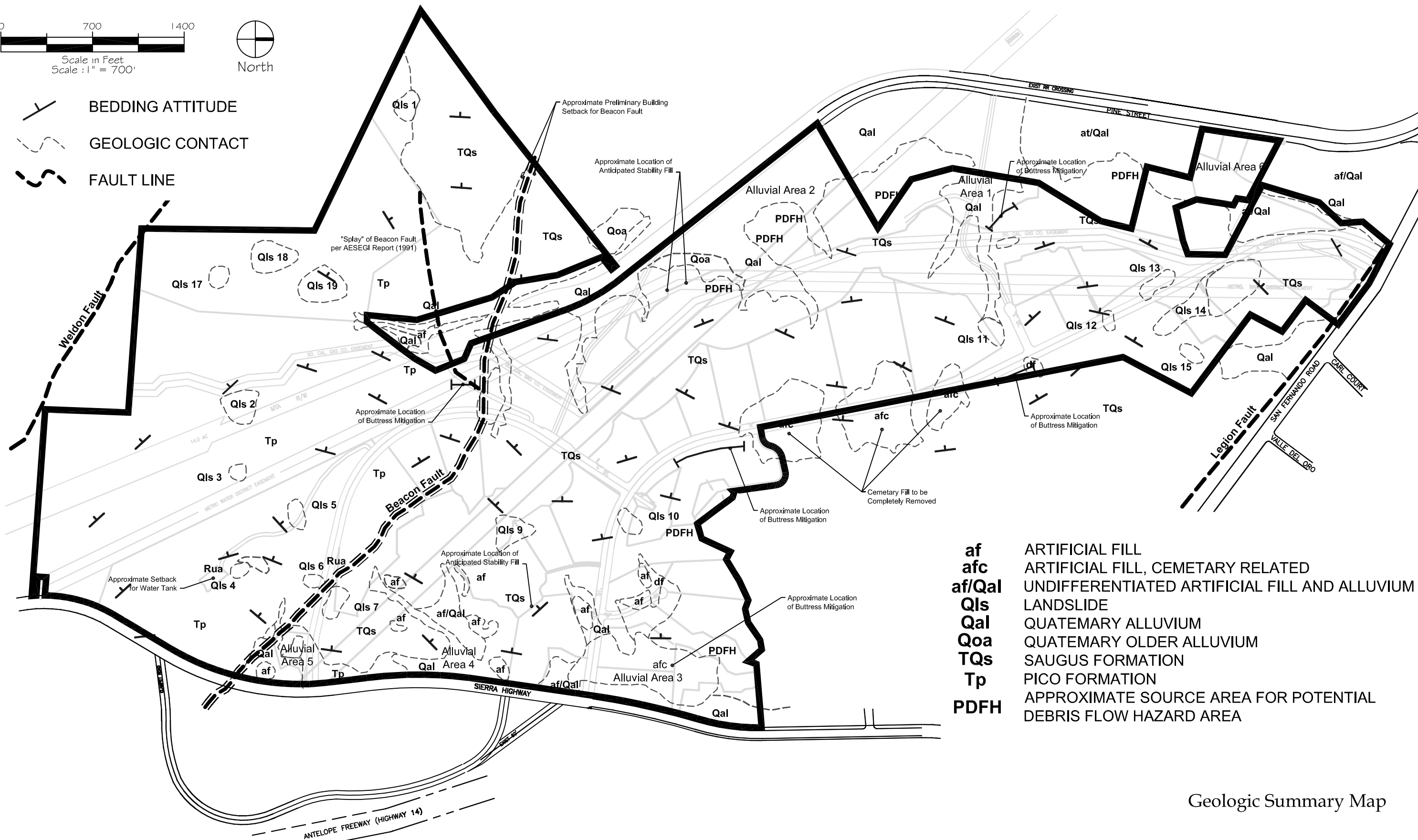
#### Bedrock.

##### *Pico Formation (Tp)*

The Pico Formation, named by Kew (1924) for rock exposures in Pico Canyon, consists of middle to late Pliocene age (Oakeshott, 1958) marine sedimentary rocks. The formation is composed chiefly of light olive-gray and medium bluish gray massive soft siltstone and fine-grained silty sandstone, containing reddish brown limonite concretions, and light colored sandstone and conglomerate (Winterer and Durham, 1962). Adjacent to the Santa Clara River, near the Los Angeles-Ventura County line, the siltstone is the dominant formational unit. Farther east, in the Newhall-San Fernando Pass, the Pico Formation is largely sandstone and conglomerate (Winterer and Durham, 1962).



- BEDDING ATTITUDE
- GEOLOGIC CONTACT
- FAULT LINE



- af** ARTIFICIAL FILL
- afc** ARTIFICIAL FILL, CEMETARY RELATED
- af/Qal** UNDIFFERENTIATED ARTIFICIAL FILL AND ALLUVIUM
- Qls** LANDSLIDE
- Qal** QUATEMARY ALLUVIUM
- Qoa** QUATEMARY OLDER ALLUVIUM
- TQs** SAUGUS FORMATION
- Tp** PICO FORMATION
- PDFH** APPROXIMATE SOURCE AREA FOR POTENTIAL DEBRIS FLOW HAZARD AREA

Geologic Summary Map

The Pico Formation interfingers with, and overlies, marine units of the Mio-Pliocene Towsley Formation, and grades upward and laterally into the Plio-Pleistocene Saugus Formation. The Pico Formation attains a maximum estimated thickness of approximately 5,000 feet (Winterer and Durham, 1962).

Within the site, the Pico Formation is composed primarily fine to medium grained sandstones, coarse grained pebbly sandstones, siltstones, and some silty claystone interbeds. Fine-grained sandstone is the dominant Lithology of the formation and is typically very thinly or thinly bedded, soft, and moderately weathered with alternating bands of iron oxide staining. Siltstone and silty claystone beds are moderately to well indurated and massive. Sandstone beds are typically dark yellowish orange to yellowish gray; siltstone beds are typically yellowish gray to olive brown.

#### *Saugus Formation (TQs)*

The Saugus Formation consists of interfingering shallow-water marine, brackish water, and nonmarine sedimentary units (Winterer and Durham, 1962). The Saugus Formation was first described by Hershey (as referenced by Kew, 1924) as 'the Saugus division of the upper Pliocene series' of the Santa Clarita Valley consisting of 'a great series of unlithified sand, gravel, and clay.' Kew (1924) redefined the Saugus as a formation of late Pliocene and early Pleistocene age lying 'unconformably on the Pico' Formation, and 'unconformably overlain by Pleistocene terrace deposits.' Saugus Formation units include light-colored poorly sorted, loosely consolidated sandstone, pebbly sandstone, conglomeratic sandstone, and conglomerate with alternating beds of greenish gray siltstone, sandy siltstone/silty sandstone, and reddish brown sandy siltstone, claystone, and mudstone (Oakeshott, 1958; Winterer and Durham, 1962).

Within the site the Saugus Formation is composed of fine to coarse grained sandstone and conglomeratic/pebbly sandstone, with some siltstone interbeds. Medium to coarse sandstone and conglomeratic sandstone are the dominant lithologies of the formation and are typically soft, dry, and thickly bedded to massive. Some of the finer grained sandstone beds are very thinly bedded, moderately weathered, and have some iron oxide staining. Siltstone beds within the formation are typically 2 feet thick or less, moderately to well indurated, and thickly bedded to massive. Sandstone beds are dark yellowish orange to grayish orange while siltstones are yellowish gray.

Surficial Deposits. Overlying the bedrock units are younger surficial deposits of Older Alluvium, Alluvium, Colluvium, Residual Soil and Man-made Deposits of Artificial Fill and Refuse. The distribution of these units have been shown on the attached Geologic Summary Map with the exception of the colluvium and residual soil deposits which are widespread relatively thin, making them unpractical to show.

#### *Older Alluvium (Qoa)*

Older alluvium is present in the central western portion of the site along the Southern Pacific Railroad right-of-way. These deposits consist of slightly uplifted and dissected fine to coarse grained sand and gravel with some cobbles.





### *Alluvium (Qal)*

Alluvium is present in the canyon bottoms of the site. These deposits consist of fine to coarse grained sand, some silt, some gravel, and some small boulders.

R.T. Frankian & Associates has identified five alluvial areas in their June 15, 2001 Report and a sixth in their October 22, 2001 report, referred to as the Arklin Property, which, underlies Lots 1 and 5 thru 9 (see geologic map).

The six alluvial areas are shown on Figure 4.2-1.

### *Colluvium*

Colluvium consists of accumulations of soil and weathered bedrock that have been deposited by gravity down slope and generally accumulate in the swales and lower slope flanks. Colluvium is also commonly referred to as slopewash. Based on review of R.T. Frankian & Associates trench and boring logs, colluvium on the site consists of silty sand with gravel and local cobbles and ranges from 2 feet thick to a maximum thickness of 10 feet. Based on our past experience in similar areas, local pockets of colluvium in the larger swale areas may be as deep as 15 feet.

### *Residual Soil*

Residual soil mantles the Saugus and Pico Formations on site. Our test pits indicate that the thickness of the residual soil generally varies from 6 inches to 1 foot on natural slopes. The deposits consist of dry, loose, moderate brown sand to silty sand with some void spaces and roots.

### *Man Made Deposits (af, afc, df, rp)*

Man-made deposits include artificial fill (af); fill associated with the cemetery (afc); dump fill (df) consisting of uncompacted fill associated with existing roads, utilities, and oil well pads; and refuse stockpile (rp) associated with green waste recycling.

These deposits vary from a few feet to approximately 60 feet in thickness.

### Mass Movement Deposits.

#### *Landslides*

RTF&A have identified and mapped 15 landslides on the project site. The landslides vary from approximately 15,000 square feet to 61,000 square feet in area and range to a maximum depth of approximately 31 feet based on boring data. The locations of these landslides are shown on the Geologic Summary Map.



Review of the site topography and aerial photographs indicates that four additional landslides may be present in the open space lots on the southern portion of the site. These landslides are shown as queried on the Figure 4.2-1.

#### *Surficial Failures*

Per RTF&A's report dated October 22, 2001, some surficial failures are present on the site but are typically less than 20 feet across and 5 feet thick, and cannot realistically be delineated on 1 inch equals 200 feet Geologic Map. In general, the surficial failures are located near the upper reaches of the steeper canyons or canyon walls, and are composed of a combination of residual soil and weathered bedrock.

Based on our experience of similar sites in this area, surficial failures can be as thick as 10 to 15 feet and can consist of accumulations of past multiple failures.

Faults. The numerous faults in southern California include active, potentially active, and inactive faults. Based on data developed by the California Division of Mines and Geology (CDMG) (Hart, 1999) for the Alquist-Priolo Earthquake Fault Zone Program, a fault can be considered active if it has demonstrated movement within the Holocene epoch, or approximately the last 11,000 years. Faults that have demonstrated Quaternary movement (last 1.6 million years), but lacking strong evidence of Holocene movement, are classified as potentially active. Faults that have not moved since the beginning of the Quaternary period are deemed inactive.

No portion of the site lies within an Alquist-Priolo Earthquake Fault Zone, as established by CDMG. The closest such zone is located approximately 1,500 feet southeast of the tract. This zone was established for an unnamed bedrock fault, of limited lateral extent, mapped by CDMG (Barrows et al., 1974) following the San Fernando earthquake. This same fault reactivated during the 1994 Northridge earthquake (Hart et al, 1995), with 2.5 centimeters of vertical slip.

The closest active faults to the site are the Santa Susana and San Gabriel faults located approximately 1.5 miles south-southeast and 2.2 miles northeast of the site, respectively.

The Beacon fault transects the southern portion of the site as shown on Figure 4.2-1. The fault is a reverse fault that juxtaposes the stratigraphically older Pico Formation against the younger Saugus Formation. The fault location is marked by the separation between these formations and steeply dipping beds in adjacent outcrops. The Legion fault, which just clips the northern edge of Tract 50283, as shown on the Geotechnical Map, essentially parallels San Fernando Road for most of its extent. The Weldon fault crosses through the southwestern corner of the site.

Other minor inactive faults, mostly adjacent to the Beacon fault, were mapped during our field exploration. These faults are not considered potentially damaging to the site.

The approximate locations of the Legion, Beacon and Weldon faults are illustrated on Figure 4.2-1, as delineated by R.T. Frankian & Associates. During previous site investigations by AES,



Inc., a laterally traceable splay fault was mapped south of the Beacon fault as illustrated in our 6/19/91 geologic report (see attached Geologic Summary Map for location). This fault was delineated based on truncated markers beds and faults measured along the railroad alignment.

Three through-going, northwesterly trending faults have been mapped within the project site boundaries. The three faults are, from north to south, the Legion, Beacon and Weldon faults. The faults disrupt units of the Saugus Formation, which ranges from Pliocene to Pleistocene age. Although the exact age of the Saugus Formation onsite is unknown, it may be assumed that some Pleistocene age Saugus Formation units exist. By CDMG's definition, a fault cutting Pleistocene age units would be considered potentially active. However, exceptions are made for Pleistocene faults in which the faults "were presumed to be inactive based on direct geologic evidence of inactivity during all of Holocene time or longer" (Hart, 1999).

No direct field evidence of Holocene age rupture on the Legion, Beacon, or Weldon faults was observed during the geologic mapping of the site. No surface rupture or sympathetic movement, associated with the 1971 San Fernando earthquake (Barrows, et al, 1974) or the 1994 Northridge earthquake (Hart, et al., 1995; Stewart et al., 1996), has been identified on the three faults. Furthermore, based on a review of published geologic data, the Legion, Beacon, and Weldon faults are: (1) designated as inactive on CDMG Geologic Data Map No. 6 (Jennings, 1994); (2) are not classified as faults demonstrating Holocene or late Quaternary movement by Ziony and Yerkes (1985); and (3) do not fall under the category of "potentially active" (11,000 to 750,000 years before present) or "conditionally active" (greater than 750,000 years before present or activity uncertain) faults as defined in the Santa Clarita Safety Element.

Groundwater. Borings B-1 through B-10 were drilled within higher level terrain at the site. Except for minor groundwater seepage noted in Boring 2 at depths of 51 and 66 feet, water was not encountered in these borings." It should be noted that boring B-2 is located near an existing water tank site.

Borings B-11 through B-14 were drilled within the relatively level area at the western end of the cemetery to better establish fill depths. Water was not encountered in Borings B-11, B-13, or B-14. The fill in Boring B-12 was wet below a depth of approximately 15 feet with seepage of mud into the boring below a depth of 20 feet. Boring B-12 was drilled between the top of a fill slope and a filled area with ponded water; the water in the boring was certainly from this ponded water. The proposed grading will result in the removal of the fill and the area of ponded water.

Borings WB-1 through WB-4, together with the CPTs, were drilled in lower lying alluvial areas for use in evaluation of liquefaction. Water levels in the borings and CPTs ranged from 13 to 52 feet below the existing grade. There are five alluvial areas within the tract. The first area consists of Lots 14 and 15 off of Pine Street, where water was encountered at depth of 21 feet. The second area consists of Lot 23, also off of Pine Street, where water was measured at depths of 13 to 38 feet. The third area consist of Lots 30, 31, and 36, through 41 located along Sierra Highway immediately south of Eternal Valley Memorial park, where water was measured at depths of 24 to 52 feet. Lot 28 off of Sierra Highway north of the SCE easement is the fourth area where water was measured at depths of 21 to 45 feet. Lot 27A off of Sierra Highway south of the SCE easement is the fifth area and the depth to water there was measured at 37 feet.



RTF &A drilled an additional wash boring, WB-5, in alluvial area six (Arklin Property) and encountered groundwater at 24.5 feet.

**d. Regulatory Setting.** A range of regulatory requirements apply to the development of structures and roads. Among the most important in Santa Clarita are the City Grading Ordinance and the City's Ridgeline Preservation and Hillside Development Ordinance and Guidelines.

City Grading Ordinance. Chapter 17.20 of Santa Clarita's Unified Development Code provides minimum standards for grading in the City. The chapter includes standards for import and export of earth, excavation, fill, drainage and erosion control. The City Soil Engineer/Geologist is required to confirm that proposed developments comply with the ordinance standards.

Ridgeline Preservation and Hillside Development Ordinance and Guidelines. The City adopted the Ridgeline Preservation and Hillside Development Ordinance, Section 17.80 of the Santa Clarita Unified Development Code, in 1992 to provide development standards for areas with average slopes of 10% or more. The ordinance includes detailed standards for ridgeline preservation, slope gradation, slope landscaping, contour grading, road design, massing and landforms. The ordinance includes the Ridgeline Preservation Map (1992), which identifies Primary and Secondary ridgelines that the City considers significant in terms of visual quality.

Uniform Building Code. Development of the site would be required to conform to the Uniform Building Code (UBC). The UBC regulates building design to protect health and safety with the latest standards in construction methods. The philosophy of the UBC is to prevent structural collapse, thereby mitigating human safety issues. The City of Santa Clarita building inspector would be responsible for assuring Code compliance.

## 4.2.2 Impact Analysis

**a. Methodology and Significance Thresholds.** The proposed project was evaluated with respect to the proximity of proposed buildings and infrastructure to geologic and seismic hazards identified in both the City's Safety Element and the geotechnical peer review for the site prepared by Allan E. Seward Engineering Geology, Inc. That report is dated November 28, 2001. The report methodology is described on page 4.2-1, while the entire text of the geotechnical investigation is included in Appendix B. The investigation included the following:

- Review of in-house data and reports on this site compiled by this office listed under References.
- Review of the listed Published References.
- Review of the referenced reports on this site compiled by R.T. Frankian and Associates (R.T.F&A). Their reports dated June 15, 2001 and October 22, 2001 provide a comprehensive review of the revised Tentative Map by Sikand Engineering dated 5-24-01.
- Review of the Munger Map Book, California - Alaska, Oil and Gas Fields, 1999.
- Review of aerial photographs:



- Review of the topographic base map and the Vesting Tentative Tract Map (05/24/01) by Sikand Engineering Associates, Inc. at a scale of 1 inch = 200 feet. We make no representations regarding the accuracy of these maps. The Tentative Tract Map is used as the base map for our Geologic Summary Map (Plate I).
- Evaluation of significant faults near the subject site.
- Preparation of the Location Map, Geologic Summary Map and this report.

The following conditions would constitute a geologic hazard with the potential to significantly affect the proposed project unless appropriate design and construction practices are followed:

- Active or potentially active faults
- Seismic ground shaking that could activate landslides, debris flows, or other large-scale mass wasting events
- Improperly engineered cut or fill slopes
- Undercutting bedrock in a manner that destabilizes the slope
- Improper fill subject to compaction
- Soils with the potential for liquefaction
- Construction on adverse soil conditions such as high sulfate soils or bedrock
- Construction on perched ground water

**b. Project Impacts and Mitigation Measures.**

**Impact GEO-1**    **The project site’s potential to experience ground rupture is considered low. Nevertheless, impacts relating to ground rupture are considered Class II, significant but mitigable, due to the presence of the Beacon Fault onsite.**

The potential for fault surface rupture occurring within the site on the Legion, Beacon, or Weldon faults is judged to be low. However, given the tectonic framework of the region (i.e., the proximity of the nearby active Santa Susana and San Gabriel faults, and age of the three faults within the site) it seems prudent to avoid building directly over the Beacon fault, which transects the project site.

The Legion and Weldon faults lie outside of any currently proposed development. Consequently, no building setbacks are recommended for either.

Based upon the above evaluations, a preliminary (approximately 100 feet wide) building setback has been proposed for the Beacon Fault. The approximate location of this setback is shown on Figure 4.2-1. The splay fault mapped south of the Beacon Fault in Allan E. Seward’s June 19, 1991 report is west of the proposed development, but it projects toward Lot 25, where it may intersect with the Beacon Fault.

Several minor inactive faults were observed in the borings and test pits. These inactive faults do not pose a hazard of surface fault-rupture at the site.



Mitigation Measures. The following measure is recommended to address potential concerns about the Beacon Fault.

**GEO-1** The significance of the Beacon Fault and splay fault mapped south of the Beacon Fault shall be verified at the Grading Plan stage. During site grading, the final at-grade fault location shall be determined, and, as required by the City Engineer, the location and width of the setback shall be adjusted accordingly.

Significance After Mitigation. With the recommended mitigation measure, significant impacts relating to fault rupture are not anticipated.

**Impact GEO-2** **The project site would experience substantial groundshaking in the event of an earthquake on any of several faults. However, compliance with UBC requirements would reduce such impacts to a Class III, less than significant level.**

R.T. Frankian & Associates performed a probabilistic seismicity analysis of the site and concluded that the peak ground acceleration at the site ranges from 0.9g to 1.0g depending on the underlying materials and location within the site without a magnitude weighted PGA of 0.71g.

According to CDMG, 1997b, the probabilistically determined predominant earthquake for the site has a moment magnitude ( $M_w$ ) of 6.6 with an epicenter located approximately 2 kilometers (1 ¼ miles) away. The predominant earthquake does not refer to any specific earthquake on any specific fault, but rather to the effects on an earthquake occurring on a nearby fault. The anticipated peak ground acceleration at the site ranges from 0.9g to 1.0g depending upon the underlying materials and specific location within the site.

The program FRISKSP, Version 4.0, was used to calculate the probabilistic peak ground acceleration (PGA) specifically at the deep soil portions of the site for 10% probability of exceedance in 50 years. The accelerations obtained were averaged using the attenuation relationships of Boore et al., 1997 for NEHRP Class D sites, Campbell, 1997 for alluvial sites, and Sadigh et al., 1997 for deep soil sites. The peak ground acceleration (PGA) is expected to be 0.95g in the deep soil portions of the site, with a magnitude-weighted PGA of 0.71g for a Magnitude of 7.5. The magnitude-weighted PGA is used in liquefaction analyses."

Table 4.2-1 summarizes the more significant potential earthquake sources near the site with estimated maximum moment magnitudes. In order to provide information on significant, historic earthquakes which have occurred near the site during historic times, the computer program EQSEARCH by Thomas Blake (Version 3.00) was run. Magnitudes and distances of the more prominent earthquakes are provided in Table 4.2-2.



**Table 4.2-1 Significant Regional Faults**

<b>Fault</b>	<b>Maximum Moment Magnitude</b>	<b>Approximate Distance to Site</b>
Santa Susana	6.6	3.1
Northridge (E. Oak Ridge)	6.9	2.6
Sierra Madre-San Fernando	6.7	6.0
San Gabriel	7.0	6.0
Holser	6.5	8.3
San Andreas	7.8	35.7

*\*Approximate closest distance to surface trace in kilometers.*

**Table 4.2-2 Significant Historical Earthquakes**

<b>Earthquake</b>	<b>Earthquake Magnitude</b>	<b>Distance to Epicenter (kilometers)</b>	<b>Date</b>
Fort Tejon	7.9	158.0	1857
Kern Co.	7.7	85.8	1952
Santa Barbara	7.0	119.5	1812
San Fernando	6.4	12.2	1971
Northridge	6.7	15.3	1994

*\*Moment Magnitude after 1933 or above 6, or Local Magnitude prior to 1933 or below 6 (S.C.E.C.)*

Onsite industrial commercial development would be required to comply with applicable provisions of the UBC. Given that the potential for surface rupture and ground shaking on-site does not appear to be significantly different than most of the area currently within Santa Clarita, compliance with UBC requirements would reduce such impacts to a level considered less than significant.

Mitigation Measures. None required other than compliance with applicable provisions of the UBC.

Significance After Mitigation. Compliance with applicable provisions of the UBC would reduce impacts relating to groundshaking to a level considered less than significant.

**Impact GEO-3** The project site has a low potential for ground failure. Impacts relating to ground failure are considered Class III, less than significant.

Ground failure is a general term describing seismically-induced secondary permanent ground deformation caused by strong ground motion. This includes liquefaction of saturated granular deposits or fine-grained soils with low plasticity, lateral spreading, seismic settlement of poorly consolidated materials (dynamic densification), differential materials response, slope failures,



sympathetic movement on weak bedding planes or non-causative faults, shattered ridge effects and ground lurching. The most significant types of ground failure with respect to the subject site are discussed below.

Based on groundwater depths encountered in the subsurface explorations, per RTF&A, the alluvial soils will not be subject to significant liquefaction of cyclic settlements and the potential for lateral spreading identified on lots 39 through 41 (Alluvial area 3) can be mitigated by removal of the existing fill and upper natural soils. RTF&A's recommended removal depths range from 5 to 70 feet in this area. Due to the deep nature of these removals, the temporary stability of any backcuts required to perform these removals should be analyzed at the grading plan stage. Assuming that the recommended removal depths and any additional necessary measures are implemented during grading, significant impacts are not anticipated.

Mitigation Measures. The recommendations of RFF&A report shall be fully implemented. Additional mitigation is not required.

Significance After Mitigation. Assuming compliance with removal depths recommended by the RTF&A for the area around lots 39 through 41, significant impacts relating to ground failure are not anticipated.

**Impact GEO-4    The project involves grading and development in steeply sloped areas with high landslide potential. Potential impacts relating to landsliding are considered Class II, significant but mitigable.**

Earthquake-induced slope failures include activation and reactivation of landslides, surficial failures, debris flows and rock falls. The potential for earthquake-induced slope failures is moderate to high on the steep canyon slopes. Most hillsides on the site are designated on the State of California Seismic Hazard Zone Map to have potential for earthquake induced slope instability. RTF&A has analyzed the potential for earthquake-induced slope instability in the referenced reports and has provided mitigation recommendations where applicable. Each type of earthquake-induced slope failures listed above is addressed below along with proposed cut-slopes, fill slopes and natural slopes.

*Landslides.* RTF&A have identified and evaluated 15 landslides on the site. These landslides, per their designations as Qls-1 through Qls-15, are shown on Figure 4.2-1. Three of the landslides, Qls-1 to Qls-3, are located outside areas of proposed development in open space areas and require no mitigation with the proposed site plan. Two landslides (Qls-4 and Qls-15) are located adjacent to areas proposed for development, but RTF&A has concluded that they do not adversely affect the development and hence require no mitigation. Restricted Use Areas have been proposed around these two landslides due to their proximity to the proposed development. Of the remaining ten landslides, RTF&A recommends complete removal of eight (Qls-5, 7, 9, 10, 11, 12, 13 and 14) and partial removal of two (Qls-6 and Qls-8). RTF&A has established removal depths for these landslides ranging from 5 to 30 feet.

Four additional landslides (Qls-16 through Qls-19) on the southern portion of the site have been queried by AESEGI based on the review of the site topography and aerial photographs. These





landslides are located in proposed open space areas and do not adversely affect the currently proposed development.

*Surficial Failures.* Per RTF&A's report dated October 22, 2001, "Surficial failures upslope of proposed building pads constitute a potential debris flow hazard. Therefore, the failure should be dealt with in the same manner as other areas of potential debris flows. This can include establishing building setbacks from the upslope failure, constructing retaining devices (retaining walls, debris basins, etc.) downslope of the failure, or removing the slope failure during grading."

*Potential Debris Flow Hazards.* The project site contains numerous drainages with surficial (colluvial) soil material. These drainages are subject to potential debris flow occurrence during heavy rains, especially in exceptionally wet years.

RTF&A have identified, on a preliminary basis, areas of potential debris flow hazard by lot numbers in their June 15, 2001 report with two additional lots added in their October 22, 2001 report. These areas are shown on Figure 4.2-1 for reference. Per RTF&A, a more definitive determination of potential debris flow hazard should be completed as a part of a review of 1 inch = 40 feet scale grading plans.

*Cut Slopes.* R.T. Frankian & Associates (RTF&A) have identified and evaluated 31 proposed cut-slopes on the site that are greater than or equal to 25 feet in height. These cut-slopes range from 25 feet to 160 feet in height with slope gradients ranging from 2:1 to 4:1 (h:v). Eighteen of these cut-slopes are anticipated to expose daylighted bedding. Slope stability analyses performed by RTF&A indicates that four of these cut-slopes require buttresses with keyways ranging in size from 50 feet wide x 5 feet deep to 85 feet wide x 5 feet deep. Per RTF&A the remaining fifteen daylighted cut-slopes and thirteen self-supporting cut-slopes are grossly stable but may require Stability Fills with keyways ranging in size from 20 feet to 35 feet wide and to 3 feet deep to mitigate seepage along bedding planes and erosion. The general locations of RTF&A's recommended buttresses and stability fills are shown on Figure 4.2-1.

*Natural Slopes.* Portions of the site are noted on the Seismic Hazards Map for Oat Mountain Quadrangle as having the potential for earthquake-induced landslides. The gross stability of the natural slopes (including daylighted and steep natural slopes located adjacent to proposed development) was addressed in RTF&A report dated October 22, 2001.

#### *Daylighted Natural Slopes*

Review of the Tentative Map in conjunction with RTF&A's Geologic Map and Cross-Sections indicates that daylighted natural slopes exist adjacent to proposed building pads. RTF&A has performed slope stability analyses and calculations on what they consider to be the most critical daylighted natural slope conditions on the site and that the gross stability of these daylighted natural slopes exceed the required minimum factors of safety for static and pseudostatic (earthquake induced) conditions. Based on their analyses, mitigation measures for the daylighted natural slopes are not required relative to gross stability.



### *Steep Natural Slopes*

Steep to very steep ( $>70^\circ$ ) natural slopes are located adjacent to proposed development, specifically at the southern most water tank. RTF&A analyzed these steep natural slopes and presented their findings in their report dated October 22, 2001.

Based on their analyses, some of the steep natural slopes below the proposed water tank site have a factor of safety less than 1.0, which is below the required minimum of 1.5.

Per RTF&A's October 22, 2001 report, "Using the shear strength values from our laboratory testing, some of the natural slopes below the water tank area have a factor of safety of less than 1.0. Therefore, if water tanks are to be constructed above the slopes, they should be set back sufficiently so that potential failure of the slopes would not affect the tanks.

To obtain shear strength for use in determining the set-back distance for the tanks, we back-calculated the shear strengths required to obtain a factor of safety of 1.0 for the slope in Section EE-EE'. The calculations for two pairs of cohesion and friction values are presented in Appendix G together with the other calculations for Section EE-EE'. We then used the values obtained from the back calculations to determine a set-back distance for the tanks from the edge of the proposed pad. The setback distance is based on a slip-surface with a factor of safety of at least 1.5.

Review of the setback illustrated in the RTF&A's analysis shows that the maximum setback distance is approximately 44 feet deep into the proposed water tank pad (distance measured from the toe of the southwest-facing cut-slope). The approximate setback is shown on Figure 4.2-1.

*Fill Slopes and Fill Areas.* Proposed fill slopes on the site are designed at gradients of 2:1 to 3:1 with maximum height of 130 feet. The compacted fill generated from onsite earth materials and constructed per the Uniform Building Code and per RTF&A will be grossly and surficially stable as designed per RTF&A's analyses in their report dated June 15, 2001. Per RTF&A (6/15/01) any compacted fill slopes greater than 130 feet in height need to be evaluated on an individual basis.

Review of the tentative map indicates that there are areas of proposed fill that will be greater than 40 feet in thickness. It is a standard practice among geotechnical/engineers in Southern California and a requirement of Los Angeles County to recommend higher compaction requirements for fills deeper than 40 feet from the final surface grades. Typically these recommendations are for 93-95% relative compaction for the portions of the fills that are 40 feet and greater.

Per RTF&A's October 22, 2001 report, there is no current regulatory requirement for compacting deep fills to more than 90% within the City of Santa Clarita. Deep fills will need to be compacted to more than 90% at the grading plan stage of the project and therefore will not show areas of deep fill on the Geotechnical Map for the tentative tract map. If deeper fills areas need to be shown on the grading plan, the Project Civil Engineer would need to delineate them.



*Hydroconsolidation.* The phenomenon of collapsing soils is the result of water interacting with void-bearing sediments. Water in the sediments reorganizes sediment particles into a more compact arrangement, causing reduction of the void space. This causes settlement (hydroconsolidation) of the material, which is potentially hazardous to overlying structures. Rapidly buried silty sediments such as thick slopewash and alluvium commonly contain void space and are subject to hydroconsolidation.

Per RTF&A's October 22, 2001 report, many of the soils at the site are too coarse to be tested for hydroconsolidation. However, as indicated in previous RTF&A reports, all existing fills at the site and, at some locations, the upper natural soils, should be removed and replaced as compacted fill. The fill depths encountered in our explorations range up to 57 feet. The deep fills are mostly due to grading associated with grading of Eternal Valley Memorial Park. Removals of natural soils will range from shallow, as dictated by disturbance of the upper soils by removals of existing vegetation and structures, to approximately 15 feet where loose soils are encountered near the surface. Removals indicated in RTF&A's 1991 report ranged from 2 to 8 feet at the locations explored. The removal and recompaction of the fill and upper natural soils will mitigate the potential for hydroconsolidation occurring at the site.

*Erosion Potential.* Per RTF&A friable sandstone beds are common within the Pico and Saugus Formation and have been identified at the site. If exposed in graded slopes, these beds could be subject to erosion and rilling, due to the lack of cementation. Under most circumstances, the erosion can be controlled by the establishment of vegetative cover upon completion of grading. The abundance of erosion susceptible beds should be determined during grading. Extensive or thick deposits of the friable beds may warrant the construction of stability fills.

The existing provisions in the Grading Ordinance for planting and irrigation of cut and fill slopes and control of sheet flow along with RTF&A's recommendations will greatly reduce the potential for surficial erosion.

Mitigation Measures. In addition to the recommendations of the RTF&A report and any subsequent requirements of the City Engineer imposed during the grading plan stage, the following measures are recommended. These measures are intended to assist the City Engineer in identifying issues that will need final resolution during review of the final grading plan.

- GEO-4(a)** A definitive determination of potential debris flow hazard shall be completed as a part of a review of 1 inch = 40 feet scale grading plans. Suitable measures to mitigate debris flow hazard shall be achieved.
  
- GEO-4(b)** A more detailed analysis of cut slopes shall be performed at the grading plan stage once 1"=40' scale plans are available. Cut-slopes that will expose bedrock disrupted by the Beacon Fault may also require stability fills to mitigate the potential for surficial instability, and should be evaluated at the Grading Plan stage.

The stability of bedding planes below the proposed buttresses shall also be analyzed and presented at the grading plan stage utilizing piezometric surfaces where applicable. A declaratory statement needs to be made in the



slope stability section of the report that justifies the use or omission of groundwater (piezometric surfaces) in the slope stability analyses. Per RTF&A the temporary stability of the backcuts for the recommended stability fills and buttresses will also need to be demonstrated at the grading plan stage along with any backcuts required for the removal of landslides, alluvium or artificial fill.

- GEO-4(c)** The future anticipated load(s) from the proposed water tank(s) shall be incorporated into the stability calculations at the Grading Plan stage along with any anticipated future groundwater.
- GEO-4(d)** The areas of deep (>40 feet thick) proposed fills shall be evaluated further at the grading plan stage. Any additional requirements of the City Engineer shall be fully implemented.
- GEO-4(e)** Recommended removal depths shown on RTF&A's Figure 2.1 (report 10/22/01) range from 3 to 70 feet. The deep removals shall be analyzed in detail at the grading plan stage relative to groundwater conditions and backcut stability. Per RTF&A (2001), uncertified existing fills will be removed prior to the placement of compacted fill. Any unsuitable materials underlying the fills shall also be removed.
- GEO-4(f)** In order to reduce the potential for erosion, all cut and fill slopes should be seeded or planted with proper ground cover as soon as possible following grading. The ground cover should consist of drought-resistant, deep-rooting vegetation. A landscaping expert should be consulted for ground cover recommendations."
- GEO-4(g)** RTF&A have recommended canyon subdrains in the main drainage areas to receive fill and backdrains for Buttress Fills to help protect the proposed fills from groundwater infiltration.
- GEO-4(h)** Per standard grading practices, water shall not be allowed to stand or pond on the future graded building pads nor should it be allowed to flow over natural or constructed slopes, but should be directed to the natural slope drainage devices.

Significance After Mitigation. With the recommended mitigation measures, impacts relating to landsliding would be reduced to a level considered less than significant. This should not be interpreted as a guarantee that landsliding would not occur on-site in the future. Landslide risks are inherent in any hillside area, particularly within seismically active regions. However, the applicant or the applicant's geotechnical consultant would be required at the plan review and grading stage for the project to confirm that landslide hazards have been removed and sign a statement that building pads are safe from hazard of landslide, settlement, or slippage, and that the graded site will not adversely affect adjacent properties, as required by Section 18.03.100F of the City of Santa Clarita Building Code. If compliance with Section 18.03.100F requirements is not achieved, all or portions of the site could be delineated as



restricted use areas that may be unbuildable. At this time, it is not anticipated that any of the areas onsite that are proposed for development would be delineated as restricted use areas.

**Impact GEO-5 Some onsite soils are potentially expansive. This is considered a Class II, *significant but mitigable* impact.**

The fine-grained units of the Saugus Formation and Pico Formation are potentially very expansive. Soil expansion has the potential to cause damage to building foundations, thus resulting in possible property loss and safety hazards. This is considered a potentially significant impact.

Mitigation Measures.

**GEO-5** If potentially expansive units are encountered in the final pad or street grades, they shall be evaluated by the Project Geotechnical Engineer. Special foundation designs and reinforcement can be utilized to mitigate expansive material. Optionally, the expansive material can be removed to a specified depth determined by the Project Geotechnical Engineer and replaced with compacted fill with very low to non-expansive characteristics, or the expansive soil may be treated with additives to lower the expansion index.

Significance After Mitigation. With the recommended measure, impacts related to expansive soil would be reduced to a less than significant level.

**c. Cumulative Impacts.** Buildout of planned and pending development in the Santa Clarita Valley would continue to alter geologic landforms and expose new residents and property to geologic and seismic hazards that exist in the region. The proposed project would incrementally contribute to these cumulative impacts, which are considered potentially significant. However, grading and seismic issues are site specific and must therefore be addressed on a case-by-case basis to mitigate impacts resulting from individual projects. Given that all projects would be required to adhere to seismic standards contained in the Uniform Building Code and City requirements pertaining to grading, implementation of appropriate design and mitigation on all development is expected to reduce cumulative geologic impacts to a less than significant level.



## 4.3 HYDROLOGY and WATER QUALITY

The applicant's consultant (Sikand Engineering) prepared a hydrological analysis of the project as part of the applicant's application to the City of Santa Clarita. As part of this EIR analysis, Hawks & Associates conducted a peer review of the applicant's hydrology analysis. The major findings of the peer review are incorporated into this discussion.

### 4.3.1 Setting

**a. Hydrology.** The project site consists of approximately 584 acres of undeveloped mountain ridges and valleys. The site elevation ranges from roughly 1,350 feet to 1,900 feet above mean sea level. The site is situated in the southeastern portion of the Santa Clara River Basin within the City of Santa Clarita. Storm water runoff from this area discharge into the headwaters of Newhall Creek, which is a tributary to the Santa Clara River. Typical of all major Creeks in the Santa Clara River Basin, stream flows responds quickly to precipitation within the watershed, creating high peak runoff.

The watershed area exhibits a semi- arid, Mediterranean type climate that is characterized by long, dry, warm summers and relatively short, wet, cool winters. About 80% of the main seasonal precipitation occurs during the months of December through March.

**b. Drainage.** The project site lies within a watershed of approximately 1,008 acres and can be divided into two major basins, the easterly and westerly subareas. The westerly subarea drains into what is commonly referred to as Railroad Canyon and the easterly subarea drains into the headwaters of Newhall Creek. The drainage basins are confined by major ridgelines on both sides and very few drainage improvements exist within either of these basins. The only storm drain facilities consist of a few minor reaches of channel protection and a couple of structural facilities to convey storm flows under major roads and the rail line. Current onsite hydrological conditions and the existing drainage system are illustrated on Figure 4.3-1.

The easterly basin, Newhall Creek, encompasses approximately 418 acres of undeveloped terrain, about 144 acres of which are on the project site. Elevations range from 1,445 feet to 2,030 feet above mean sea level. Mountain and valley channels convey the bulk of the storm water runoff. An intermittent section of approximately 600 feet of concreted trapezoidal channel exists prior to the flows reaching the project site. Offsite runoff in Newhall Creek reaches the project site from the easterly side of Sierra Highway via an 8.5-foot wide by 5.8-foot high reinforced concrete box (RCB) conduit just north of Rensen Street.

The westerly basin, Railroad Canyon, encompasses approximately 590 acres of mostly undeveloped terrain, about 440 acres of which are on the project site. Elevations ranging from approximately 1320 feet to 1980 feet above mean sea level. Along Pine Street, the surrounding land use consists of small-scale commercial development and residential/equestrian uses. A Metropolitan Transit Authority (MTA) rail line bisects this basin. Roughly 2,400 feet north of the Southern Pacific Railroad tunnel, a double 10-foot wide by 5-foot high RCB conveys surface runoff from approximately 264 acres onto the project site. From this location, the storm water flow meanders downstream through a natural channel until it reaches the



northern project boundary. An intermittent slope revetment exists along this reach to provide adjacent properties with limited erosion protection. A 14-foot wide by 10-foot high RCB culvert conveys flow under San Fernando Road. The State of California Department of Transportation (Caltrans) maintains this box culvert.

**c. Flood Hazards.** The Federal Emergency Management Agency (FEMA) has defined the 100-year flood hazard area within the City of Santa Clarita through the publication of Flood Insurance Rate Maps (FIRM). The FIRM for the project site and surrounding area (Community Panel Number 060729 0460 C, Revised September 29, 1989) indicates that most of the project site is within Zone C, an area of minimal flood hazard. However, the westernmost portion of the site along the east side of Pine Street in Railroad Canyon is within zones A (area of 100-year flood) or AO (area of 100-year shallow flooding with a depth of one foot).

**d. Regulatory Setting.** The Flood Control Division of the Los Angeles County Department of Public Works is responsible for the design, operation, and maintenance of the flood protection system for the County. Both the County and the City of Santa Clarita review drainage plans for projects proposed in the City.

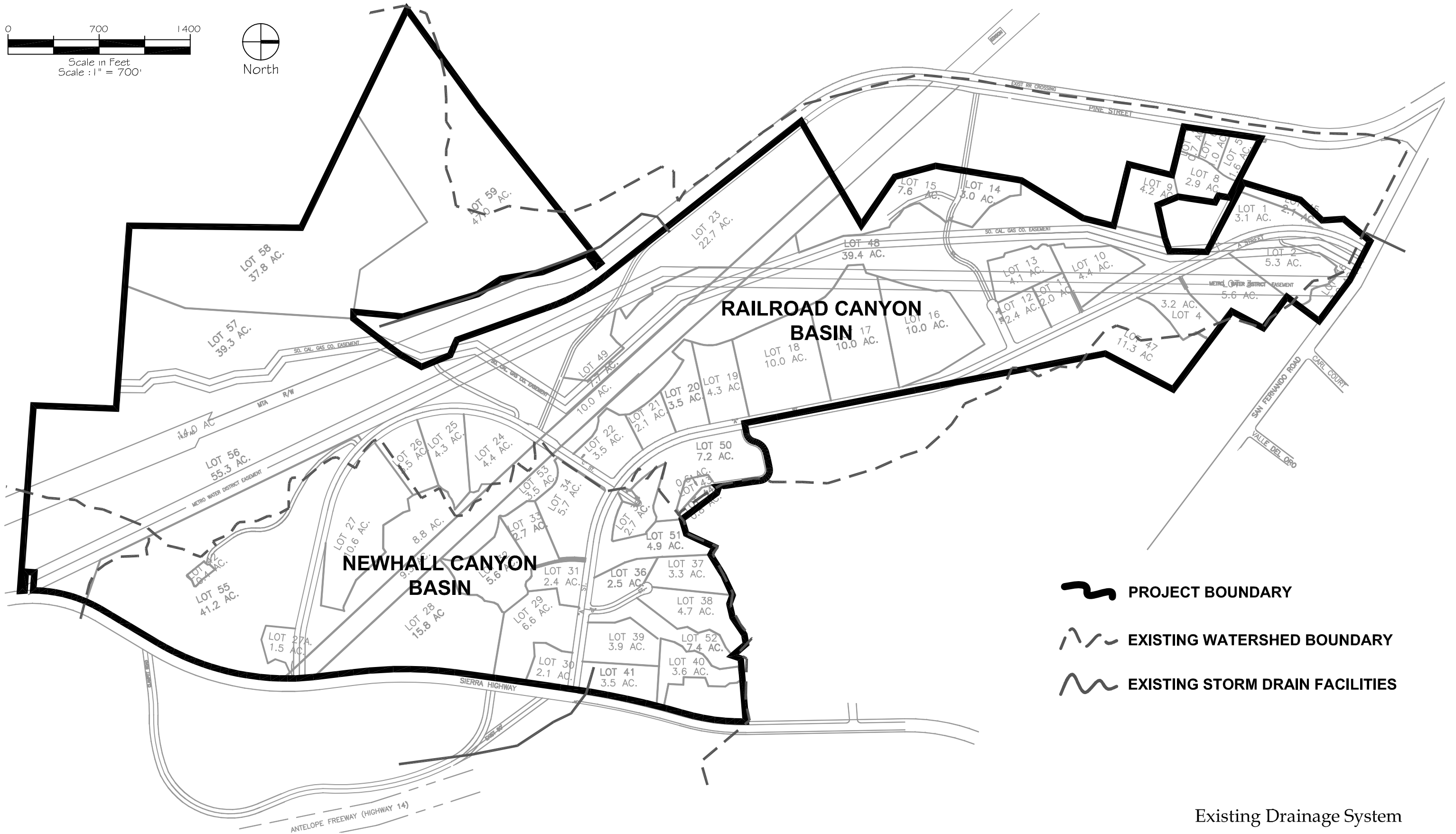
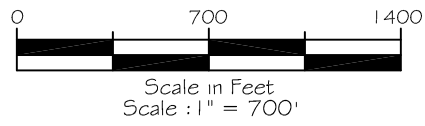
**e. Water Quality.** The protection of water quality in the Santa Clara River, Newhall Creek, Railroad Canyon, and other drainages is under the jurisdiction of the Los Angeles Regional Water Quality Control Board. The Board establishes requirements prescribing the discharge limits and establishes water quality objectives through the Water Quality Control Plan for the Santa Clara River Basin. Water quality characteristics typically measured include pH, total dissolved solids, levels of herbicides and pesticides, sediment levels, vehicle-related oils, and such chemicals as chloride, sulfate, and nitrate. Water quality objectives are established based on the designated beneficial uses for a particular surface water or groundwater basin. Beneficial uses of water resources include habitat, municipal and domestic water supply, agricultural supply, groundwater recharge, fishing and water contact recreation.




The existing land uses at the site are a source of nutrients and other chemicals that can be carried by storm and irrigation flows off the site. The site is also a sediment source based on the erosion noted in several locations on the site. Surface runoff is rapid and the erosion hazard is high on the steep northern portion of the drainage area.

### 4.3.2 Impact Analysis

**a. Methodology and Significance Thresholds.** The potential impacts of the land use change on drainage runoff quantity and quality were based on comparison of the proposed uses and their locations relative to the existing uses. Flood hazards were based on comparison of the proposed uses and their locations relative to the available flood hazard mapping. The proposed drainage facilities for this project are to be designed to the satisfaction of both the City of Santa Clarita and the Los Angeles County Department of Public Works (LACDPW). LACDPW requires that facilities and structures to be designed for the Capital Flood, which is considered to be the runoff associated with a 50-year frequency storm. Because of the likelihood of fires in the mountains and canyons of Los Angeles County, the Capital Flood requires that the 50-year frequency storm be modified to account





-  PROJECT BOUNDARY
-  EXISTING WATERSHED BOUNDARY
-  EXISTING STORM DRAIN FACILITIES

Existing Drainage System

Figure 4.3-1



for burning and debris bulking. The Capital Flood level of protection applies to open channels, closed conduits, debris basins, and culverts under major and secondary highways that are constructed to intercept flood waters from natural watercourses. All facilities in developed areas that do not fall under the Capital Flood criteria, must have flood protection designed to contain the Urban Flood. The Urban Flood, as defined by LACPWD, is runoff from a 25-year frequency storm.

The assessment of drainage effects is based on office and field review of the preliminary grading and drainage plans for the site and review of the *Hydrology and Drainage Concept for Tentative Tract No. 50283* study submitted by the applicant's engineer. Using LACDPW *Hydrology/Sedimentary Manual*, in conjunction with using the Modified Rational Method (F0601) computer model, a peak storm water runoff values were calculated. Potential water quality effects are based on typical nutrient and other contaminant loading associated with the existing and proposed uses.

Significance thresholds were developed for hydrology impacts in cooperation the City of Santa Clarita Engineering Department. Hydrologic effects of the project development are considered significant if:

- *Proposed on-site development would result in significant uncontrolled discharges of sediment or other pollutants;*
- *Proposed development would be exposed to flood hazards; or*
- *Proposed on-site development would discharge  $Q_{50}$  bulked runoff greater than the predevelopment condition such that areas downstream would be adversely affected.*

**b. Project Impacts and Mitigation Measures.**

**Impact H-1**     **During project construction, the soil surface would be subject to erosion and the downstream watershed would be subject to pollution. However, compliance with the requirements of the NPDES permit would reduce these impacts to a *less than significant level (Class III)*.**

Grading associated with construction would temporarily expose bare soil, which could become entrained during storm events, removed from the site, and transported through the drainages on and downstream of the site. Construction wastes, paving materials, heavy equipment fuels, lubricants and solvents, or products of incomplete combustion, could also contribute to water pollution. Uncontrolled discharges of sediment and other pollutants could create temporary adverse effects to water quality in downstream surface waters, including Newhall Creek and, ultimately, the Santa Clara River.

Regulations under the federal Clean Water Act and the State require that, for projects that would disturb an area greater than five acres during construction, a National Pollutant Discharge Elimination System (NPDES) State General Construction Permit be obtained. The proposed development would involve grading of up to about 272 acres. Therefore, a State Permit would apply. The Permit requires the preparation of a Storm Water Pollution Prevention Plan (SWPPP) that contains specific actions, termed Best Management Practices



(BMPs), to control the discharge of pollutants, including sediment, into local surface water drainages. A Notice of Intent (NOI) to perform work under the Permit must be filed with the State.

BMPs that could be used on the project site include:

*Pollutant Escape: Deterrence*

- Cover all storage areas including soil piles, fuel and chemical depots. Protect from rain and wind with plastic sheets and temporary roofs.

*Pollutant Containment Areas*

- Locate all construction-related equipment and related processes that contain or generate pollutants (i.e. fuel, lubricant and solvents, cement dust and slurry) in isolated areas with proper protection from escape. Locate the above-mentioned in secure areas, away from storm drains and gutters. Place the above-mentioned in bermed, plastic-lined depressions to contain all materials within that site in the event of accidental release or spill. Park, fuel and clean all construction vehicles and equipment in one designated, contained area.

*Pollutant Detainment Methods*

- Protect downstream drainages from escaping pollutants by capturing materials carried in runoff and preventing transport from the site. Examples of detainment methods that retard movement of water and separate sediment and other contaminants are silt fences, hay bales, sand bags, berms, silt and debris basins.

*Erosion Control*

- Large projects should be scheduled into phases that allow for erosion control of smaller areas rather than a single, large exposed site. Vegetation should only be removed when necessary and immediately before grading.
- Schedule excavation and grading work for dry weather. These activities may be prohibited between the months of November and April.
- Slope stabilizers should be utilized. These include natural fiber erosion control blankets of varying densities according to specific slope/ site conditions.
- Expedite the restoration of natural erosion control and reduce risk of slope failure by immediately revegetating and irrigating until first one inch of rain.
- Reduce fugitive dust by wetting graded areas with an adequate yet conservative amount water. Cease grading operations in high (25 mph or greater) winds.



### *Recycling/Disposal*

- Provide recycling facilities. Develop protocol for maintaining a clean site. This includes proper recycling of construction-related materials and equipment fluids (i.e., concrete dust, cutting slurry, motor oil and lubricants).
- Provide disposal facilities. Develop protocol for cleanup and disposal of small construction wastes (i.e., dry concrete).

### *Hazardous Materials Identification and Response*

- Develop protocol for identifying risk operations and materials. Include protocol for identifying spilled-materials source, distribution; fate and transport of spilled materials.
- Provide protocol for proper clean-up of equipment and construction materials, and disposal of spilled substances and associated cleanup materials.
- Provide emergency response plan that includes contingencies for assembling response team and immediately notifying appropriate agencies.

The BMPs to be implemented on-site would be developed as part of the SWPPP required for site construction. Full implementation of the specific measures in the SWPPP would comply with NPDES General Construction Permit requirements, thereby reducing temporary construction-related water quality impacts to a level considered less than significant.

Mitigation Measures. Implementation of BMPs to be developed as part of the SWPPP for the site would be required (see above). Additional mitigation is not required.

Significance After Mitigation. Implementation of the required BMPs would comply with applicable regulations and reduce temporary water quality impacts associated with construction to a level considered less than significant.

**Impact H-2    The proposed project would increase impervious surface and runoff to Newhall Creek, which could increase the potential for downstream flooding and stream channel erosion. This is considered a Class II, *significant, but mitigable* impact.**

When an undeveloped watershed is changed to support urban land uses with impervious surfaces, the hydrology of the watershed changes. Urbanization changes the hydrology of a watershed by decreasing infiltration and evapotranspiration. This decrease in infiltration is the result of several factors, including removal of vegetation, compaction of soils, paving over of permeable services, and effectively decreasing the watershed's surface roughness. Improvement in areas subject to wildfire may be affected by residual flow from areas previously having burned and bulked runoff. This reduction in infiltration increases surface runoff via overland flow.



Typically, a development also modifies drainage patterns by capturing runoff and channeling it into gutters, storm drains, and paved channels. These engineered storm water conveyance systems effectively increase channel conductance and make them hydraulically smoother. The increased efficiency in which water evacuates from the watershed via streets, gutters, and storm drains reduces the residence time that water is in the watershed by reducing the lag time between rainfall and runoff to the main channel. This causes a more rapid runoff response and greater magnitude of discharge. This discharge is seen downstream as a flood peak. In addition, the net effect of a decrease in water residence time in the watershed is a decrease in subsequent percolation to the groundwater for eventual storage and slow-release.

The applicant’s engineer prepared a hydrologic analysis for the proposed project that estimated the existing and post project storm water runoff. Figure 4.3-2 illustrates the proposed project drainage hydrology, including a schematic of the underground storm drains, catch basins, slope drains, and typical conceptual sections of channel protection along Newhall Creek and Railroad Canyon.

Table 4.3-1 compares pre-project and post-project Q50 runoff rates in both Newhall Creek and Railroad Canyon. As indicated, Q50 runoff rates would increase in Newhall Creek by about 7.5% under both the “burned” and “bulked” scenarios. This increase is due to the development and conveyance improvements in the easterly basin. The westerly basin, on the contrary, would experience a 10% reduction in runoff under the both the burned and bulked scenarios. This reduction in projected runoff would occur both because the basin is divided into two subareas and because under the County methodology developed areas are converted from debris producing to non-debris producing. In addition, relatively little of this subarea is to be developed.

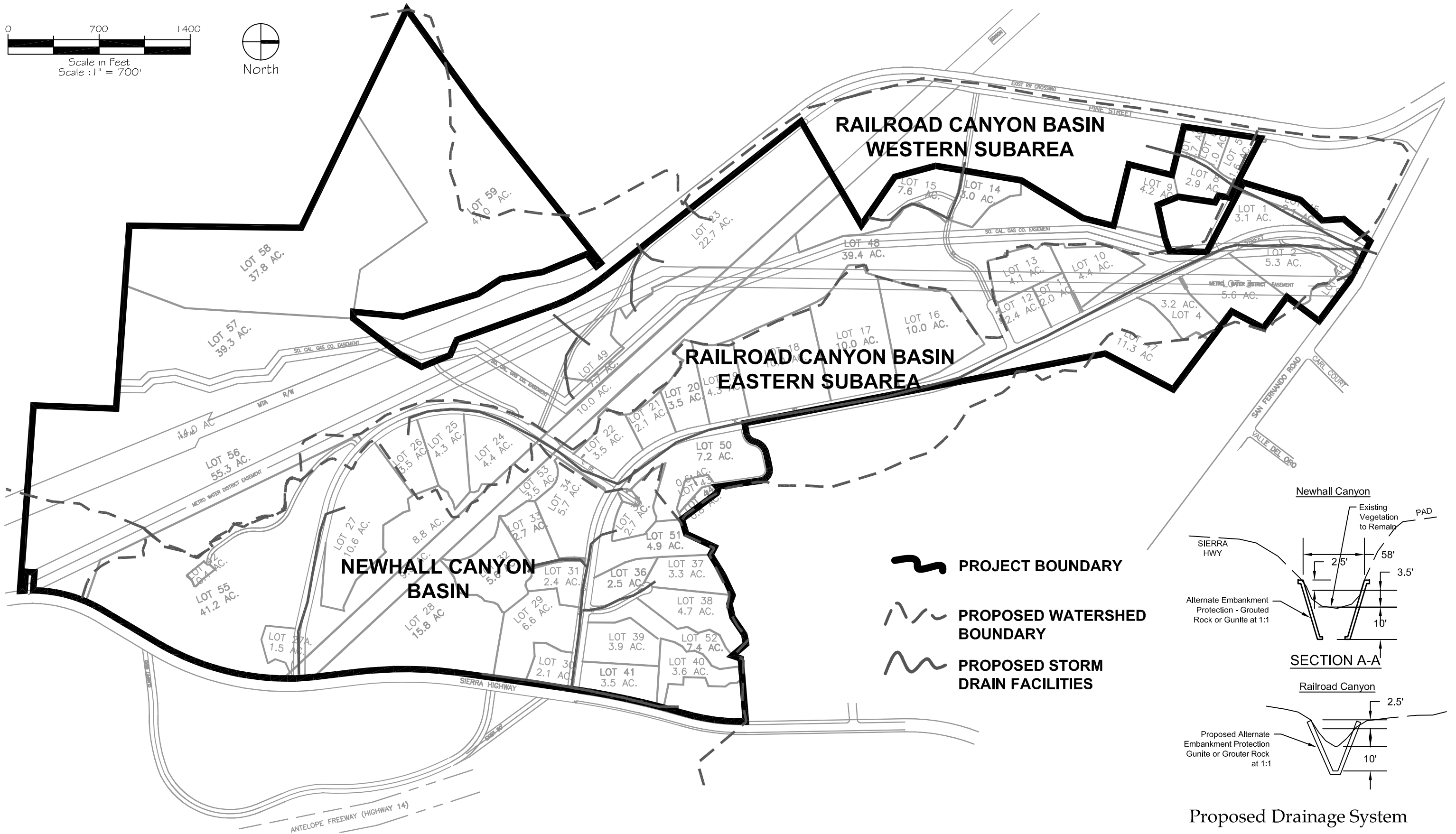
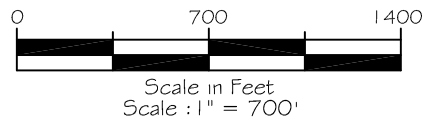
**Table 4.3-1 Pre- and Post-Project Flow Rate Summary**




<b>Location Description</b>	<b>Contributing Area (acres)</b>	<b>Q50 (Burned) (cfs)</b>	<b>Q50 (Bulked) (cfs)</b>
Pre-development Q50 for Newhall Creek	418.0	1,131	1,810
Post development Q50- for Newhall Creek	418.0	1,216	1,946
Pre-development Q50 for Railroad Canyon	590.4	1,190	1,666
Post–development Q50 for Railroad Canyon	590.4	1,071	1,500

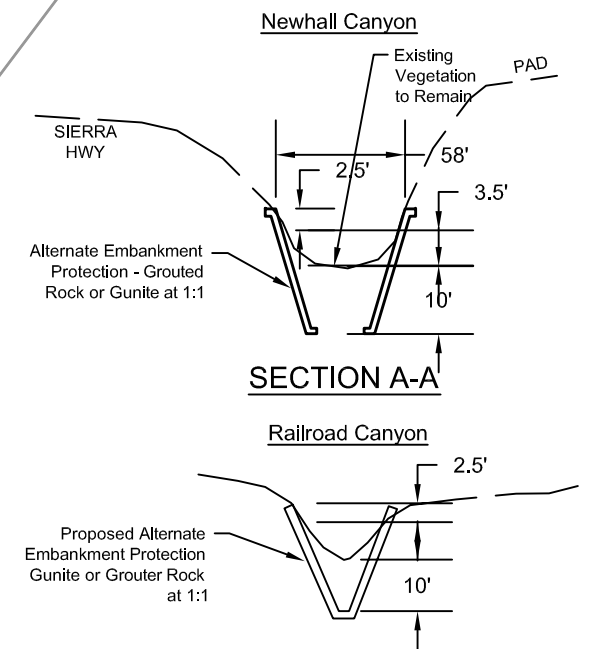
*\* This analysis considers the Hondo Oil and Gas site contributing to the system.  
cfs = cubic feet per second*

Review of the hydraulic conditions of the RCB under Sierra Highway indicates a flow capacity of approximately 917 cfs. The proposed development generates a burned and bulked flow rate of 1,283 cfs compared to the existing burned and bulked flow rate of 1,294 cfs. Although the proposed project would slightly reduce the flow at this location, the RCB is still unable to contain the required Capital Flood. In addition, the natural channel upstream of the RCB does not have capacity to contain the Capital Flood, thus diminishing the entrance efficiency of the RCB which further reduces the flow crossing under road.





-  PROJECT BOUNDARY
-  PROPOSED WATERSHED BOUNDARY
-  PROPOSED STORM DRAIN FACILITIES



Proposed Drainage System

With the proposed project, the RCB at Sierra Highway would junction to an underground storm drain line and would be conveyed downstream approximately 700 feet where it will be discharged back into an improved open channel. The improvement of the open channel consists of providing grouted rock riprap or gunited slope protection at 1:1 side slopes. The improved channel would extend to the project boundaries. If properly sized, the proposed drainage system would be adequate to serve the eastern basin. Installation of the underground storm drain line and the slope protection along Newhall Creek would require permits from various regulatory agencies, including the U.S. Army Corp of Engineers, the California Department of Fish & Game, and the California Regional Water Quality Control Board. Required permits are also discussed in Section 4.6, *Biological Resources*.

The proposed development would divide the Railroad Canyon drainage basin into two separate subareas that junction together again near San Fernando Road in the northern portion of the site. The most westerly subarea utilizes the existing natural channel with only a few minor improvements, which include grouted rock riprap or gunited slope protection at 1:1 slopes along Railroad Canyon upstream of San Fernando Road and an extension of the box culvert under the MTA line. If properly sized, the proposed system would be adequate to serve the western basin. Permitting from additional regulatory agencies would be required to make the improvements to the channel.

The easterly subarea storm water runoff from approximately 143.5 acres of development would be conveyed through a new underground storm drain system that connects into Railroad Canyon near the San Fernando RCB. The existing 14-foot wide by 10-foot high RCB at San Fernando Road has a capacity of approximately 2,696 cfs. The proposed project would reduce the exiting burned and bulked flow rate from 1,946 cfs to 1,500 cfs. Thus, the RCB is capable of containing the Capital Flood.

Mitigation Measure. The following measures are recommended to mitigate the effects of runoff from the site.

- H-2(a)** The drainage plan for the project shall include post-development designs for detention basins and on-site infiltration to reduce  $Q_{50B}$  peak discharge to the pre-development level for Newhall Creek. The Los Angeles Flood Control District and the City of Santa Clarita Engineer shall review all hydrology and drainage plans for the site to determine if the drainage plans adequately reduce peak flows to predevelopment levels.
- H-2(b)** The RCB under Sierra Highway shall be improved to have adequate capacity to accommodate the Capital Flood. Additionally, the natural channel approaching the RCB shall be improved to prevent flooding of the Highway. Alternatively, a retention basin with adequate capacity to eliminate the need for improvement of the RCB can be provided at the Hondo Oil and Gas site.
- H-2(c)** Onsite drainage facilities for the developed areas shall be designed for the 25-year Urban Design Storm. The 50-year Capital Flood storm shall be used for all open channels, closed conduits under major and secondary road, and detention facilities.



- H-2(d)** Slope protection along Railroad Canyon and Newhall Creek shall be designed to meet LACPWD standards. Rock riprap slope protection side slopes shall not be greater than 2:1 and gunite side slopes shall be no greater than 1.5:1.

Significance After Mitigation. With implementation of the above mitigation measures, the impact to area drainage would be reduced to a less than significant level.

- Impact H-3** Portions of the site are within the 100-year flood zone and may therefore be subject to flooding. This is considered a Class II, significant, but mitigable impact.

The majority of the project site is within flood zone C, an area of minimal flood hazard. However, as shown on Figure 4.3-3, portions of Lots 5, 6, 7, 8 and 23 along Railroad Canyon lie within FEMA Flood Zones A and AO (Depth 1). Development on these lots may be subject to flooding during a 100-year storm event. This is considered a potentially significant impact.

Mitigation Measures. The following measures are required for Lots 5, 6, 7, 8, and 23 to comply with FEMA flood protection procedures.

- H-3(a)** The finished floor elevation of the buildings within the A and AO zones shall be a minimum of 1 foot above the existing adjacent grade.
- H-3(b)** The applicant shall obtain a revision to the Flood Insurance Rate Map. This process will first entail a conditional letter of map revision (CLOMR). Then, after the project is built, a letter of map revision (LOMR) showing the actual “as built” plans shall be submitted. FEMA will require that the CLOMR and LOMR indicate, with supporting technical data, how the sites will be protected from erosive forces. This can be accomplished in a variety of ways, including demonstrating non-erosive velocities or placement of rock rip rap along the channel.

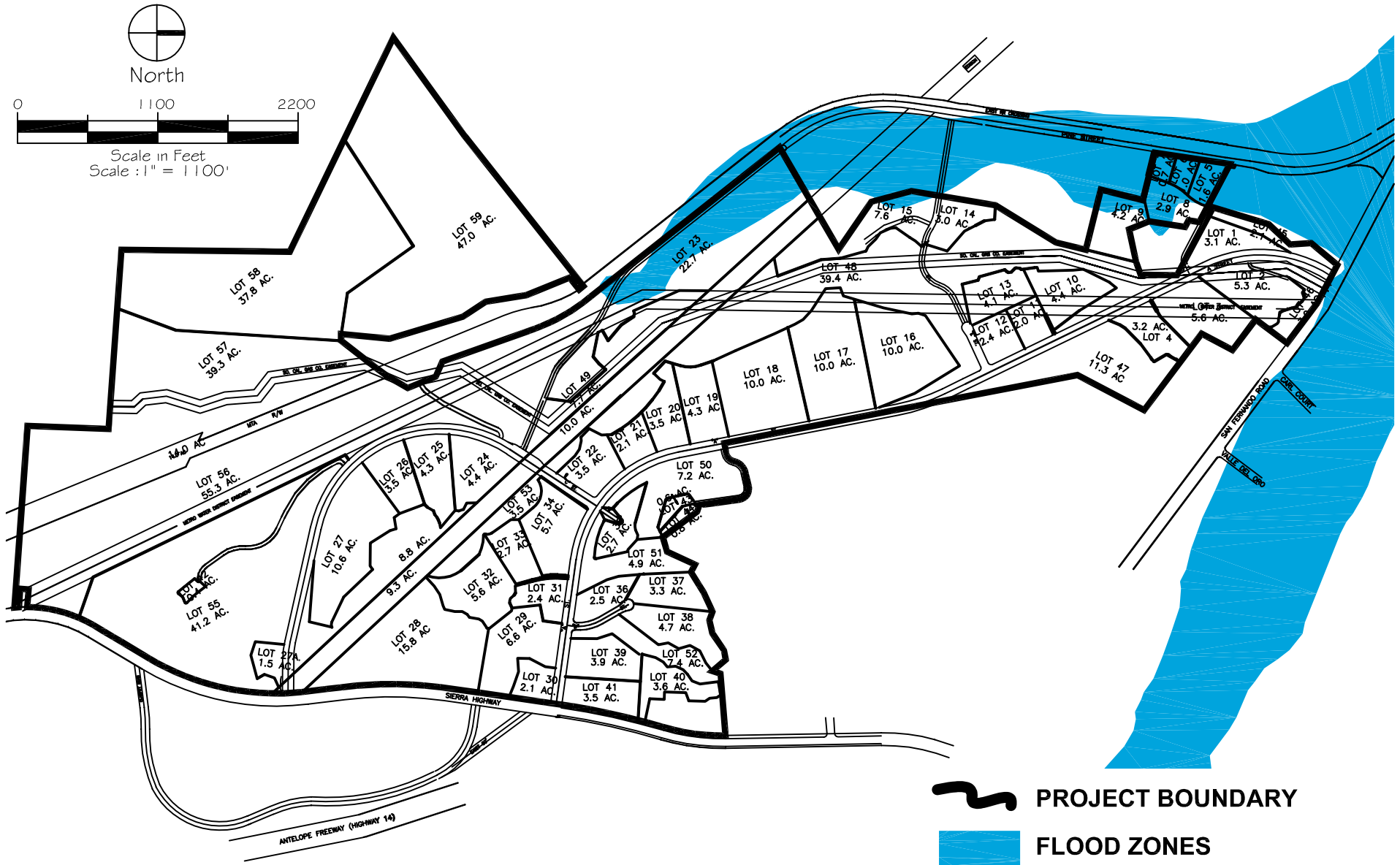
Significance After Mitigation. With the above mitigation measures, flooding impacts would be reduced to a less than significant level.

- Impact H-4** With the proposed project, runoff to Newhall Creek could be adversely affected with pollutants such as oil, pesticides, and herbicides. This is considered a Class II, significant but mitigable impact.

Development of the site with industrial uses would add impermeable surfaces such as rooftops, patios and sidewalks, and other surfaces such as roads, parking lots, and driveways that would accumulate deposits of oil, grease, and other vehicle fluids and hydrocarbons. Traces of heavy metals deposited on streets and parking areas from auto operation and/or fall out of airborne contaminants are also common urban surface water pollutants. During storms these deposits would be washed into and through the drainage systems and ultimately to the Santa Clara River. The project would also introduce landscaping and associated maintenance chemicals such as fertilizers, pesticides, and herbicides. Irrigation and storms could wash



Gate-King Industrial Park EIR  
 Section 4.3 Hydrology and Water Quality



100-Year Flood Zones

Figure 4.3-3



some of these landscape chemicals into and through local drainage systems and into Newhall Creek and eventually to the Santa Clara River.

Urban runoff can have a variety of deleterious effects. Oil and grease contain a number of hydrocarbon compounds, some of which are toxic to aquatic organisms at low concentrations. Heavy metals such as lead, cadmium, and copper are the most common metals found in urban storm water runoff. These metals can be toxic to aquatic organisms, and have the potential to contaminate drinking water supplies. Nutrients from fertilizers including nitrogen and phosphorous can result in excessive or accelerated growth of vegetation or algae, resulting in oxygen depletion and additional impaired uses of water. Therefore, impacts to surface water quality are considered potentially significant.

Mitigation Measures. The project would be subject to the Los Angeles County Standard Urban Stormwater Mitigation Plan (SUSMP). Several measures can be used to reduce the amount of pollutants contained in surface runoff from the site that would reduce impacts to surface water. Development of a Storm Water Management Plan that includes education, maintenance, and the use other BMPs would minimize the effect of urban pollutants.

- H-4** A Storm Water Management Plan that incorporates Best Management Practices (BMPs) for the long-term operation of the site shall be developed and implemented by the applicant to minimize the amount of pollutants that are washed from the site. The plan shall be developed in accordance with the requirements of the City of Santa Clarita. Examples of BMPs that apply to both initial development of the lots and to long-term operation of the project are listed below.

*Education*

- Stencil all storm drains inlets and post signs along channels to discourage dumping by informing the public that water flows to the Santa Clara River
- Provide educational flyers to each new building unit regarding toxic chemicals and alternatives for fertilizers, pesticides, cleaning solutions and automotive and paint products.
- Provide educational flyers to each new building unit regarding proper disposal of hazardous waste and automotive waste.

*Source Reduction/ Recycling*

- Development of an integrated pest management program for landscaped areas of the project. These areas would include slope-stabilization landscaping, and commercial area landscaping. Integrated pest management emphasizes the use of biological, physical, and cultural controls rather than chemical controls. Examples include use of insect resistant cultivars, manual weed control, use of established thresholds for pesticide and herbicide application, use of chemical controls that begin



preferentially with dehydrating dusts, insecticidal soaps, boric acid powder, horticultural oils, and pyrethrinbased insecticides.

*Cleaning/Maintenance*

- Routine cleaning of streets, parking lots and storm drains. Regular maintenance and cleaning of catch basins, debris basins, and siltation basins; maintenance logs shall be regularly submitted to the appropriate agencies.

*Structural Treatment Methods*

- Catch basin inserts or storm drain devices such as storm cepters shall be installed with the initial development. The use of vegetated swales and strips, infiltration basins of oil separators as needed to manage stormwater pollution from each developed lot shall be provided at the time the buildings are constructed.
- Trash storage areas and storage areas for materials that may contribute pollutants to storm water shall be covered by a roof and protected from surface runoff.

Significance After Mitigation. Implementation of the above mitigation measure and appropriate BMPs would ensure compliance with the Los Angeles County Standard Urban Stormwater Mitigation Plan and would therefore reduce impacts associated with long-term operation of the project to a level considered less than significant.

**c. Cumulative Impacts.** The proposed project, in combination with other development in the Santa Clara River watershed, would generally increase impermeable surface area, thereby increasing peak flood flows and overall runoff volumes. Increased irrigation as the area builds out would further increase overall volume of surface runoff and the rate low flow during the dry season. However, both the City of Santa Clarita and the Los Angeles County Flood Control District require that the post-development peak discharge be reduced to at or below the pre-development peak discharge. With respect to surface water quality, construction activity associated with cumulative development would increase sedimentation relating to grading and construction. In addition, new development would increase the generation of urban pollutants that may adversely affect water quality in the long term. However, like the proposed project, all development would be subject to implementation of appropriate Best Management Practices in accordance with NPDES Permit requirements. Although some increase in surface runoff and surface water pollution could be anticipated, implementation of the requirements discussed above on all development in the area would be expected to reduce cumulative impacts to a less than significant level.



## 4.4 AIR QUALITY

### 4.4.1 Setting

**a. Climate and Meteorology.** Daytime summer temperatures in the Santa Clarita area average about 90°F. Minimum nighttime summer temperatures are typically in the high 50s to low 60s, while the winter high temperature tends to be in the 60s. Minimum winter temperatures are in the 30s and 40s throughout most of the Santa Clarita Valley. Annual average rainfall in the Santa Clarita Valley is about 13 inches, while the surrounding mountains can receive over 22 inches annually.

Two types of temperature inversions (warmer air on top of colder air) are created in the area, subsidence and radiational (surface). The subsidence inversion is a regional effect created by the Pacific high in which air is heated as it is compressed when it flows from the high pressure area to the low pressure areas inland. This type of inversion generally forms at about 1,000 to 2,000 feet and can occur throughout the year, but is most evident during the summer months. Surface inversions are formed by the more rapid cooling of air near the ground during the night, especially during winter. This type of inversion is typically lower and is generally accompanied by stable air. Both types of inversions limit the dispersal of air pollutants within the regional airshed. The primary air pollutant of concern during the subsidence inversions is ozone, while the greatest pollutant problems during winter inversions are carbon monoxide and nitrogen oxides.

**b. Air Pollution Regulation.** The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate the emission of airborne pollutants and have established ambient air quality standards for the protection of public health. The United States Environmental Protection Agency (USEPA) is the federal agency designated to administer air quality regulation, while the Air Resources Board (ARB) is the state equivalent in the California Environmental Protection Agency. Local control in air quality management is provided by the ARB through county-level Air Pollution Control Districts (APCDs). The ARB establishes state air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. Santa Clarita is located in the South Coast Air Basin under the jurisdiction of the South Coast Air Quality Management District (SCAQMD), a multi-county APCD.

Federal and state standards have been established for ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulates less than 10 microns in diameter (PM<sub>10</sub>), and lead (Pb). California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. The USEPA recently adopted stricter air quality standards for ozone and particulate matter. The existing significance thresholds for ozone, last revised in 1979, were previously set at concentration levels of 0.12 parts per million (ppm) for a 1-hour period. PM<sub>10</sub> threshold levels, established in 1987, are 150 micrograms per cubic meter for a 24-hour period. The EPA has replaced the 1-hour ozone standard with a new 8-hour averaging time and lowered the standard from 0.12 to 0.8 ppm. The particulate matter standard has been split into two subclasses: a fine fraction (less than or equal to 2.5 microns in diameter, PM<sub>2.5</sub>) and a coarse fraction (greater than 2.5 microns but less than 10 microns in diameter, PM<sub>10</sub>). The annual PM<sub>2.5</sub> standard has been set at 15 micrograms per cubic meter, spatially



averaged across an area. The new 24-hour PM<sub>2.5</sub> standard is based on the 3-year average of the 98th percentile of the 24-hour concentrations measured at each monitoring station.

**c. Current Ambient Air Quality.** Depending upon whether or not state and federal standards are met or exceeded, individual air basins are classified as being in “attainment” or as “nonattainment.” The South Coast Air Basin, which encompasses the non-desert portions of Los Angeles, Orange, San Bernardino, and Riverside counties, is located in a nonattainment area for both the federal and state standards for ozone, carbon monoxide, and nitrogen dioxide (NO<sub>2</sub>), and the state standard for PM<sub>10</sub>.

The nearest air monitoring station to the project site is located in Newhall, about two miles from the project site. This station measures ozone, carbon monoxide, NO<sub>2</sub>, and PM<sub>10</sub>. Table 4.4-1 summarizes the annual air quality data for the local airshed from 1997 to 2000.

**Table 4.4-1 Ambient Air Quality Data at the Santa Clarita-County Fire Station Monitoring Station**

<b>Pollutant</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
Ozone, ppm – Worst Hour	0.16	0.18	0.12	0.13
Number of days of State exceedances (>0.09 ppm)	54	38	18	36
Number of days of Federal exceedances (>0.12 ppm)	13	16	0	1
Carbon Monoxide, ppm - Worst 8 Hours	6.8	3.4	3.6	4.8
Number of days of State exceedances (>20.0/9.0 ppm)	0/0	0/0	0/0	0/0
Number of days of Federal exceedances (>35.0/9.0 ppm)	0/0	0/0	0/0	0/0
Nitrogen Dioxide, ppm - Worst Hour	--	--	0.099	0.096
Number of days of State exceedances (>0.25 ppm)	--	--	0	0
Particulate Matter <10 microns, µg/m <sup>3</sup> Worst 24 Hours	67	60	75	55
Number of samples of State exceedances (>50 µg/m <sup>3</sup> )	5	3	12	2
Number of samples of Federal exceedances (>150 µg/m <sup>3</sup> )	0	0	0	0
Annual Geometric Mean (State standard = 30µg/m <sup>3</sup> )	30.5	27.3	34.5	29.0
Annual Arithmetic Mean (Federal standard = 50µg/m <sup>3</sup> )	32.9	29.6	38.3	31.2

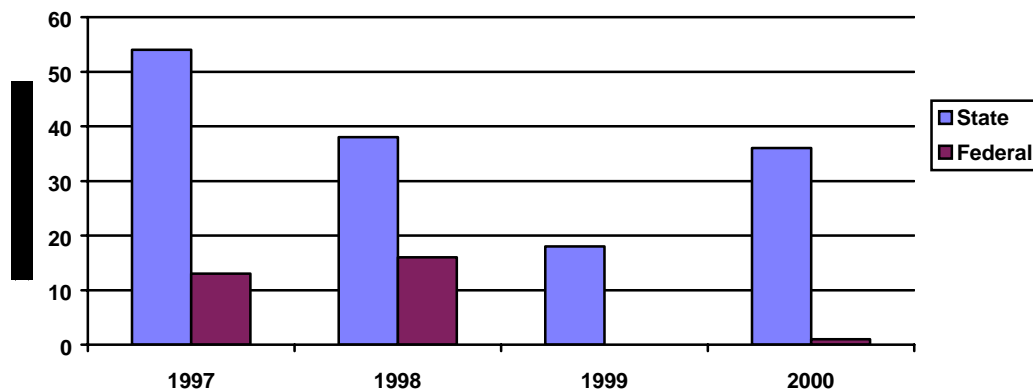
Source: SCAQMD, 1997 – 2000.

The primary pollutant of concern in Santa Clarita is ozone, a secondary pollutant that is not produced directly, but rather is formed by a reaction between (NO<sub>x</sub>) and reactive organic compounds (ROC) in the presence of sunlight. Reductions in ozone concentrations are dependent upon reducing the amount of these precursors. The major sources of ozone precursor emissions in the South Coast Air Basin are motor vehicles, the petroleum industry, and solvent usage (paint, consumer products, and certain industrial processes).

The Santa Clarita Valley records some of the highest ozone readings in the South Coast Air Basin, largely because of the transport of ozone precursors from the Los Angeles Basin. Ozone levels have shown a general downward trend over the past several years, although the number of exceedances of the State standard jumped from 18 in 1999 to 36 due primarily to climatological factors (see Figure 4.4-1).



**Figure 4.4-1 One-Hour Ozone Standard Exceedances at the Santa Clarita Fire Station Monitoring Station**



PM<sub>10</sub> levels at the Newhall station also periodically exceed state standards. The major sources for this pollutant are mineral quarries, grading, demolition, agricultural tilling, road dust, and vehicle exhaust. No exceedances of the state or federal carbon monoxide standards have occurred at the Newhall station in the past four years.

#### 4.4.2 Impact Analysis

**a. Methodology and Significance Thresholds.** The analysis of the project's air quality impacts conforms to the methodologies recommended in the South Coast Air Quality Management District *CEQA Air Quality Handbook* (1993). Regional pollutant emissions were quantified using the ARB's URBEMIS7G computer model. Carbon monoxide concentrations at study area intersections were estimated using the screening protocol outlined in the Transportation Project-Level Carbon Monoxide Protocol (UCD-ITS-RR-97-21), prepared by the California Department of Transportation and dated December 1997.

A significant adverse air quality impact may occur when a project individually or cumulatively interferes with progress toward the attainment of the ozone standard by releasing emissions that equal or exceed the established long term quantitative thresholds for pollutants, or causes an exceedance of a state or federal ambient air quality standard for any criteria pollutant. The following significance thresholds have been set by the SCAQMD for operation of individual development projects within the South Coast Air Basin:

- 55 pounds per day of ROC*
- 55 pounds per day of NO<sub>x</sub>*
- 550 pounds per day of CO*
- 150 pounds per day of PM<sub>10</sub>*
- 150 pounds per day of SO<sub>x</sub>*

Temporary construction emission thresholds for individual development projects have been set by the SCAQMD on a quarterly basis as follows:



2.5 tons of ROC  
2.5 tons of NO<sub>x</sub>  
24.75 tons of CO  
6.75 tons of PM<sub>10</sub>  
6.75 tons of SO<sub>x</sub>

In addition to the above thresholds, if construction emissions exceed 75 pounds per day for ROC, 100 pounds per day for NO<sub>x</sub>, 550 pounds per day for CO, or 150 pounds per day for PM<sub>10</sub> or SO<sub>x</sub>, air quality impacts relating to construction are considered significant.

**b. Project Impacts and Mitigation Measures.**

**Impact AQ-1 Construction activity associated with the proposed project would result in the emission of air pollutants, including fugitive dust. Because emissions would exceed SCAQMD significance thresholds, construction impacts are considered Class I, unavoidably significant.**

The grading phase of construction uses substantial heavy duty construction equipment and generates fugitive dust due to the movement of earth. Therefore, this phase would generate the highest levels of NO<sub>x</sub> and particulate matter. Grading is expected to last about 26 months over an approximately five-year period. Typical grading activities would involve the use of several pieces of heavy equipment, including scrapers, a motor grader, wheeled bulldozers, and a water truck. The project involves the grading of about 265 acres in total and movement of about 7.24 million cubic yards of soil. It was assumed that up to 20 acres per day could be graded.

The highest emissions of ROC would occur during application of architectural coatings. This would occur sporadically over the five-year construction period. It was assumed that application of architectural coatings would last a total of about 180 days.

Table 4.4-2 summarizes the estimated worst-case daily emissions of ROC, NO<sub>x</sub>, and PM<sub>10</sub>. As indicated, worst-case daily and quarterly emissions of ROC, NO<sub>x</sub> and PM<sub>10</sub> are expected to exceed SCAQMD significance thresholds for individual project. Therefore, temporary impacts relating to construction activity are considered significant.

Mitigation Measures. The following mitigation measures are required to minimize the dust and PM<sub>10</sub> emissions:

- AQ-1(a)** Water trucks shall be used during construction to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. Increased watering is required whenever wind speed exceeds 15 mph. Grading shall be suspended if wind gusts exceed 25 mph.
  
- AQ-1(b)** The amount of disturbed area shall be minimized and on-site vehicle speeds shall be kept to 15 mph or less.



**Table 4.4-2 Estimated Worst-Case Daily Emissions During Construction**

Emission Source	ROC		NO <sub>x</sub>		PM <sub>10</sub>	
	lbs/ day	tons/ qtr	Lbs/ day	tons/ qtr	lbs/ day	tons/ qtr
Heavy equipment	36.82	1.20	236.83	7.70	17.01	0.55
Suspended dust	--	--	--	--	216.87	7.05
Architectural Coatings	898.86	29.21	--	--	--	--
Asphalt Offgasing	0.26	0.01	--	--	--	--
<b>Totals</b>	<b>935.94</b>	<b>31.42</b>	<b>236.83</b>	<b>7.70</b>	<b>233.88</b>	<b>8.10</b>
SCAQMD Daily Thresholds	75	2.5	100	2.5	150	6.75
Threshold Exceeded?	Yes	Yes	Yes	Yes	Yes	Yes

*Emission estimates calculated using URBEMISTG computer model. See Appendix C for emission calculations. Tons/qtr estimates assume 65 working days per quarter and that the maximum daily emissions would occur every working day. Actual quarterly emissions would likely be somewhat lower since daily activity would vary throughout any given quarter.*

**AQ-1(c)** Soil with 5% or greater silt content that is stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting material shall be tarped from the point of origin or shall maintain at least two feet of freeboard.

**AQ-1(d) Fugitive Dust Control Measures**

- All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust. Watering should occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day.
- All clearing, grading, earth moving, or excavation activities shall cease during periods of high winds (i.e., greater than 20 mph averaged over one hour) so as to prevent excessive amounts of dust.
- All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized so as to prevent excessive amounts of dust.
- All inactive portions of the construction site shall be seeded and watered until grass cover is grown; or, a sealer is placed over these portions of the site.
- All active portions of the construction site shall be sufficiently watered to prevent excessive amounts of dust.

**AQ-1(e) General Dust Controls**

- All areas with vehicle traffic should be watered periodically, at a minimum, this will require twice daily applications (once in late morning and once at end of workday).
- Streets adjacent to the project site shall be swept as needed to remove silt that may have accumulated from construction activities so as to prevent excessive amounts of dust.



**AQ-1(f) Ozone Precursor Control Measures:**

- Equipment engines shall be maintained in good condition and in proper tune as per manufacturer’s specifications.
- New technologies to control ozone precursor emissions shall be used as they become available in the future.
- The applicant shall use low-VOC architectural coatings in construction whenever feasible and shall coordinate with the SCAQMD to determine which coatings would reduce VOC emissions to the maximum degree feasible .

Significance After Mitigation. Implementation of the recommended mitigation measures would reduce impacts relating to construction activity to the degree feasible. The recommended dust control measures may reduce daily and quarterly PM<sub>10</sub> emissions to below the SCAQMD significance threshold. However, it is not expected that worst-case emissions of ozone precursors (ROC and NO<sub>x</sub>) could be reduced to below either daily or quarterly thresholds. Therefore, temporary impacts associated with construction activity are considered unavoidably significant.

**Impact AQ-2 Operational emissions associated primarily with project-generated traffic would exceed SCAQMD significance thresholds for ROC and NO<sub>x</sub>. This is considered a Class I, unavoidably significant impact.**

Long term emissions associated with the proposed project, as presented in Table 4.4-3, are those associated with vehicle trips and stationary sources (electricity and natural gas) upon full buildout of the project. URBEMIS7G was used to calculate mobile emissions associated with the proposed project. Stationary emissions from the use of on-site gas and off-site electricity generation for on-site use were based on the SCAQMD *Air Quality Handbook*.

**Table 4.4-3 Operational Emissions Associated with the Proposed Project (lbs/day)**

<b>Emission Source</b>	<b>CO</b>	<b>ROC</b>	<b>NO<sub>x</sub></b>	<b>PM<sub>10</sub></b>
Energy Consumption	1.01	0.16	0.81	0
Mobile	2,410.07	381.75	598.77	226.62
<b>Total Emissions</b>	<b>2,411.08</b>	<b>381.91</b>	<b>599.58</b>	<b>226.62</b>
<i>SCAQMD Thresholds</i>	<i>550</i>	<i>55</i>	<i>55</i>	<i>150</i>
<i>Threshold Exceeded?</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>

*Emission estimates calculated using URBEMIS7G computer model. See Appendix C for calculations.*

Overall emissions of all criteria pollutants would exceed SCAQMD thresholds. As indicated, the vast majority of project-related emissions would be due to vehicle trips to and from the site. The emission estimates associated with vehicle trips are taken from the traffic analysis (see Section 4.5, *Transportation and Circulation*) and assume that all vehicle trips are new to the region. In fact, a portion of the trips generated by the project would likely be diverted from other locations rather than being new to the region; therefore, the figures presented in Table 4.4-





3 represent a scenario that likely overstates the actual increase in regional emissions associated with the project.

Mitigation Measures. The proposed project includes a number of features designed to provide transportation alternatives that minimize air emissions. These include the provision of sidewalks and ample landscaping along all project site roads, and a network of hiking/equestrian trails through the portions of the site that would remain undeveloped. The emission estimates presented in Table 4.4-3 give air pollutant emission reduction credit for these features (see Appendix C for a comparison of unmitigated and mitigated emissions). To further reduce emissions associated with the proposed project, the following measures are recommended:

- AQ-2(a)** On-site industrial structures shall be fitted with photovoltaic roof tiles or other technologies that allow the use of solar energy for heating and lighting to the maximum degree feasible.
- AQ-2(b)** Energy-efficient windows shall be installed in all buildings.
- AQ-2(c)** On-site parking areas shall be designed to accommodate electric vehicle charging stations.

Significance After Mitigation. The recommended mitigation measures, in combination with the project features described above, would reduce air pollutant emissions associated with the project to the degree feasible. However, emissions would be expected to remain well above SCAQMD thresholds; therefore, the residual impact to regional air quality is considered significant and unavoidable.

- Impact AQ-3** **Project traffic, together with other cumulative traffic increases in the area, would increase carbon monoxide concentrations at some area intersections. However, because concentrations would remain below state and federal standards, this impact is considered Class III, less than significant.**

A project's localized air quality impact is considered significant if the additional CO emissions resulting from the project create a "hot spot" where the California one-hour standard of 20 parts per million (ppm) or 8-hour standard of 9 ppm is exceeded. This typically occurs at severely congested intersections.

CO concentrations at study area intersections were estimated using the screening protocol outlined in the Transportation Project-Level Carbon Monoxide Protocol (UCD-ITS-RR-97-21), prepared by the California Department of Transportation and dated December 1997. This model uses worst-case assumptions about background CO concentrations, atmospheric conditions, and CO emission rates.

The results of the screening analysis are shown in Table 4.4-4 at three intersections that would be most affected by project traffic and would have relatively high levels of traffic congestion. As indicated, peak concentrations at all three intersections would remain below the 20 ppm one-hour and 9 ppm eight-hour concentration thresholds. This is due largely to the fact that background CO concentrations throughout the Santa Clarita area are low and are expected to



continue to decline as older vehicles are replaced with newer, less polluting vehicles. Impacts relating to CO hot spots are not considered significant.

**Table 4.4-4 One-Hour and Eight-Hour CO Level at Closest Sensitive Receptor**

Intersection	CO Concentrations (ppm – Cumulative + Project Conditions)	
	PM Peak Hour Concentration	Eight-Hour Concentration
San Fernando Rd/Sierra Highway	14.1	8.4
San Fernando Rd/Pine Street	13.2	7.9
Placerita Cyn Rd/ Sierra Highway	13.2	7.9
<b>State CO Standards</b>	<b>20</b>	<b>9</b>

*Carbon monoxide concentrations estimated using the Transportation Project-Level Carbon Monoxide Protocol (UCD-ITS-RR-97-21), prepared by the California Department of Transportation and dated December 1997. See Appendix C for calculations.*

Mitigation Measures. None required.

Significance After Mitigation. The proposed project would not result in CO concentrations exceeding state or federal standards.

**c. Cumulative Impacts.** Any growth within the Los Angeles metropolitan area contributes to existing exceedances of ambient air quality standards when taken as a whole with existing development in the region. The proposed land use designation changes would eliminate the residential and commercial designations from the site, and would reduce the area designated for industrial commercial uses from 337.5 acres to 206.6 acres. The area designated for open space would increase from 93.2 acres to 240 acres. The proposed project would therefore reduce development density as compared to that which could potentially occur under the existing City of Santa Clarita land use designations. Consequently, the project would be expected to generate fewer overall vehicle trips than anticipated to occur in the project area under the AQMP (which is based upon buildout under the current General Plans of the cities in the region). Therefore, the proposed project would not preclude or delay attainment of state and federal air quality standards, and cumulative air quality impacts are considered less than significant.



## 4.5 TRANSPORTATION AND CIRCULATION

This discussion of impacts to transportation and circulation is based upon a Traffic Impact Analysis prepared as part of the EIR analysis by Austin-Foust Associates, Inc. The full Traffic Impact Analysis, dated June 2001, is incorporated by reference and is available for review at the Santa Clarita Planning and Building Services Department, 23920 Valencia Boulevard, Suite 300, Santa Clarita, California.

### 4.5.1 Setting

**a. Performance Criteria.** The traffic analysis examines peak hour traffic forecasts at major intersections throughout a defined study area. The study area encompasses those locations that are potentially significantly impacted by the project and was developed with consultation from City staff. For the impact analysis, level of service performance criteria are defined based on future peak hour intersection volumes in relation to intersection capacity. Table 4.5-1 provides a qualitative description of the various levels of service used in defining intersection performance.

Level of service (LOS) "D" is commonly recognized as the highest acceptable level of service in an urban area and is calculated using the Intersection Utilization (ICU) methodology.

At the regional planning level, the statewide Congestion Management Program (CMP) specifies LOS "E" as the operating standard for roadways and intersections on the CMP highway system. Freeway locations and intersections in the study area that are part of the CMP monitoring system have been addressed accordingly.

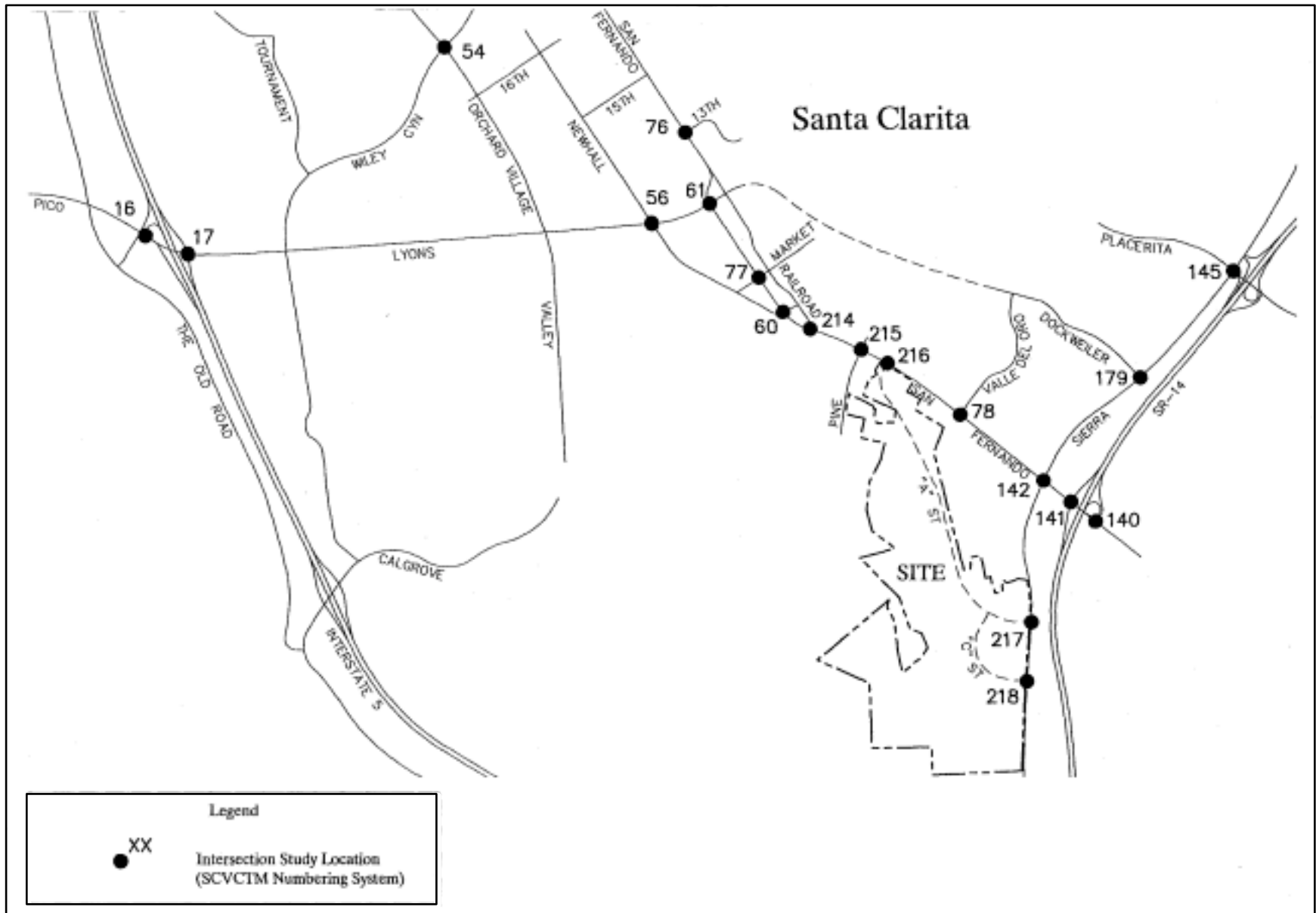
**b. Existing Circulation System.** The project site is located in the City of Santa Clarita, west of Sierra Highway and south of San Fernando Road. The project site is just west of State Route 14 (SR-14), near the junction of Interstate 5 (I-5), and is situated within 584 acres of undeveloped and hilly terrain.

The traffic analysis area is illustrated on Figure 4.5-1. It extends from I-5 to the west, to Placerita Canyon Road to the east, up to 13<sup>th</sup> Street and Wiley Canyon Road to the north, and down Sierra Highway past the southern limits of the project site.

San Fernando Road is currently constructed as a four-lane roadway in the vicinity of the project site. Near the project site, this roadway generally runs in a northwest/southeast direction and is designated on the City's Master Highway Plan as a six lane major arterial. San Fernando Road is also designated on the State Highway Plan as State Route 126 (SR-126). This roadway provides access to northbound and southbound SR-14 on- and off-ramps approximately one mile east of the project site.

Sierra Highway is currently constructed as a four-lane roadway in the vicinity of the project site. This roadway runs north/south and is designated on the City's Highway Plan as a six lane major arterial. Sierra Highway generally runs parallel to SR-14 and provides access to the south where it once again connects with San Fernando Road in the northernmost part of the City of Los Angeles.





North

Intersection Locations

Figure 4.5-1

**Table 4.5-1 Peak Hour Level of Service Descriptions**

Level of Service	Traffic Flow Quality	V/C Value
I. Volume/Capacity Relationships (1)		
A	Low Volumes; high speeds; speed not restricted by other vehicles, all signal cycles clear with no vehicles waiting through more than one signal cycle.	0-.60
B	Operating Speeds beginning to be affected by other traffic; between one and 10 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods.	.61-.70
C	Operating speeds and maneuverability closely controlled by other traffic; between 11 and 30 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods; recommended ideal design standards.	.71-.80
D	Tolerable operating speeds; 31 to 70 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods; often used as design standard in urban areas.	.81-.90
E	Capacity; the maximum traffic volume an intersection can accommodate; restricted speeds; 71-100 percent of the signal cycles have one or more vehicles which wait through more than one signal cycle during peak traffic periods.	.91-1.00
F	Long queues of traffic; unstable flow; stoppages of long duration; traffic volume and traffic speed can drop to zero; traffic volumes will be less than the volume which occurs at level of service "E."	Above 1.00
II. Intersection Delay Relationships (2)		
A	Low delay (less than 5.0 seconds per vehicle). Occurs when progression is extremely favorable, and most vehicles arrive during the green phase and do not stop at all.	N/A
B	Delay in the range of 5 to 15 seconds per vehicle. Generally occurs with good progression and/or short cycle lengths.	N/A
C	Delay in the range of 15 to 25 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	N/A
D	Delay in the range of 25 to 40 seconds per vehicle, and the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	N/A
E	Delay in the range of 40 to 60 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	N/A
F	Delay in excess of 60 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over saturation, i.e., when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	N/A

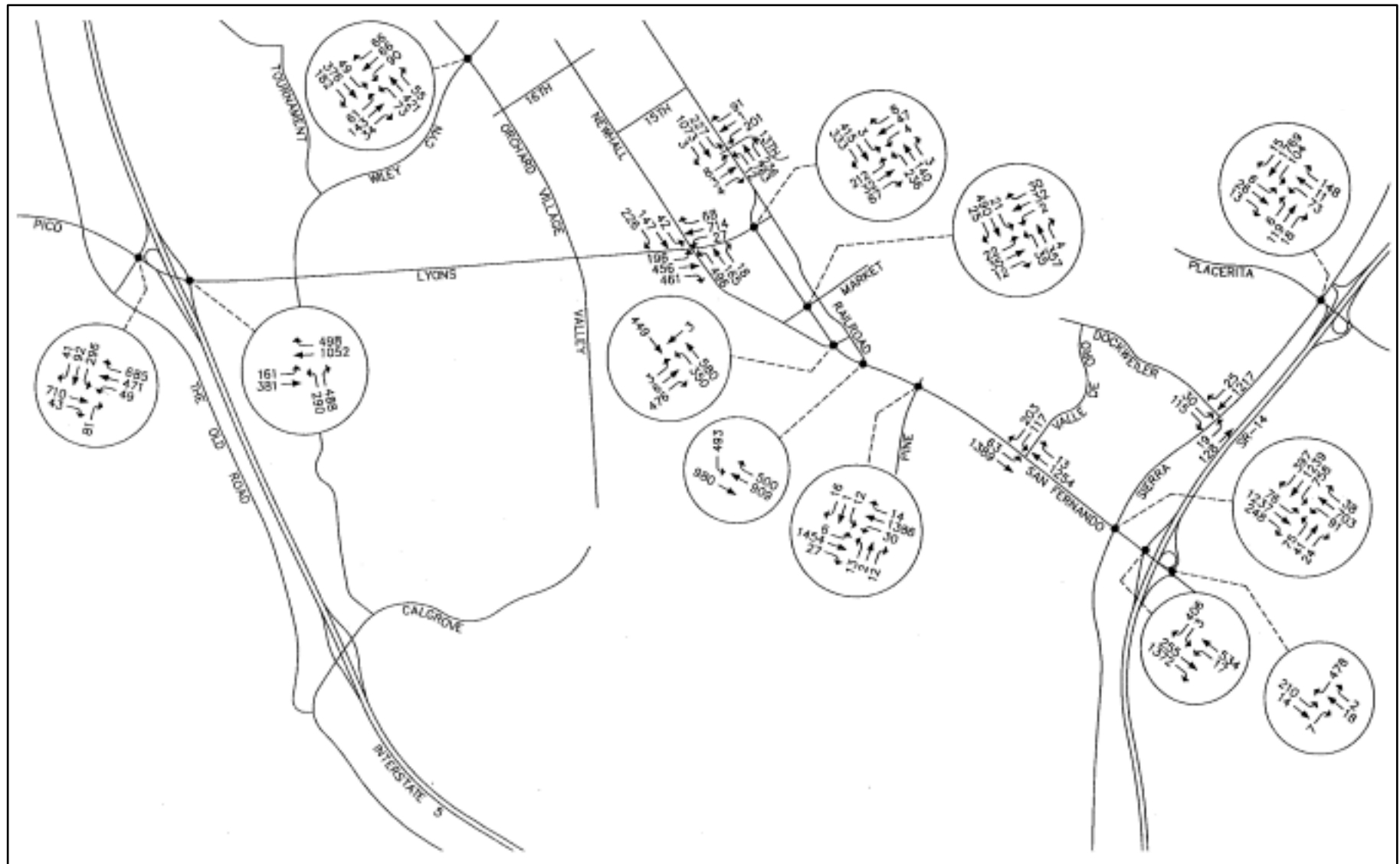
Sources: (1) *Highway Capacity Manual*, Highway Research Board Special Report 87, National Academy of Sciences, 1965.  
 (2) *Highway Capacity Manual*, Transportation Research Board Special Report 209, National Research Council, 1985.

SR-14 is an eight-lane freeway north of San Fernando Road and a nine-lane freeway (five lanes northbound/four lanes southbound) south of San Fernando Road. Access to SR-14 is just east of the project site, approximately ¼ mile east of Sierra Highway.

**c. Current Traffic Characteristics.** The intersections included in this analysis are identified in the figure using the Santa Clarita Valley Consolidated Traffic Model (SCVCTM) numbering system.

Current intersection turning movement volumes were collected in 2000 and 2001 by recording the actual number of vehicle turning movements at each study intersection. These traffic volumes are shown on Figures 4.5-2 and 4.5-3 for the AM and PM peak hours, respectively. The

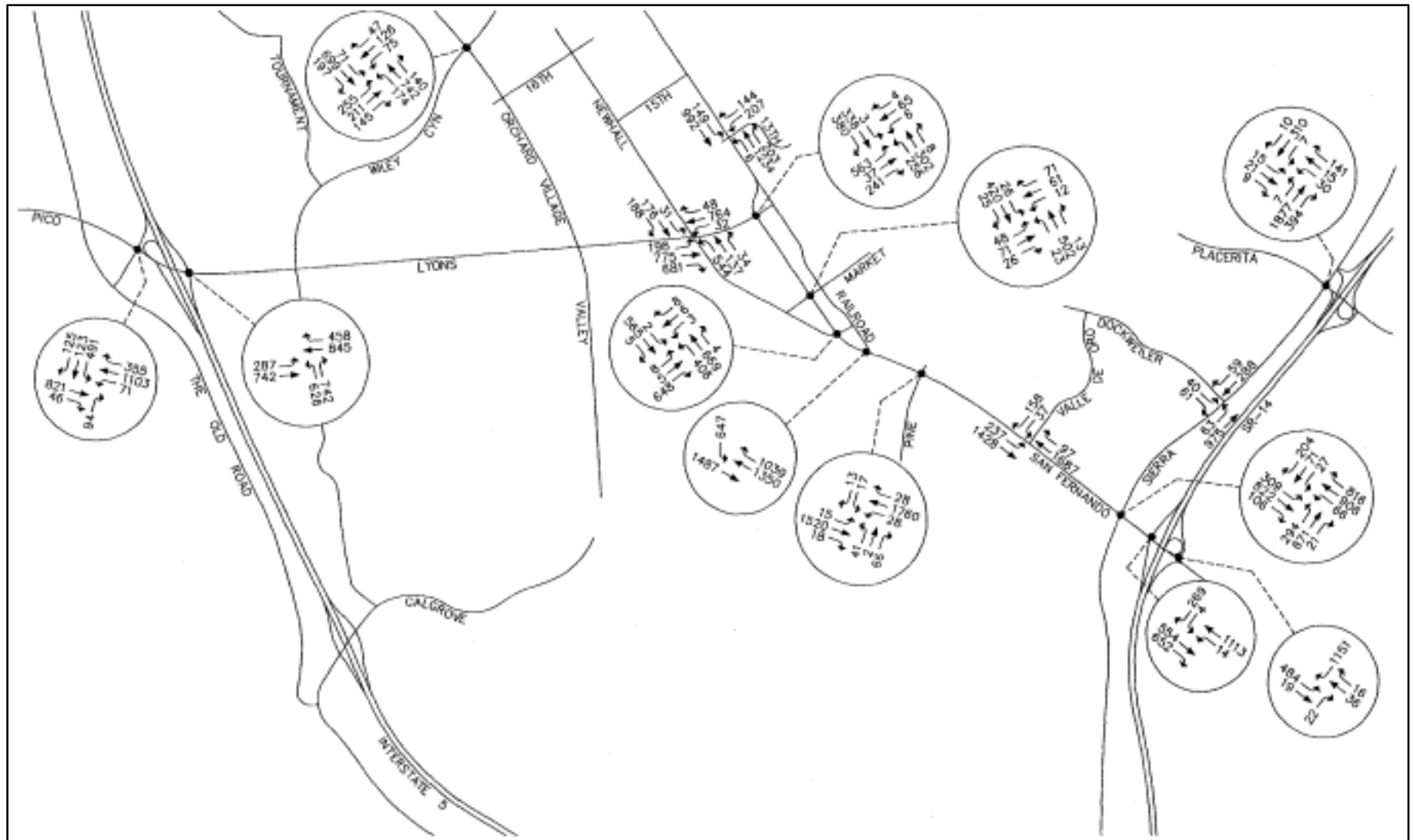




AM Peak Hour Turning Movement Volumes - Existing Conditions

Figure 4.5-2





PM Peak Hour Turning Movement Volumes - Existing Conditions

Figure 4.5-3



corresponding intersection capacity utilization (ICU) values are listed in Table 4.5-2. An ICU of .90 represents the maximum desirable capacity utilization and an ICU above 1.00 means the theoretical capacity of the intersection is being exceeded. ICU calculation worksheets for each intersection are provided in Appendix D.

**Table 4.5-2 Intersection Capacity Utilization Summary  
Existing Conditions**

Intersection	Existing Counts		Count Date
	AM	PM	
16. I05 SB Ramps & Pico/Marriott	.55	.60	2000
17. I-5 NB Ramps & Lyons	.57	.68	2000
54. Orchard Village & Wiley	.35	.54	2001
56. Newhall & Lyons	.63	.69	2001
60. San Fernando & Newhall	.55	.69	2001
61. San Fernando & Lyons	.46	.55	2001
76. San Fernando & 13 <sup>th</sup>	.46	.55	2001
77. San Fernando & Market	.32	.37	2001
78. Valle Del Oro & San Fernando	.59	.74	2001
140. SR-14 NB Ramps & San Fernando	.17	.27	2001
141. SR-14 SB Ramp & San Fernando	.72	.57	2001
142. Sierra Hwy & San Fernando	1.01*	1.00*	2001
145. Sierra Hwy & Placerita Cyn	.66	.84	2001
179. Sierra Hwy & Dockweiler	.36	.30	2001
215. Pine & San Fernando	.57	.69	2001

\* Exceeds LOS "D"

Level of service ranges:

- .00-.60 A
- .61-.70 B
- .71-.80 C
- .81-.90 D
- .91-1.00 E
- Above 1.00 F

The intersections studied in this analysis represent a mixture of traffic signal controls and stop-sign controls. Table 4.5-3 summarizes the existing control type for each study location.

**Table 4.5-3 Existing Intersection Control Types**

Traffic Signal	Stop Sign
16. I-5 SB Ramps & Pico/Marriott	140. SR-14 NB Ramps & San Fernando
17. I-5 NB Ramps & Lyons	141. SR-14 SB Ramps & San Fernando
54. Orchard Village & Wiley	215. Pine & San Fernando
56. Newhall & Lyons	
60. San Fernando & Newhall	
61. San Fernando & Lyons	
76. San Fernando & 13 <sup>th</sup>	
77. San Fernando & Market	
78. Valle Del Oro & San Fernando	
142. Sierra Hwy & San Fernando	
145. Sierra Hwy & Placerita Cyn	
179. Sierra Hwy & Dockweiler	
214. Railroad & San Fernando	





The majority of intersections within the study area are currently operating at LOS C or better. The exceptions consist of Sierra Highway/San Fernando Road, which is operating at LOS “F” in the AM peak hour (and approaching LOS “F” in the PM peak hour) and Sierra Highway/Placerita Canyon Road, which is operating at LOS “D” in the PM peak hour.

### 4.5.2 Impact Analysis

**a. Methodology and Significance Thresholds.** Table 4.5-4 summarizes the land use and trip generation characteristics of the proposed project. The project is forecast to generate approximately 26,700 total daily trips of which 2,890 trips will occur in each of the peak hours (AM and PM). These trip generation estimates have been derived by using the industrial park trip generation rates from the SCVCTM. The SCVCTM rates were derived from Institute of Transportation Engineers (ITE) published trip generation rates combined with local data obtained from specific studies of large industrial park areas within the Santa Clarita Valley.

**Table 4.5-4 Land Use and Trip Generation Summary**

Land Use Type	Units	AM Peak Hour			PM Peak Hour			ADT
		In	Out	Total	In	Out	Total	
Trip Generation Industrial Park	4,445.73 TSF	2,446	444	2,890	578	2,312	2,890	26,674
Trip Rate Industrial Park	TSF	.55	.10	.65	.13	.52	.65	6.00

*Trip Rate Source: Santa Clarita Valley Consolidated Traffic Model*

The distribution of project-generated trips is based on the surrounding roadway system and the types of land uses both in the immediate vicinity of the project and regionwide. The SCVCTM was utilized to derive this distribution by assigning project trips to a roadway network that replicates real-world conditions and is based on the actual travel characteristics of the region. The distribution of project trips used in this analysis is shown on Figure 4.5-4.

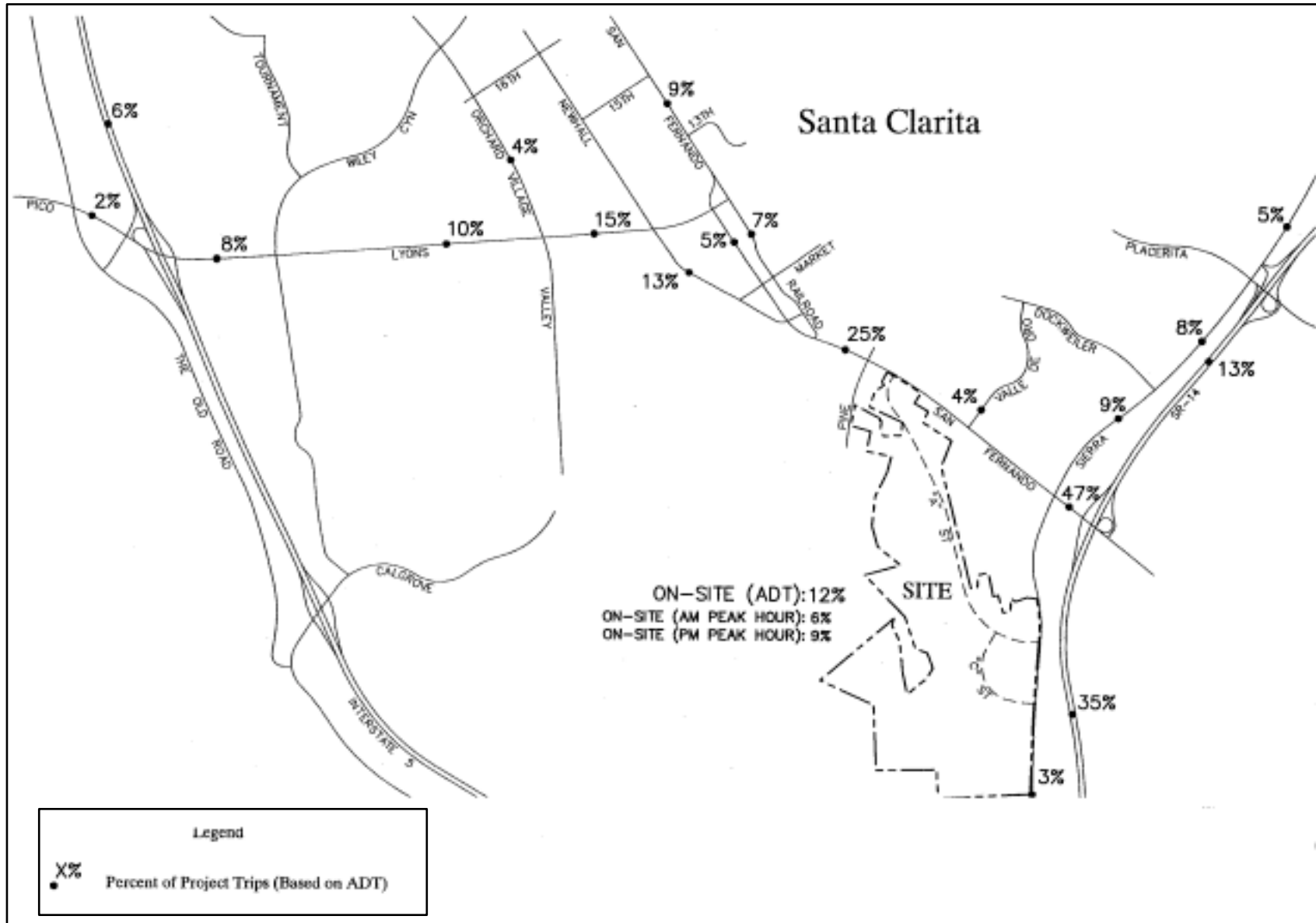
Table 4.5-5 summarizes the procedures used in the level of service calculations and the criteria for determining a significant project impact.

**Table 4.5-5 Traffic Analysis Performance Criteria Peak Hour Intersection Capacity Utilization (ICU)**

Level of service to be based on peak hour ICU values calculated using the following assumptions:	
Saturation Flow Rate: 1,750 vehicles/hour/lane	
Clearance Interval: .10	
RTOR Allowed: Yes (1)	
RTOR Saturation Flow Factor: .75	
Mitigation Requirements:	
A significant impact occurs when any of the following conditions are met:	
With Project ICU	Project Increment
.00-.79	greater than or equal to .04
.80-.89	greater than or equal to .02
.90 or more	greater than or equal to .01

(1) “De facto” right-turn lane is used in the ICU calculation if 19 feet from edge to outside of thru lane exists and parking is prohibited during peak hours





North

Project Distribution

Figure 4.5-4

**b. Project Impacts and Mitigation Measures.**

**Impact TC-1** The proposed project would generate significant traffic impacts under City criteria at 13 of 19 study area intersections under existing + project conditions. These impacts are considered Class II, significant but mitigable.

The project trips were added to the existing traffic volumes and the ICU methodology was used to assess the resulting traffic conditions. Figures 4.5-5 and 4.5-6 show the AM and PM peak hour volumes, respectively, for the Existing plus Project scenario.

Table 4.5-6 summarizes the ICU values for each of the study intersections for existing plus project conditions.

**Table 4.5-6 Intersection Capacity Utilization Summary  
 Existing + Project Conditions**

Intersection	Existing Counts		Existing + Project		Project Increment	
	AM	PM	AM	PM	AM	PM
16. I-5 SB Ramps & Pico/Marriott	.55	.60	.56	.61	.01	.01
17. I-5 NB Ramps & Lyons	.57	.68	.57	.70	--	.02
54. Orchard Village & Wiley	.35	.54	.39*	.55	.04	.01
56. Newhall & Lyons	.63	.69	.70*	.79*	.07	.10
60. San Fernando & Newhall	.55	.69	.80*	.78*	.25	.09
61. San Fernando & Lyons	.46	.55	.48	.58	.02	.03
76. San Fernando & 13 <sup>th</sup>	.69	.80	.70	.87*	.01	.07
77. San Fernando & Market	.32	.37	.37*	.42*	.05	.05
78. Valle Del Oro & San Fernando	.59	.74	.80*	.81*	.21	.07
140. SR-14 NB Ramps & San Fernando	.17	.27	.19	.37*	.02	.10
141. SR-14 SB Ramps & San Fernando	.72	.57	.83*	.66*	.11	.09
142. Sierra Hwy & San Fernando	1.01	1.00	1.51*	1.30*	.50	.30
145. Sierra Hwy & Placerita Cyn	.66	.84	.83*	.90*	.17	.06
179. Sierra Hwy & Dockweiler	.36	.30	.44*	.34*	.08	.04
214. Railroad & San Fernando	.52	.70	.73*	.82*	.21	.12
215. Pine & San Fernando	.57	.69	.85*	.97*	.28	.28
216. 'A' St San Fernando	--	--	.71	.84	--	--
217. Sierra & 'A' St	--	--	.74	.70	--	--
218. Sierra & 'C' St	--	--	.59	.55	--	--

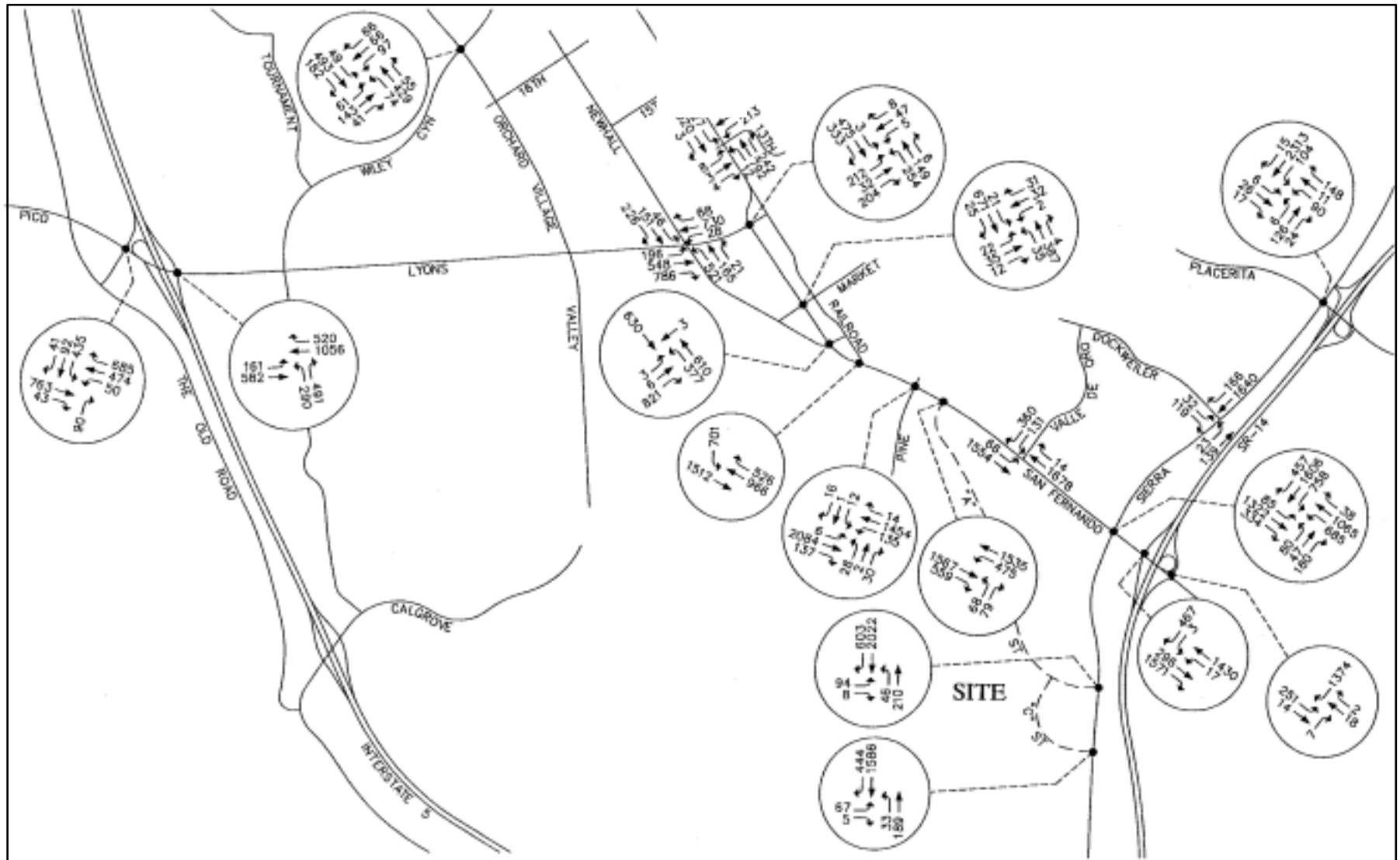
\* Significant project impact

Level of service ranges:  
 .00-.60 A  
 .61-.70 B  
 .71-.80 C  
 .81-.90 D  
 .91-1.00 E  
 Above 1.00 F

The table shows that the following intersections would be significantly affected by the proposed project:

- 54. Orchard Village Road & Wiley Canyon Road
- 56. Newhall Avenue & Lyons Avenue



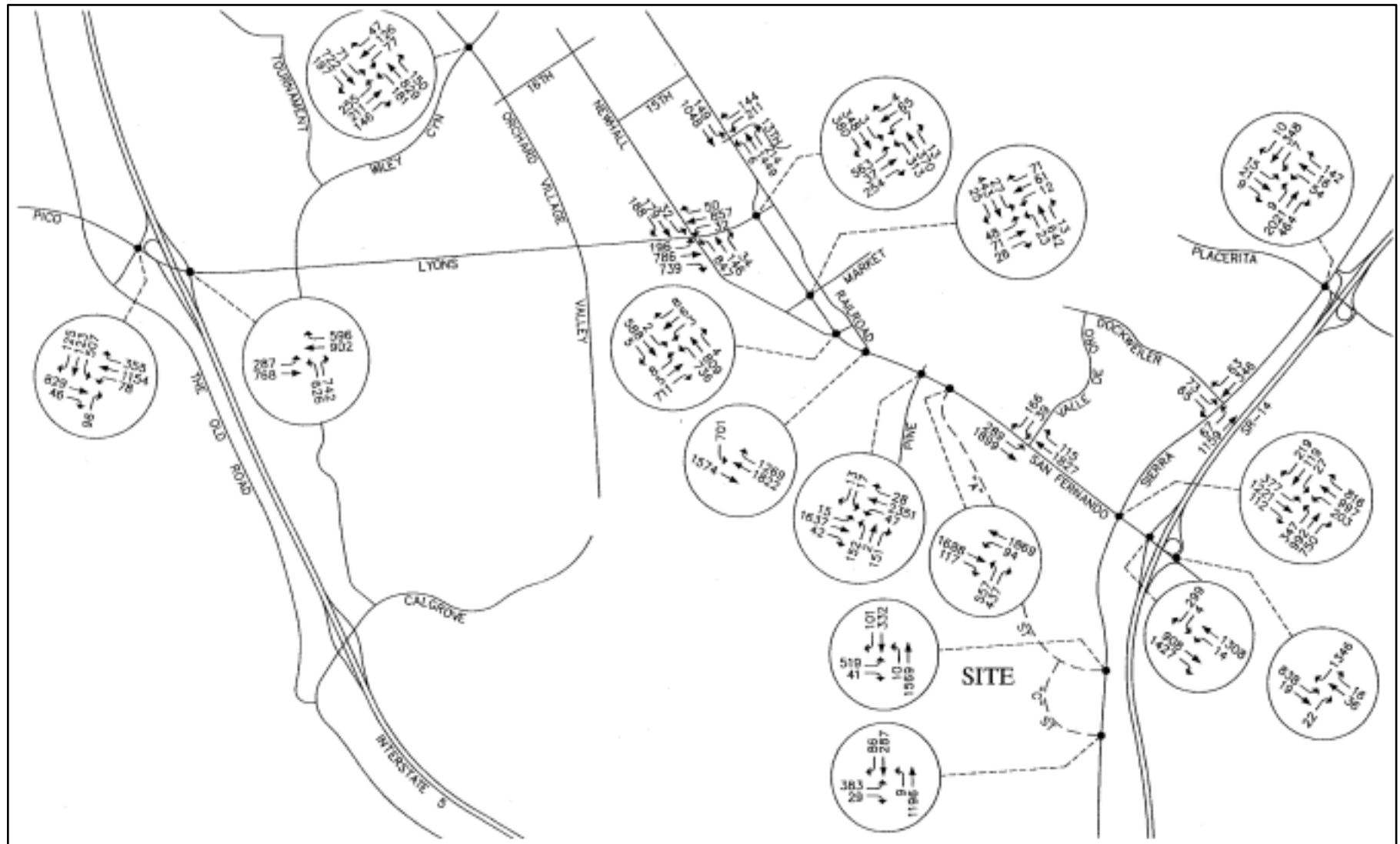


AM Peak Hour Turning  
 Movement Volumes - Existing Plus Project

Figure 4.5-5



North



**Pm Peak Hour Turning  
 Movement Volumes - Existing Plus Project**

Figure 4.5-6



North

- 60. San Fernando Road and Newhall Avenue
- 76. San Fernando Road and 13<sup>th</sup> Street
- 77. San Fernando Road and Market Street
- 78. Valle Del Oro and San Fernando Road
- 140. SR-14 Northbound Ramps and San Fernando Road
- 141. SR-14 Southbound Ramps and San Fernando Road
- 142. Sierra Highway and San Fernando Road
- 145. Sierra Highway and Placerita Canyon Road
- 179. Sierra Highway and Dockweiler Drive
- 214. Railroad Avenue and San Fernando Road
- 214. Pine Street and San Fernando Road

Mitigation Measures. Table 4.5-7 summarizes mitigation measures in the form of intersection improvements that effectively mitigate the project’s direct impacts.

**Table 4.5-7 Project Mitigation - Existing + Project Conditions**

Intersection	Mitigation	No-Project ICUs		Mitigated Project ICUs	
		AM	PM	AM	PM
54 Orchard Valley & Wiley	Impact Fee*	.35	.54	.39	.55
56. Newhall & Lyons	Convert WB right-turn lane to third WB through lane. Provide right-turn overlap phasing for EB approach	.63	.69	.66	.72
60. San Fernando & Newhall	Provide right-turn overlap phasing for EB approach	.53	.69	.75	.70
76. San Fernando & 13 <sup>th</sup>	Add NB right-turn lane	.69	.80	.66	.80
77. San Fernando & Market	Impact Fee*	.32	.37	.37	.42
78. Valle Del Oro & San Fernando	Add 3 <sup>rd</sup> EB through lane and convert WB right-turn lane to 3 <sup>rd</sup> WB through lane	.59	.74	.64	.66
140. SR-14 NB Ramp & San Fernando	Impact Fee*	.17	.27	.19	.37
141. SR-14 SB Ramp & San Fernando	Convert SB left-turn lane to shared left/right-turn lane	.72	.57	.69	.61
142. Sierra Hwy & San Fernando	Add 2 NB right-turn lanes, 3 <sup>rd</sup> SB through lane, 3 <sup>rd</sup> EB through lane, 2 <sup>nd</sup> WB left-turn lane and convert 2 <sup>nd</sup> WB through lane to shared through/right-turn lane.	1.01	1.00	.99	.96
145. Sierra Hwy & Placerita Cyn	Add NB right-turn lane and 3 <sup>rd</sup> SB through lane	.66	.84	.60	.77
179. Sierra Hwy & Dockweiler Dr.	Impact Fee*	.36	.30	.44	.34
214. Railroad Ave & San Fernando	Add 3d EB through lane and 3 <sup>rd</sup> WB through lane	.52	.70	.59	.65
215. Pine St & San Fernando Rd	Add NB left-turn lane, 3 <sup>rd</sup> EB through lane and 3 <sup>rd</sup> WB through lane	.57	.69	.64	.67
216. 'A' St & San Fernando Rd	Add 3 <sup>rd</sup> EB through lane and 3 <sup>rd</sup> WB through lane	.57	.69	.56	.68

\* For locations where “with-project” conditions are LOS B or better, mitigation consists of payment of Bridge and Thoroughfare District fees in lieu of specific improvements for that location.



Significance After Mitigation. With the above measures, all impacts under the existing + project scenario could be mitigated to a less than significant level based on City criteria.

**Impact TC-2 The proposed project would generate significant traffic impacts under City criteria at 10 of 19 study area intersections under interim year + project conditions. These impacts are considered Class II, significant but mitigable.**

The project site is located in an area that will be experiencing continual growth in the upcoming years. Buildout of the project site will occur over the next 5 to 10 years, which corresponds to the Interim Year version of the SCVCTM.

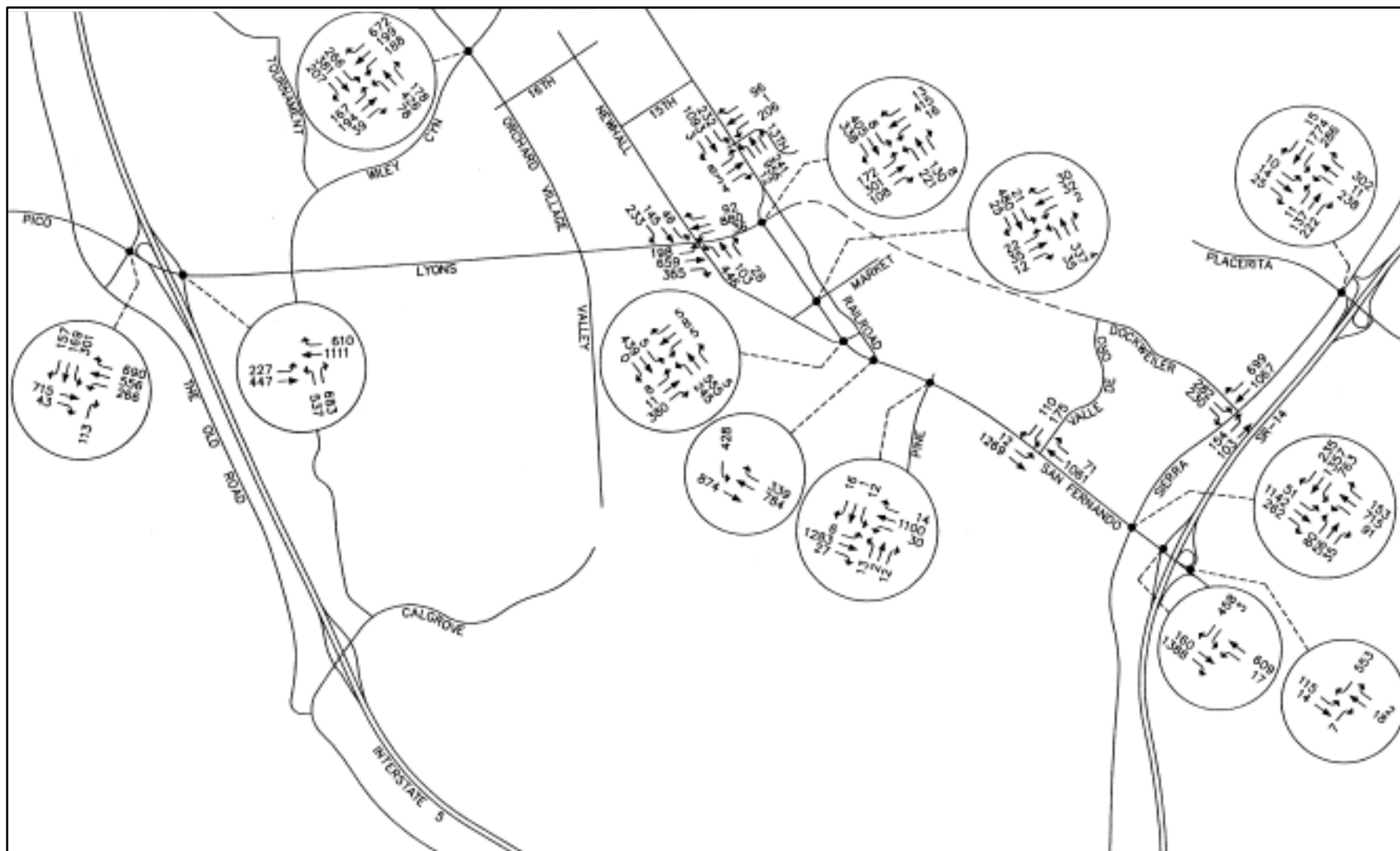
The SCVCTM was used to derive traffic volumes for Interim Year conditions by utilizing the City's projection of land use development in the Valley (related projects) corresponding to this time frame. Planned roadway improvements scheduled for completion within this same time frame were also included as part of the background conditions.

Figures 4.5-7 and 4.5-8 show the AM and PM peak hour turning movement volumes, respectively, for the Interim Year scenario. Interim Year plus Project conditions are illustrated on Figures 4.5-9 and 4.5-10 for the AM and PM peak hours, respectively.

Table 4.5-8 summarizes the ICU values for Interim Year conditions both with and without the project. Eleven intersections are projected to be significantly affected by project traffic. Interim Year with project conditions includes the mitigation identified in the previous section which accounts for a reduction in ICU for some locations.

Mitigation Measures. The previous section showed how several intersections are significantly impacted due to the inclusion of project traffic with Interim Year conditions. Intersection and roadway improvements will be required in order to maintain acceptable levels of service in the future. Table 4.5-9 summarizes these improvements and lists the proposed project's percent share of the improvement. Also included in the table are the ICU values that result from applying the recommended mitigation. Figure 4.5-11 illustrates the intersection lane configurations with these improvements. For locations where "with-project" conditions are LOS B or better, mitigation consists of payment of Bridge and Thoroughfare District Fees in lieu of specific improvements for that location.

Significance After Mitigation. With the above measures and the measures included under Impact TC-1, all impacts under the Interim Year plus Project scenario could be mitigated to a less than significant level based on City criteria.



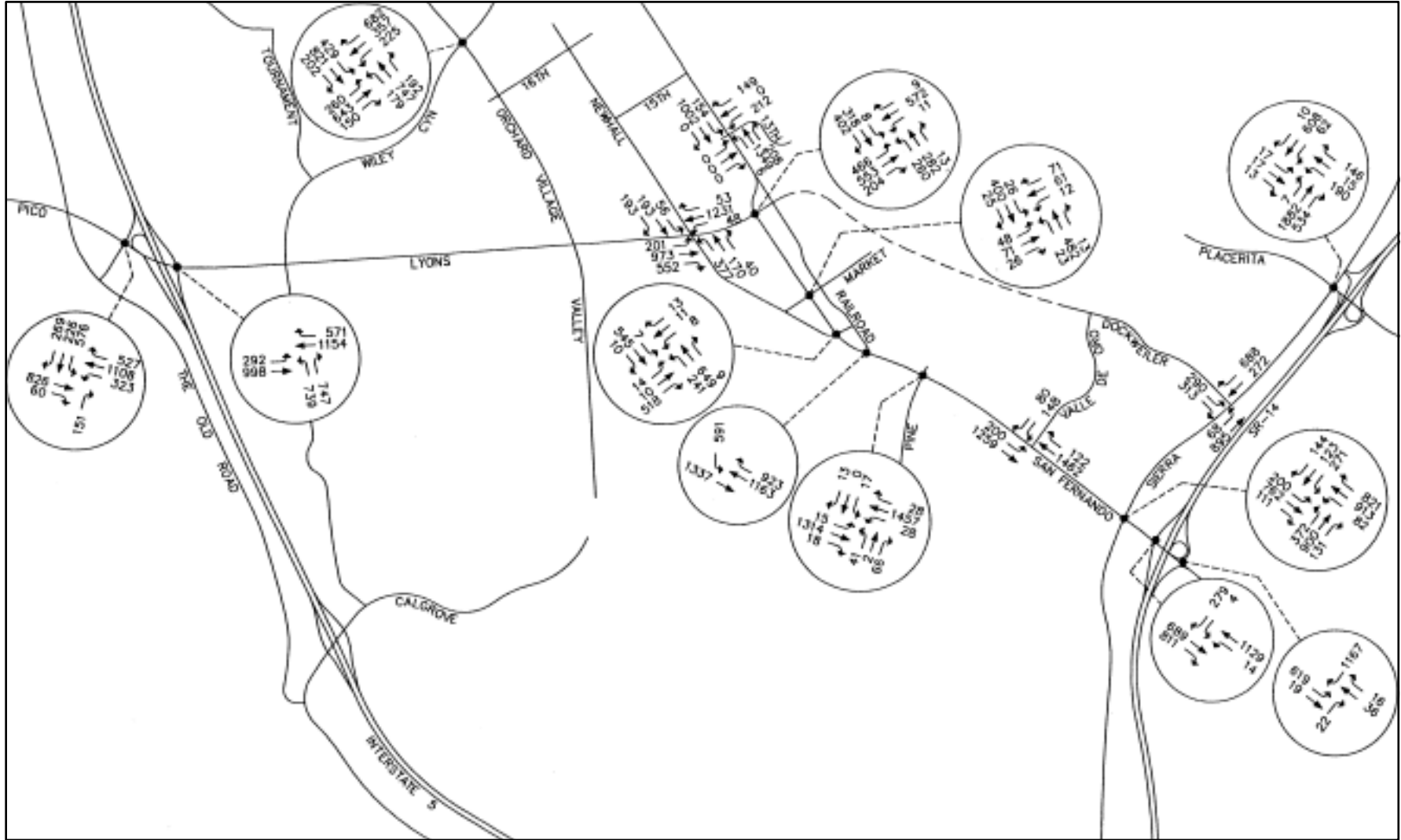
North

**AM Peak Hour Turning Movement  
Volumes - Interim Year Without Project**

Figure 4.5-7



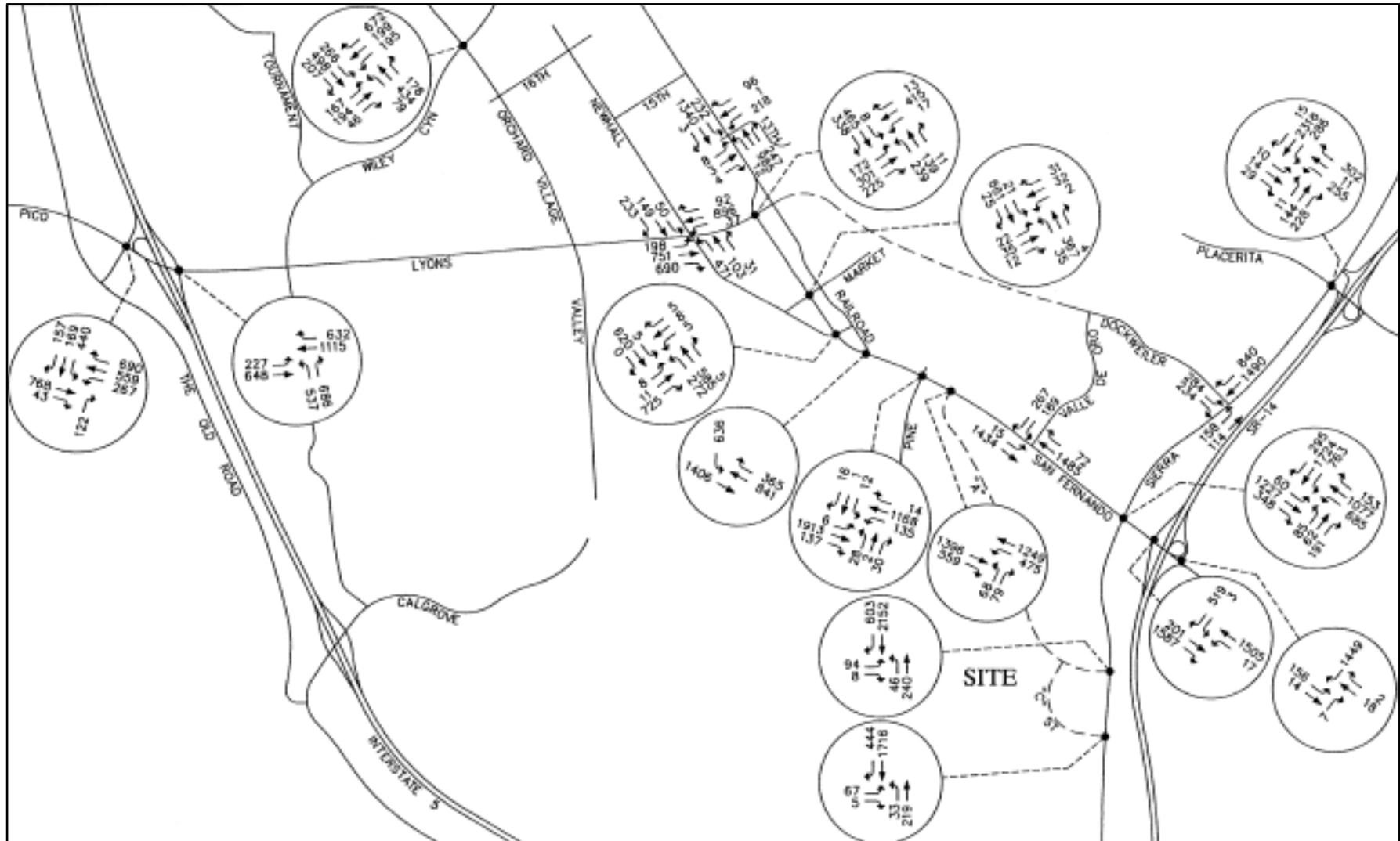




North

PM Peak Hour Turning Movement  
 Volumes - Interim Year Without Project

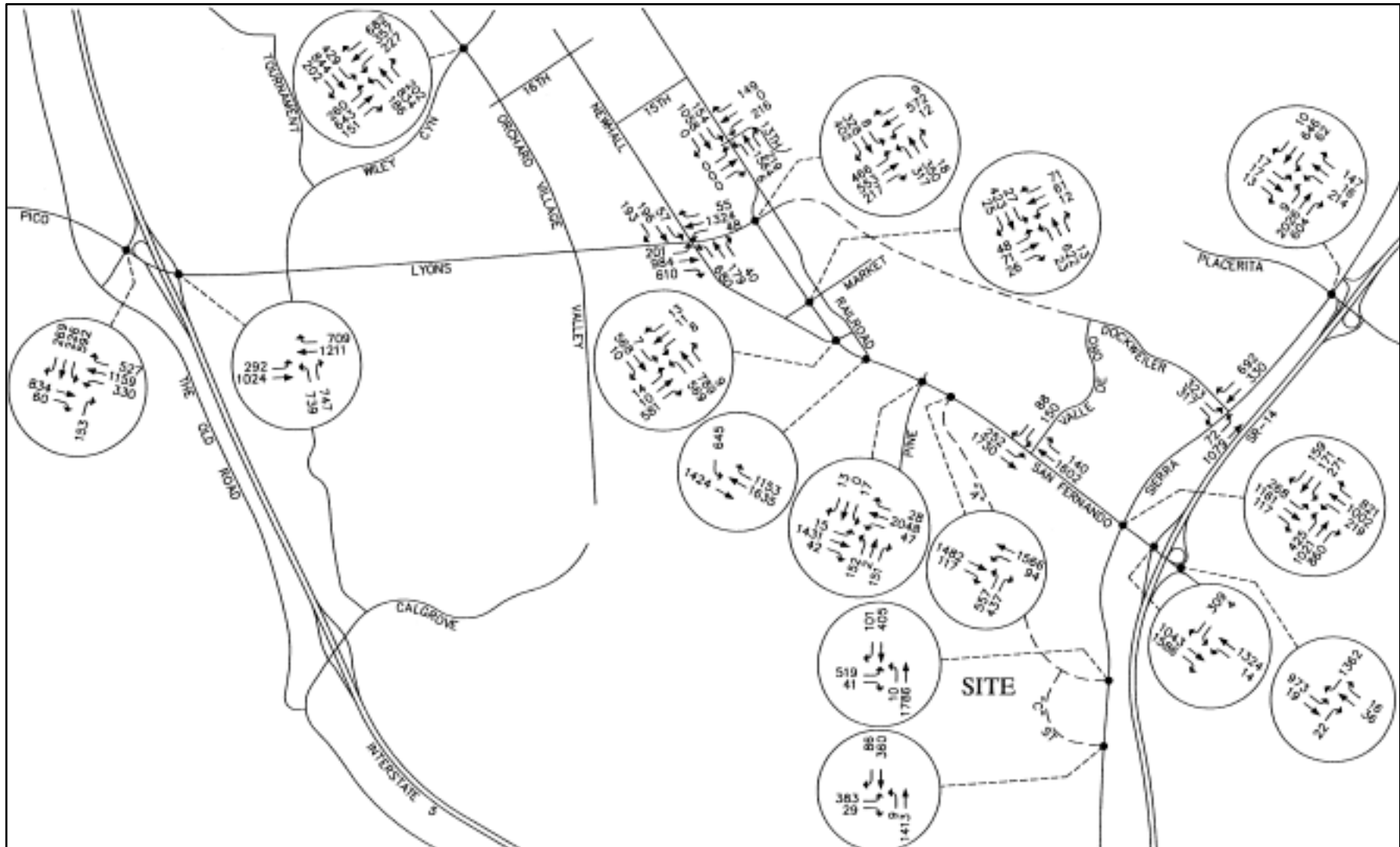
Figure 4.5-8



North

AM Peak Hour Turning Movement  
 Volumes - Interim Year With Project

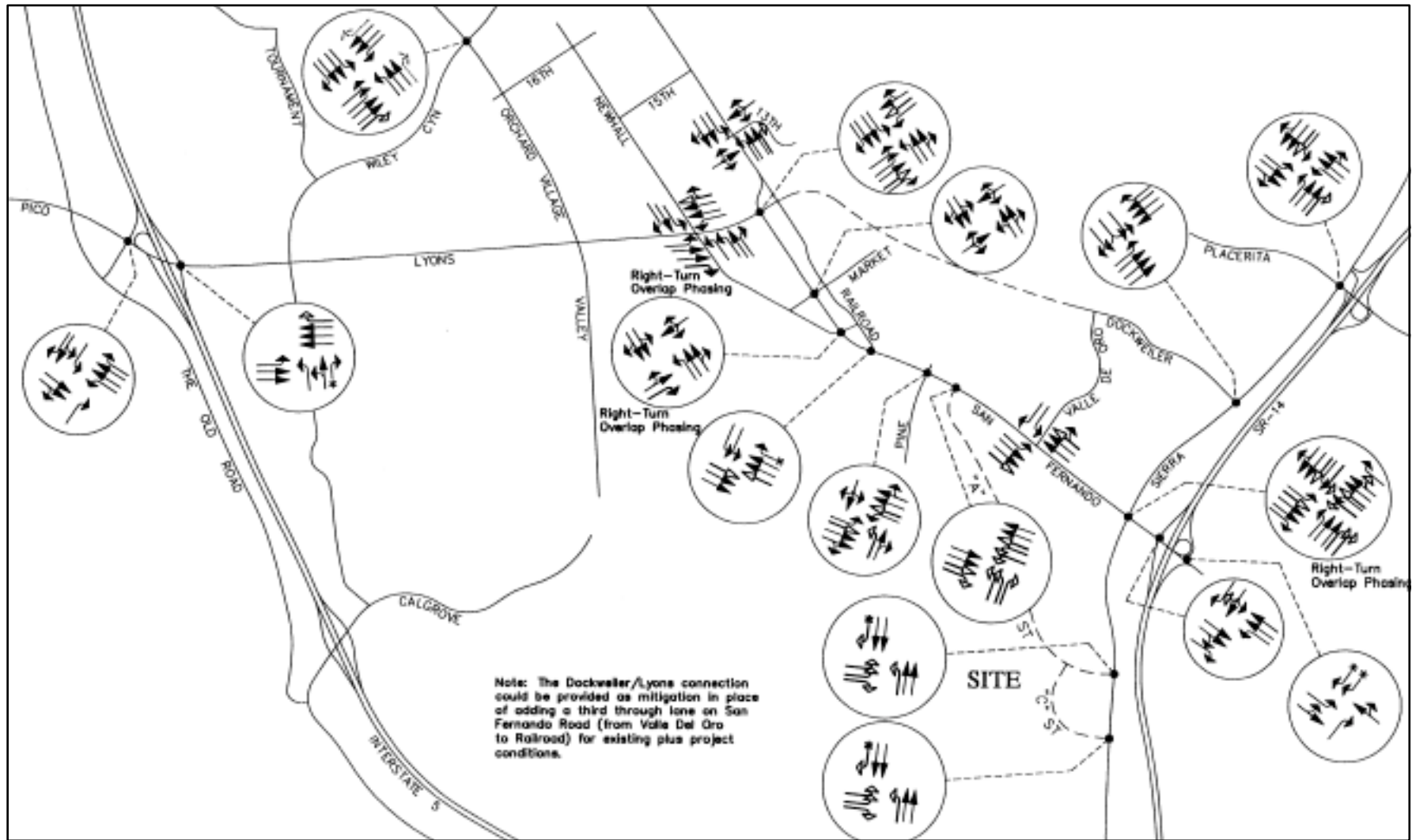
Figure 4.5-9



North

PM Peak Hour Turning Movement  
 Volumes - Interim Year With Project

Figure 4.5-10



North

Intersection Lane Configurations - With Project Mitigation

Figure 4.5-11

**Table 4.5-8 Intersection Capacity Utilization Summary  
 Interim Year Conditions**

Intersection	Interim Year w/o Project		Interim Year w/ Project**		Project increment	
	AM	PM	AM	PM	AM	PM
16. I-5 SB Ramps & Lyons	.60	.76	.65*	.78	.05	.02
17. I-5 NB Rams & Lyons	.70	.81	.70	.83	.00	.02
54. Orchard Village & Wiley	.69	.92	.69	.95	.00	.03
56. Newhall & Lyons	.67	.78	.62	.77	-.05	-.01
60. San Fernando & Newhall	.48	.59	.69*	.63*	.21	.04
61. San Fernando & Lyons	.55	.68	.56	.71*	.01	.03
76. San Fernando Rd & 13 <sup>th</sup> St	.74	.84	.69	.85	-.05	.01
77. San Fernando & Market	.32	.37	.37*	.42*	.05	.05
78. Valle Del Oro & San Fernando	.56	.71	.55	.66	-.01	-.05
140. SR-14 NB Ramps & San Fernando	.15	.31	.16	.41*	.01	.10
141. SR-14 SB Ramps & San Fernando	.77	.58	.71	.65*	-.06	.07
142. Sierra & San Fernando	.98	1.01	.99*	1.00*	.01	-.01
145. Sierra & Placerita Cyn	.77	.95	.71	.85	-.06	-.10
179. Sierra Hwy & Dockweiler	.61	.55	.69*	.56*	.08	.01
214. Railroad & San Fernando	.47	.65	.55*	.59	.08	-.06
215. Pine & San Fernando	.52	.60	.61*	.62	.09	.02
216. 'A' St & San Fernando	--	--	.56	.64	--	--
217. Sierra & 'A' St	--	--	.77	.76	--	--
218. Sierra & 'C' St	--	--	.63	.61	--	--

\* Significant project impact

Level of service ranges:  
 .00-.60 A  
 .61-.70 B  
 .71-.80 C  
 .81-.90 D  
 .91-1.00 E  
 Above 1.00 F

**Table 4.5-9 Project Mitigation - Interim Year Conditions**

Intersection	Mitigation	No-Project ICU's		Mitigated Project ICU's		Project Share
		AM	PM	AM	PM	
16. I-5 SB Ramps & Lyons	Impact fee**	.60	.76	.65	.78	N/A
17. I-5 NB Ramps & Lyons	Add WB right-turn lane	.70	.81	.63	.73	23%
54. Orchard Village & Wiley	Add EB right-turn lane	.69	.92	.69	.90	7%
60. San Fernando & Newhall	Impact fee**	.48	.59	.69	.63	N/A
77. San Fernando & Market	Impact fee**	.32	.37	.37	.42	N/A
140. SR-14 NB Ramps & San Fernando	Impact fee**	.15	.31	.16	.41	N/A



**Table 4.5-9 Project Mitigation - Interim Year Conditions**

Intersection	Mitigation	No-Project ICU's		Mitigated Project ICU's		Project Share
		AM	PM	AM	PM	
141. SR-14 SB Ramp & San Fernando	Impact fee**	.77	.58	.71	.65	N/A
142. Sierra Hwy & San Fernando	Add 2 <sup>nd</sup> SB left turn lane, 3 <sup>rd</sup> WB through lane. Provide right-turn overlap phasing for NB approach	.98	1.01	.96	.87	100%
179. Sierra Hwy & Dockweiler Dr	Add 2 <sup>nd</sup> EB left turn lane. Provide right-turn overlap phasing for SB approach.	.63	.57	.69	.54	N/A
214. Railroad Ave * San Fernando	Impact fee**	.47	.65	.55	.59	N/A
215. Pine St & San Fernando	Impact fee**	.52	.60	.61	.62	N/A

\* Project share calculated using the traffic average of AM and PM peak hour volumes

\*\* Project percentage share = Project Traffic ÷ (Project + Other Related Project Traffic)

**Impact TC-3 Installation of traffic signals is warranted at each of the new intersections created by the project as well as at the existing Pine Street/San Fernando Road and SR-14 Southbound ramps/San Fernando Road intersection. These impacts are considered Class II, significant but mitigable.**

The project includes two roadways within the project site that would connect with the existing circulation system. 'A' Street would provide a connection between San Fernando Road and Sierra Highway and 'C' Street would connect Sierra Highway with 'A' Street. A third street, 'B' Street, will cul-de-sac off of 'A' Street approximately 600 feet west of Sierra Highway. The existing Pine Street would also provide access to approximately 10% of the project site. No additional access (e.g. driveways) to the existing circulation system is proposed.

The need for the installation of traffic signals has been evaluated where 'A' Street and 'C' Street intersect the existing arterials as well as at the existing intersection of Pine Street and San Fernando Road. The off-site study locations currently without traffic signal control were also evaluated to determine whether project traffic creates the need for a traffic signal.

Table 4.5-10 summarizes the results of the traffic signal warrant analysis. Each of the new intersections will warrant a traffic signal when project traffic is added to existing traffic volumes. The existing Pine Street/San Fernando Road intersection and the intersection of the SR-14 Southbound ramps and San Fernando Road will also warrant a traffic signal under existing plus project conditions. The Caltrans warrant based on peak hour volumes was used to make this determination.

Mitigation Measures. In conjunction with project development, traffic signals shall be added at the following intersections:



**Table 4.5-10 Signal Warrant Analysis**

Intersection	Existing Without Project		Existing With Project		
	AM	PM	AM	PM	
<b>141. SR-14 SB Ramp &amp; San Fernando</b>					
Major Approach	EB	225	554	296	908
	WB	551	1127	1,447	1,322
	Total	806	1681	1,743	2,230
Minor Approach	SB	409	273	470	303
Satisfies Warrant(1) ?		No	Yes	Yes	Yes
<b>215. Pine &amp; San Fernando</b>					
Major Approach	EB	1,487	1,553	2,227	1,694
	WB	1,430	1,816	1,603	2,426
	Total	2,917	3,369	3,838	4,120
Minor Approach	NB	25	109	60	305
Satisfies Warrant(1) ?		No	No	No	Yes
<b>216. 'A' Street &amp; San Fernando</b>					
Major Approach	NB	-	-	2,126	1,805
	SB	-	-	2,010	1,963
	Total	-	-	4,136	3,768
Minor Approach	NB	-	-	147	994
Satisfies Warrant(1) ?		n/a	n/a	No	Yes
<b>217. Sierra &amp; 'A' Street</b>					
Major Approach	NB	-	-	256	1,579
	SB	-	-	2,022	332
	Total	-	-	2,276	1,911
Minor Approach	EB	-	-	102	560
Satisfies Warrant(2) ?		n/a	n/a	Yes	Yes
<b>218. Sierra &amp; 'C' Street</b>					
Major Approach	NB	-	-	222	1205
	SB	-	-	1,586	287
	Total	-	-	1,808	1,492
Minor Approach	EB	-	-	72	412
Satisfies Warrant (2) ?		No	No	No	Yes

Warrant(1) Based on Caltrans Urban Warrant (speeds < 40 mph)  
Warrant(2) Based on Caltrans Rural Warrant (speeds > 40 mph)

- 141. SR-14 SB Ramp & San Fernando Road
- 215. Pine Street & San Fernando Road
- 216. 'A' Street & San Fernando Road
- 217. Sierra Highway & 'A' Street
- 218. Sierra Highway & 'C' Street



Significance After Mitigation. Installation of traffic signals as indicated would mitigate this impact to a less than significant level.

**Impact TC-4 The proposed project would not create any significant impacts under Los Angeles County CMP criteria. Impacts relating to CMP criteria are considered Class III, less than significant.**

The Congestion Management Program (CMP) for Los Angeles County requires that a proposed development address three major subject areas with respect to traffic impacts. The first two are related to impacts on the highway and transit system, and the third is a debit/credit analysis to assess project impacts and benefits. Each of these are discussed below.

*Highway Impacts.* Project-related traffic impacts at CMP monitoring locations are identified as part of the traffic impact analysis (TIA). The CMP guidelines for preparing a TIA specify that the geographical area examined in the TIA will include the following:

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

Project volumes at CMP monitoring locations were checked to determine which locations meet the above criteria. The trip distribution procedure outlined in the CMP was used to distribute the project-generated trips. First, the locations nearest the project were checked and then if the criteria for minimum volumes was met, additional locations further from the project site were then considered. This process was repeated until project volumes dropped to a level below the stated criteria.

Table 4.5-11 summarizes the CMP monitoring locations analyzed and those which meet the criteria for inclusion in the TIA. As seen in this table, five intersections meet the criteria for inclusion in the TIA and three freeway segments meet the criteria for inclusion in the TIA (see table for listing).

Table 4.5-12 shows the level of service at the CMP monitoring locations and the project's contribution to the resulting V/C ratio. For the purpose of a CMP TIA, a significant project impact occurs when the proposed project increases traffic demand on a CMP facility by two percent of capacity (V/C  $\geq$  .02), causing or worsening LOS "F" (V/C > 1.00). The table shows that the locations are not significantly affected by the project.

*Transit.* Another component of the CMP transportation impact analysis is a review of transit impacts. This EIR includes evidence that transit operators received the Notice of Preparation, identification of existing transit services near the project, estimation of the number of project trips assigned to transit, information on facilities and/or programs that will encourage public transit use and an analysis of project impacts on transit service.



**Table 4.5-11 CMP Monitoring Locations**

CMP Station	Location	Peak Hour Volume*	Meets Criteria?
<b>Intersections</b>			
91	Henry Mayo (SR-126) & Chiquito Cyn	21	No
103	Sierra Hwy & Sand Cyn	32	No
133	Magic Mtn & Valencia	56	Yes
134	San Fernando & Lyons	207	Yes
135	San Fernando & Sierra Hwy	1,730	Yes
136	Sierra Hwy & Placerita Cyn	578	Yes
137	Sierra Hwy & Soledad Cyn	119	Yes
<b>Freeways</b>			
1,009	I-5 n/o SR-126 west	72	No
1,008	I-5 n/o SR-14	5	No
1,007	I-5 at Osborne	186	Yes
1,006	I-5 at Burbank	78	No
1,022	SR-14 n/o I-5	896	Yes
1,023	SR-14 s/o Angeles Forest Hwy	76	No
1,071	I-405 n/o Roscoe	197	Yes
1,070	I-405 s/o Mulholland	48	No

\*Higher of total AM or PM Peak hour volume for intersections and the highest directional peak hour volume for Freeway segments.

**Table 4.5-12 CMP Monitoring Locations - Interim Year Peak Hour Volumes**

Location	No Project		With Project Mitigation		Project V/C contribution	
	AM	PM	AM	PM	AM	PM
<b>Intersections</b>						
Magic Mountain & Valencia	.87	1.20	.87	1.20	.00	.00
San Fernando & Lyons	.59	.73	.60	.77	.01	.04
San Fernando & Sierra	1.07	1.10	1.07	.95	.00	-.15
Sierra Hwy & Placerita Cyn	.83	1.03	.77	.91	-.06	-.12
Sierra Hwy & Soledad Cyn	.93	1.20	.93	1.21	.00	.01

Level of service ranges:  
 .00-.60 A  
 .61-.70 B  
 .71-.80 C  
 .81-.90 D  
 .91-1.00 E  
 Above 1.00 F



Location	Peak Hour Capacity	No Project				With Project				Project V/C Contribution	
		AM		PM		AM		PM		AM	PM
		Vol	V/C	Vol	V/C	Vol	V/C	Vol	V/C		
<b>Freeway Segments</b>											
Route 14 n/o I-5 (NB)	10,000	1,713	.17	8,275	.83	2,609	.26	8,469	.85	.09	.02
Route 14 n/o I-5 (SB)	10,000	9,358	.94	2,843	.28	9,521	.95	3,618	.36	.01	.08
I-5 at Osborne (NB)	12,000	8,556	.71	15,797	1.32	8,742	.73	15,837	1.32	.02	.00
I-5 at Osborne (SB)	10,000	10,545	1.05	9,449	.94	10,579	1.06	9,609	.96	.01	.02
I-405 n/o Roscoe (NB)	10,000	6,232	.62	13,154	1.32	6,429	.64	13,197	1.32	.02	.00
I-405 n/o Roscoe (SB)	8,000	8,427	1.05	6,380	.80	8,463	1.06	6,550	.82	.01	.02

Level of service ranges:

- .00-.35 A
- >.35-.54 B
- >.54-.77 C
- >.77-.93 D
- >.93-1.00 E
- >1.00-1.25 F(0)
- >1.25-1.35 F(1)
- >1.35-1.45 F(2)
- Above 1.45 F(3)

Existing fixed-route bus service within a quarter mile radius of the proposed project consists of several Santa Clarita Transit Routes. Routes 1 (Castaic) and 2 (Val Verde) provide service to Whites Canyon, Valencia Industrial Area, Valencia Commerce Center Area, Newhall and Town Center. Route 790 provides service to Olive View Medical Center in Sylmar, Route 793 provides service to the Central San Fernando Valley, Route 795 provides service to Lancaster/Palmdale/Acton, Route 796 provides service to Warner Center/Thousand Oaks, Route 797 provides service to Century City/UCLA, Route 798 provides service to Van Nuys/Sherman Oaks, and Route 799 provides service to Downtown Los Angeles.

A Metrolink Station is located in Newhall within a two-mile radius of most of the project site. Metrolink provides service to Lancaster and Downtown Los Angeles.

The proposed project would generate an estimated 26,674 daily vehicle trips. The conversion to person trips is accomplished by using the MTA guidelines (multiplying the ADT by an occupancy factor of 1.4), which results in a total of 37,344 average daily person trips. Since the proposed project consists of Industrial Park uses, the MTA guidelines specify that approximately 3.5% of person trips will be transit trips. This results in approximately 1,307 daily transit trips for the proposed project. Using a representative peak hour factor of 10% results in approximately 131 peak hour transit trips to be potentially generated by the proposed project. These trips will need to be accommodated by both the existing transit system as well as future additions to the current system. Bus service is provided by several routes in the project vicinity and it is anticipated that transit service would be extended onto the project site if the proposed industrial park is approved. Los Angeles County has no level of service standards for



transit service and transit service is evaluated and funded on an as-needed basis. Therefore, the Santa Clarita Transit will identify appropriate bus stop/turnout locations.

*Debit/Credit Analysis.* The CMP allows each jurisdiction to mitigate impacts created by new development with an appropriate amount of improvements and/or land use strategies based on a point system. Under this point system, new development generates debit points which represent the jurisdiction’s mitigation goal. Credit points are awarded based on the construction of improvements and/or a number of land use strategies. These credits serve as the basis by which the jurisdictions meet mitigation goals. The CMP allows mitigation in the form of credits to not be directly associated with a specific deficiency, thereby giving local jurisdictions the flexibility to prioritize improvements based on local needs and also to partner with other jurisdictions to resolve regional issues.

This analysis shows the gross impact on the CMP system and provides an estimate of the relative balance of mitigation contained in the plan. Actual debits and credits will be determined in the future and documented by the County of Los Angeles through an Annual Monitoring Activity Report based on the CMP guidelines and prepared in consultation with MTA.

Table 4.5-13 shows the debit points accrued by the project for the proposed land use. The total debit points for the proposed project are projected to be 27,030. As defined in the CMP, these debit points are the mitigation goals associated with the project.

**Table 4.5-13 CMP Project Debits**

<b>Residential Development Activity</b>			
Category	Dwelling Units	Debit Value	Subtotal
None	--	--	--
<b>Commercial Development Activity</b>			
Category	1,000 Gross Sq. Ft.	Debit Value	Subtotal
None	--	--	--
<b>Non-Retail Development Activity</b>			
Category	1,000 Gross Sq. Ft.	Debit Value	Subtotal
Industrial	4,445.73 X	6.08 =	(27,030)
<b>Total Current Congestion Mitigation Goal (Debit Points)</b>			<b>(27,030)</b>

Table 4.5-14 shows the credit points earned by the project due to the construction of (or participation in) qualified capital improvement projects. The project will contribute approximately 46,947 credit points, which will result in a surplus of 19,917 credit points. These surplus credit points can be transferred to other jurisdictions or can be pooled through subregional forums to offset impacts at other locations as determined by the County in cooperation with other local jurisdictions.



**Table 4.5-14 CMP Project Credits**

<b>Industrial Development Along Transit Corridors</b>			
<b>Project</b>	<b>Amount X</b>	<b>Credit Value =</b>	<b>Subtotal</b>
Gate/King	4,445.73 TSF	2.25	10,003
<b>General Use Highway Lane (CMP Route)</b>			
San Fernando Rd. (SR-126) 2 new lanes (6 lanes total) from Railroad to Sierra	1.4 miles x 2 lanes	11,500	32,200
<b>Intersection Modification (CMP Route)</b>			
San Fernando & 13 <sup>th</sup>	1	575	575
San Fernando & Lyons	1	575	575
San Fernando & Railroad	1	575	575
San Fernando & Pine	1	575	575
San Fernando & Valle De Oro	1	575	575
San Fernando & Sierra	1	575	575
Sierra & Dockweiler	1	575	575
Sierra & Placerita	1	575	575
<b>Intersection Modification (Other Major Arterial)</b>			
Lyons & Newhall	1	144	144
<b>Total Deficiency Plan Credit Points</b>			46,947
<b>Total Congestion Mitigation Goal (Debit Points)</b>			(-27,030)
<b>Surplus Credit Points</b>			19,917

Mitigation Measures. The following mitigation measures are recommended to meet Santa Clarita Transit bus stop requirements.

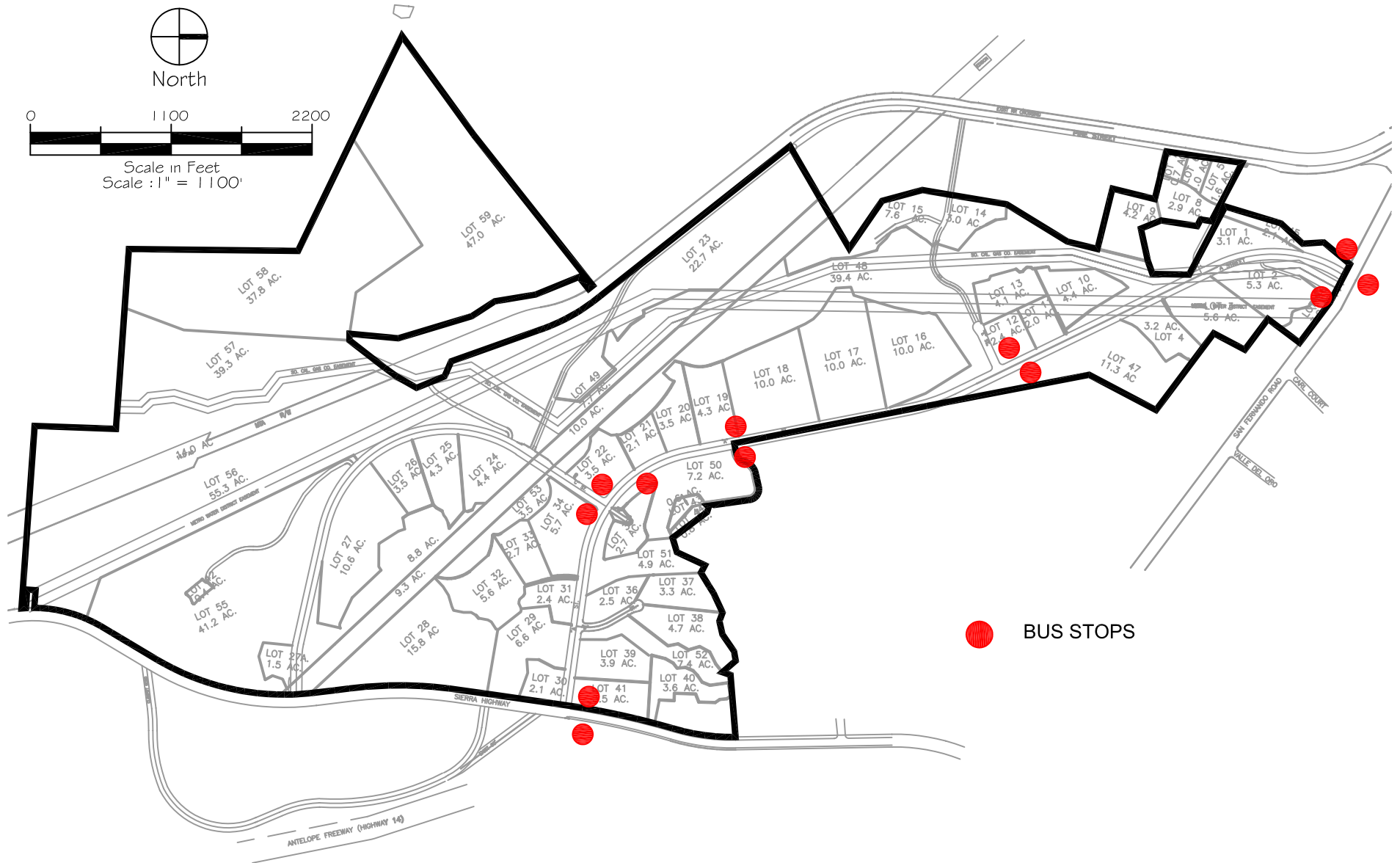
**TC-4(a)** Bus stop improvements shall be installed at the following locations:

- Southbound 'A' Street, near side of "E" Street
- Southbound 'A' Street, at lot line of lots 18 and 19
- Southbound 'A' Street, far side of 'C' Street
- North bound 'A' Street, far side of 'C' Street
- Northbound 'A' Street, opposite lot line of lots 18 and 19, adjacent to water tank access road
- Northbound 'A' Street, far side of "E" Street
- Northbound Sierra Highway, far side of 'A' Street
- Westbound San Fernando Road, far side of 'A' Street
- Eastbound San Fernando Road, near side of 'A' Street

These locations are shown on Figure 4.5-12.



Gate-King Industrial Park EIR  
 Section 4.5 Transportation and Circulation



Recommended Transit Stop Locations

Figure 4.5-12  
 City of Santa Clarita

- TC-4(b)** All bus stop locations shall be equipped with 10 foot by 20 foot concrete pads placed behind the sidewalk. Concrete pads may require the dedication of additional right-of-way. In a bus stop location, the sidewalk shall touch the street for a length of no less than 80 feet.
- TC-4(c)** With respect to the bus stops at the locations of westbound San Fernando Road, far side of 'A' Street, and eastbound San Fernando Road, near side of 'A' Street, the following requirements shall apply:
- The stops shall be equipped with bus turnouts and permanent stylized bus shelters.
  - The shelter shall include a bench and trash receptacle.
  - Architecture of the shelter shall be approved by City staff.
  - The shelter shall be hard wired for lighting.
  - Bus turnouts shall require an additional 12 feet of right-of-way to accommodate their width.
- TC-4(d)** At all intersections where there are bus stops, there shall be a safe, traffic-controlled way to cross the street. This may be accomplished by either traffic signals, stop signs, or pedestrian overcrossings. At intersections where there are traffic signals or stop signs, crosswalks shall be provided on all four sides of the intersection.
- TC-4(e)** The project applicant shall provide a park-and-ride lot at the intersection of San Fernando Road and 'A' Street.
- TC-4(f)** Although transit impact fees do not apply to the project at this time, the applicant shall pay any fees that may be in place at the time of building permit issuance.

Significance After Mitigation. No significant impacts are anticipated. Implementation of the recommended measures would ensure compliance with Santa Clarita Transit requirements for bus stops.

- TC-5 The proposed development would need to provide an estimated 8,891 overall parking spaces to serve the project. Assuming that each individual development onsite complies with its Code requirements for parking, impacts to parking would be Class III, less than significant.**

The Santa Clarita Unified Development Code requires industrial uses to provide parking spaces for all vehicles used directly in the conducting of the use and not less than one space for each two persons employed or intended to be employed on the shift having the largest number of employees, or each 500 square feet of floor area, whichever is larger. Based on a rate of one space per 500 square feet of floor area, full buildout of the 4,445,734 square foot project would require an estimated 8,891 parking spaces. The actual number of spaces developed over the site may vary to some degree as there may be opportunities for shared parking for certain uses and



the occupiable building area of onsite structures may be less than the gross building area. Nevertheless, each component of the industrial park would be required to comply with the City's parking requirements. Assuming compliance with these requirements on all phases of the project, significant parking impacts are not anticipated.

Mitigation Measures. None required beyond compliance with the parking requirements outlined in the City's Unified Development Code.

Significance After Mitigation. Assuming compliance with applicable parking requirements, no significant impacts are anticipated.

**c. Cumulative Impacts.** The project is proposing a General Plan amendment and, therefore, an analysis of buildout conditions is provided to assess cumulative impacts. Long-Range General Plan conditions envision a mixture of commercial and industrial park land use for the area that makes up the Gates/King site. The proposed project would result in an overall reduction of about 18,420 trips as compared to buildout under the current General Plan land use designations for the site due to the change from commercial (high trip generation per square foot) to industrial park (lower trip generation per square foot).

Table 4.5-15 summarizes the Intersection Capacity Utilization for the General Plan buildout scenario. Figures 4.5-13 and 4.5-14 show the General Plan buildout turning movement volumes without the project for AM and PM peak hours, respectively. Long-range cumulative conditions that include the proposed project are illustrated on Figures 4.5-15 and 4.5-16.

The ICU table shows that each location is forecast to operate at a similar level of service for either General Plan buildout or proposed project conditions and no intersection exceeds LOS "D."

**Table 4.5-15 Intersection Capacity Utilization  
 Long-Range Cumulative Conditions**

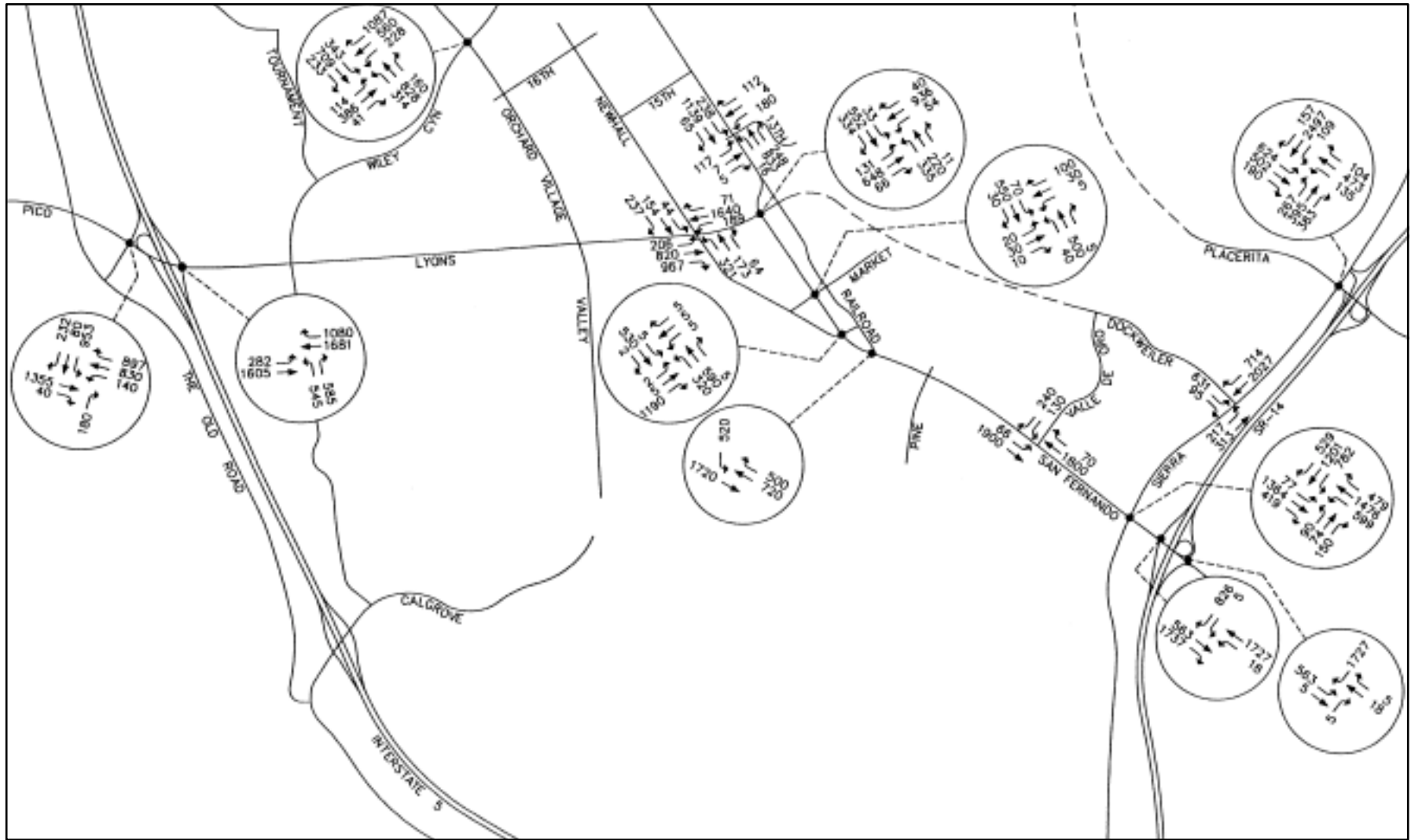
Intersection	General Plan Buildout without Project		General Plan Buildout with Project	
	AM	PM	AM	PM
16. I-5 SB Ramps & Lyons	.79	.85	.76	.83
17. I-5 NB Ramps & Lyons	.75	.84	.75	.83
54. Orchard Village & Wiley	.78	.86	.78	.87
56. Newhall & Lyons	.83	.76	.83	.76
60. San Fernando & Newhall	.56	.55	.57	.55
61. San Fernando & Lyons	.59	.73	.60	.69
76. San Fernando & 13 <sup>th</sup> St.	.59	.65	.57	.64
77. San Fernando & Market	.40	.52	.40	.49
78. Valle Del Oro & San Fernando	.61	.68	.63	.67
140. SR-15 NB Ramps & San Fernando	.27	.48	.24	.48
141. SR-14 SB Ramps & San Fernando	.67	.65	.71	.61
142. Sierra Hwy & San Fernando	.79	.81	.88	.79
145. Sierra Hwy & Placerita Canyon	.87	.73	.85	.74
179. Sierra Hwy & Dockweiler	.70	.86	.71	.83
214. Railroad & San Fernando	.58	.59	.59	.58

Level of service ranges:

- .00-.35 A
- >.35-.54 B
- >.54-.77 C
- >.77-.93 D
- >.93-1.00 E
- >1.00-1.25 F(0)
- >1.25-1.35 F(1)
- >1.35-1.45 F(2)
- Above 1.45 F(3)





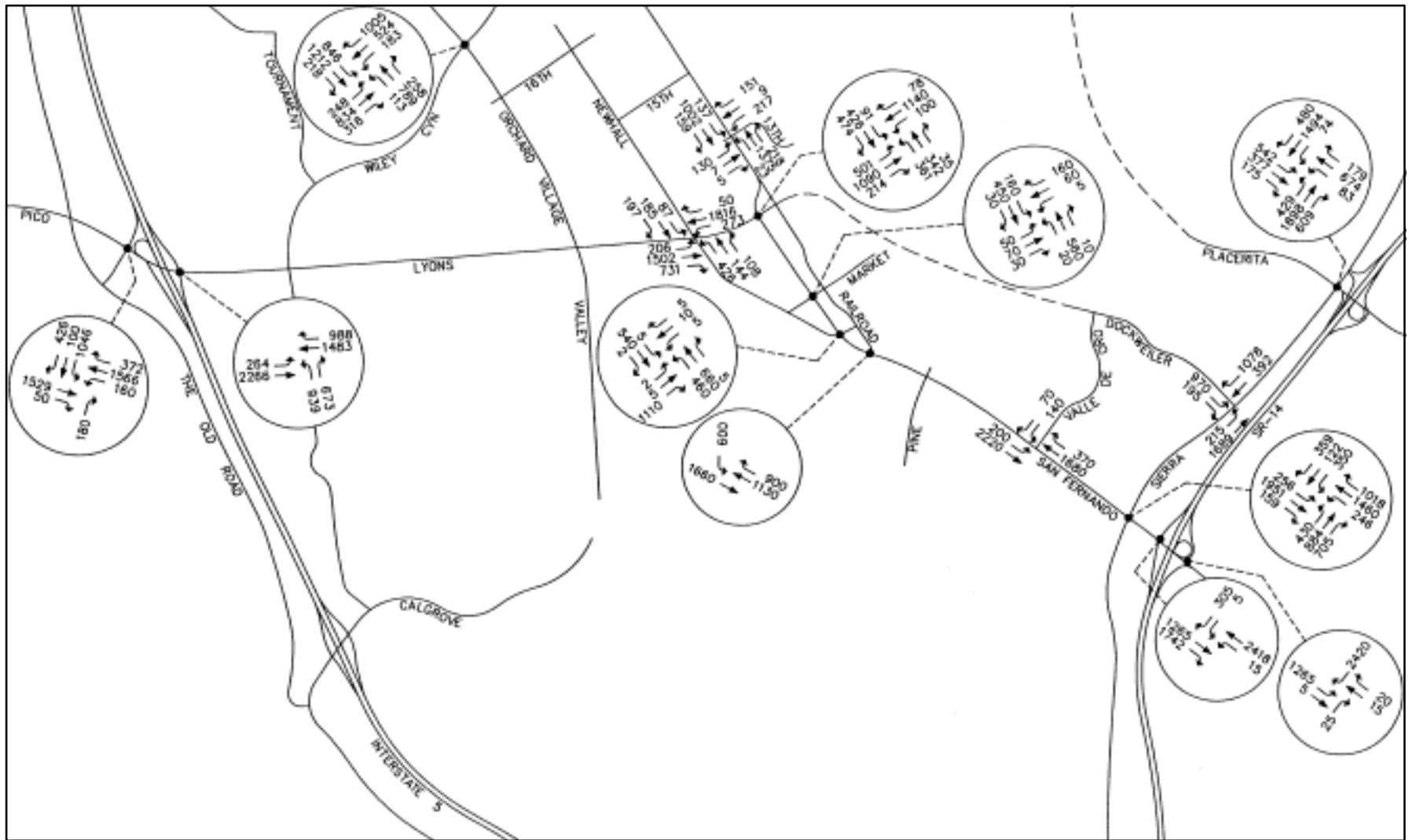


AM Peak Hour Turning Movement  
 Volumes - Long Range (General Plan) Conditions



North

Figure 4.5-13



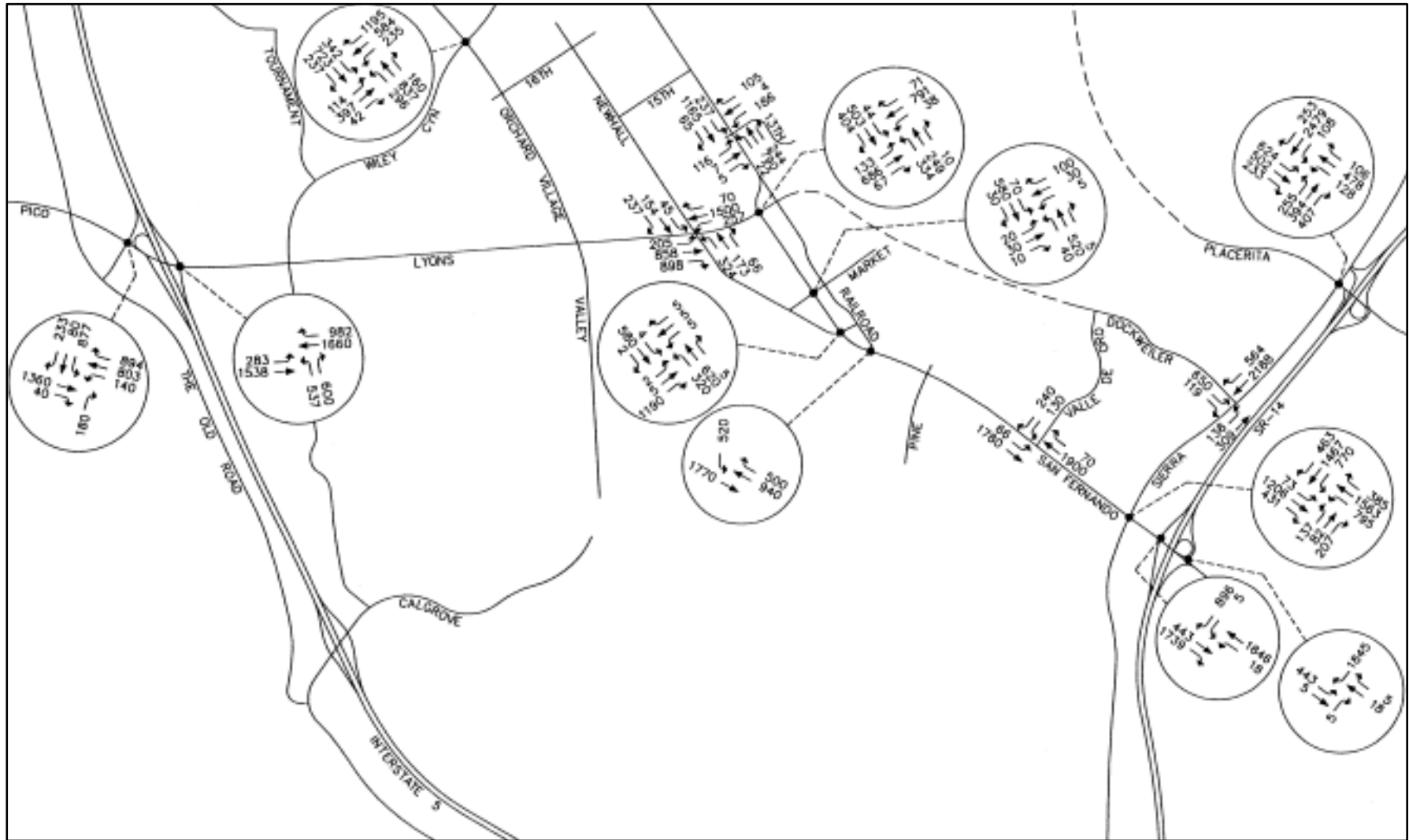
PM Peak Hour Turning Movement  
 Volumes - Long Range (General Plan) Conditions

Figure 4.5-14



North

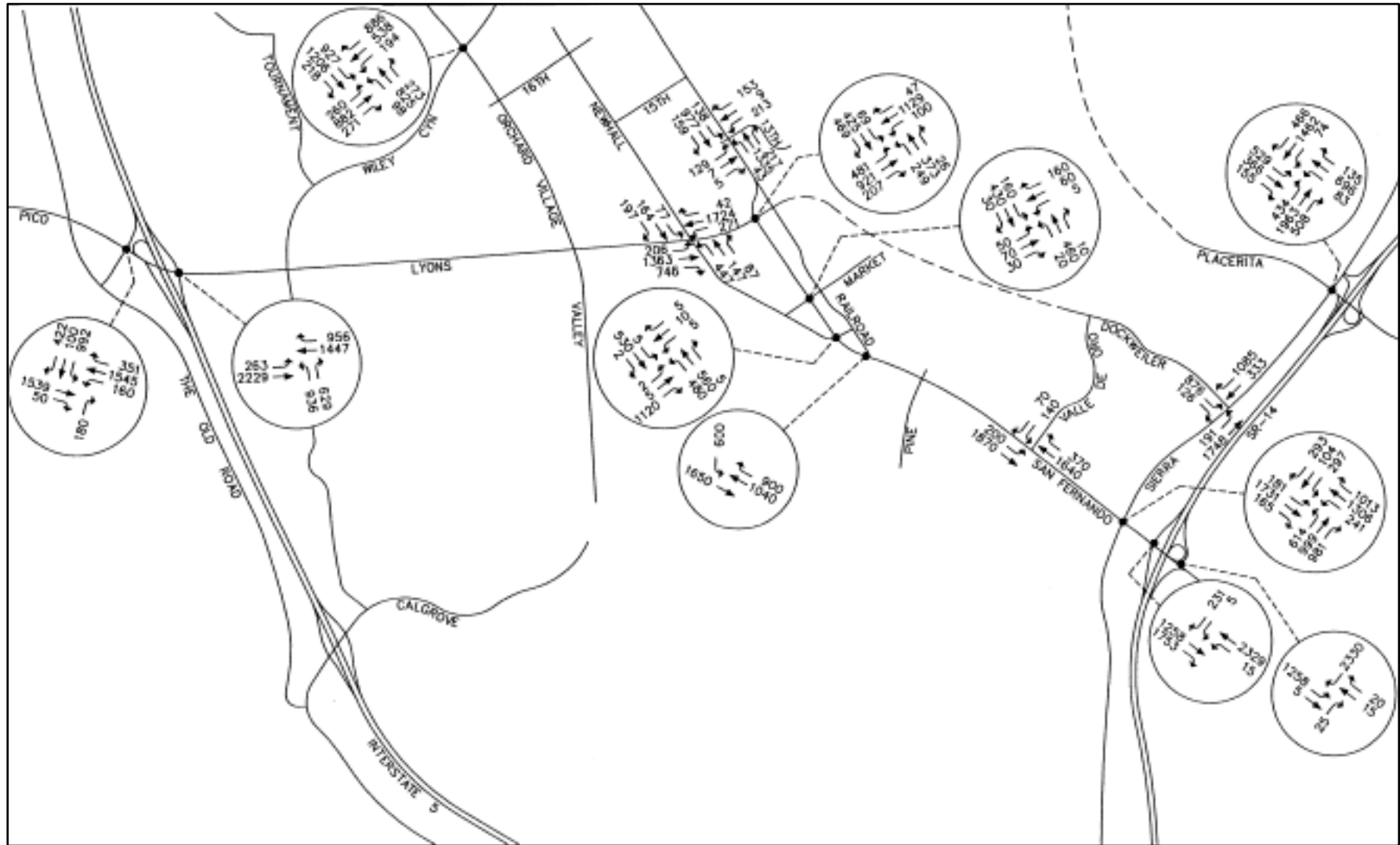




North

AM Peak Hour Turning Movement  
 Volumes - Long Range With Project

Figure 4.5-15



North

**PM Peak Hour Turning Movement  
 Volumes - Long Range With Project**

Figure 4.5-16

## 4.6 BIOLOGICAL RESOURCES

### 4.6.1 Setting

The project vicinity is bordered by the Golden State Freeway (Interstate 5) to the west and the Antelope Valley Highway (14) to the east. This area is located between large undeveloped tracts within the San Gabriel Mountains to the north and east and the Santa Susana Mountains to the west. Undeveloped areas within these mountain ranges include Placerita State Park and the Angeles National Forest. The Santa Susana Mountains connect with additional open space areas within the Simi Hills and the Santa Monica Mountains to the southwest. The open space areas in the project vicinity function as part of the important connection between the San Gabriel Mountains and the Santa Susana-Santa Monica Mountains complex and are therefore part of a greater habitat linkage between these two major areas of biological diversity (Independent Environmental Consultants, 1999).

The project is located in a relatively undeveloped portion of Santa Clarita. Undeveloped lands are located directly to the south and east, thereby connecting with open space areas onsite. Commercial and industrial development is located directly to the north along San Fernando Road, to the west along Pine Street, and to the east along Sierra Highway. The Sierra Highway forms the eastern boundary of the site.

Site elevations range from 1,320 feet along San Fernando Road to 2,030 feet near the southeast end of the site. The central ridge onsite runs in a northwest to southeast direction with secondary ridges extending generally east and west of the center ridge. Slopes onsite have various exposures and are nearly vertical in some locations. Onsite soils are subject to strong erosion that contributes to the topography onsite. The variable physical environment has resulted in high biological diversity onsite.

The site has been exposed to substantial disturbance. Several right-of-way easements traverse the project site: an electrical transmission corridor; a Metropolitan Transit Authority (MTA) railroad corridor; a Metropolitan Water District (MWD) easement; several Southern California Gas Company easements and three oil pipeline easements; and more than 20 inactive or abandoned oil well sites. Each of these rights-of-way, easements, and wells has resulted in substantial disturbance to the site. In addition, a majority of the site was burned in a wildfire during 1997, resulting in extensive Annual Grassland habitat onsite.

**a. Methodology.** Prior to conducting field surveys, Rincon Consultants reviewed other studies applicable to the biological resources in the project area. This included the following:

Vegetation, Wildlife, Special-Status Species and Communities of Special Concern

- *Biological Resources of Needham Ranch* (Independent Environmental Consultants, 1999);
- *Needham Ranch Oak Tree Survey* (Henrickson, 2000);
- *Revised Analysis of Oak Tree Removal on Needham Ranch* (Sikand, May 2001);
- *Coastal California Gnatcatcher (Polioptila californica californica) Survey Report* (Jennings, 2001); and
- *Quino Checkerspot Butterfly Memorandum* (Ramco, 2001).



#### Wildlife Corridors

- *Examination of Potential Animal Corridors Between The San Gabriel Mountains and the Santa Susana Mountains With Emphasis On the Crossing Through State Highway 14, Interstate 5, and Los Piñetos Road* (Independent Environmental Consultants, 1993).

#### Waters of the U.S. and Wetlands

- *Preliminary Jurisdictional Delineation of the 571-acre Gates Site, Santa Clarita California* (Vandermost Consulting Services 2001).

Survey efforts for vegetation, wildlife, special-status species, and habitats of special concern were conducted by Independent Environmental Consultants (1999) over an 8-year period between 1991-1999. The methodology utilized is detailed in the biological assessment attached in Appendix E. Endangered and threatened species were given additional attention to ascertain their potential presence onsite. Focused surveys for the California gnatcatcher were completed per United States Fish and Wildlife Service (USFWS) protocols in May and June 2001 by Biologist Jim Jennings. Discussions with USFWS determined that the Quino checkerspot butterfly was unlikely to be present onsite and therefore protocol surveys are not required (Ramco, 2001).

A survey of the number, location, and health of oaks onsite within the development footprint was conducted by Henrickson and is summarized in the *Needham Ranch Oak Tree Survey* (2000). Sikand, in the *Revised Analysis of Oak Tree Removal on Needham Ranch* (May 2001), utilized three sample oak woodland/forest areas surveyed in the Henrickson study as representative samples of oak habitat density and species composition. These values were then used to extrapolate species density and species composition to similar habitats for areas proposed as open space utilizing aerial photography review.

A preliminary delineation of the CDFG and Corps jurisdictional areas within the project area was conducted by Vandermost Consulting Services on December 13-15, 2000 and January 22 and 23, 2001 (Appendix E). Potential waters of the U.S. and wetlands were surveyed utilizing the methods detailed in the 1987 Corps Wetlands Delineation Manual where dominant vegetation, soils characteristics, and hydrology were noted and recorded.

Prior to site surveys, Rincon Consultants compiled a list of recorded occurrences of state and federally threatened and endangered plants and animals in the project vicinity from the California Department of Fish and Game Natural Diversity Data Base (CDFG CNDDDB, July 2001). Communications from CDFG, U.S. Fish and Wildlife Service (USFWS) and U.S. Army Corps of Engineers (Corps) regarding the biological resources onsite were received by Rincon Consultants and the preparers of the focused biological studies, and have been included herein.

Rincon Biologists surveyed the project area on February 7, April 10, and May 25, 2001 to determine the adequacy of the conclusions of the biological studies prepared for the project site. Habitat types identified in the Independent Environmental Consultants 1999 biological assessment were confirmed by Rincon and mapped via groundtruthing and aerial photographs. Vegetation and wildlife observed during the onsite surveys were documented. Protocol surveys for the unarmored threespine stickleback, red-legged frog, southwestern willow flycatcher, and least bell's vireo were determined not to be required as the appropriate riparian and aquatic habitats were not present onsite within the development footprint.



Rincon Biologists verified the adequacy of the Henrickson (2000) and Sikand (2001) oak tree reports. Several oak groves mapped by Henrickson were visited to confirm species presence, health, and distribution. The methodology used to estimate the number of oak trees onsite in the Sikand report was also reviewed.

Areas of high animal traffic were documented by Rincon biologists during onsite surveys. The existence of a wildlife corridor at Los Piñetos Road that connects the project site to open space areas to the east, and which was identified in the 1993 Independent Environmental Consultants report, was verified. The findings of the Vandermost (2001) waters of the U.S. and waters of the state jurisdictional delineation were also confirmed.

**b. Regulatory Setting.** The following is a summary of the regulatory context under which biological resources are regulated at the federal, state, and local level. Agencies with responsibility for protection of biological resources within the planning area include:

- U.S. Army Corps of Engineers (wetlands and other waters of the United States);
- U.S. Fish and Wildlife Service (endangered species and migratory birds);
- California Department Fish and Game (waters of the State, endangered species, and other protected plants and wildlife);
- State of California (Natural Communities Conservation Plan);
- Regional Water Quality Control Board (water quality, beneficial uses of natural drainages); and
- City of Santa Clarita (General Plan, Unified Development Code).

A number of federal and State statutes provide a regulatory structure that guides the protection of biological resources. The following discussion provides a summary of those laws that are most relevant to biological resources in the vicinity of the planning area.

U.S. Army Corps of Engineers. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (Corps) has the authority to regulate activity that could discharge fill or dredge material into wetlands or other waters of the United States. Perennial and intermittent creeks are considered waters of the United States and are within the regulatory jurisdiction of the Corps. The Corps implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetlands values or acres. In achieving the goals of the Clean Water Act, Corps seeks to avoid adverse impacts and to offset unavoidable adverse impacts on existing aquatic resources. Any fill or adverse modification of wetlands may require a permit from Corps prior to the start of work. Typically, permits issued by the Corps are a condition of a project as mitigation to offset unavoidable impacts on wetlands and other waters of the U.S. in a manner that achieves the goal of no net loss of wetland acres or values.

U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service (USFWS) implements the Migratory Bird Treaty Act (16 USC Section 703-711), the Bald and Golden Eagle Protection Act (16 United States Code (USC) Section 668), and the Federal Endangered Species Act (FESA; 16 USC § 153 *et seq.*). Projects that would result in a "take" of any federally listed threatened or endangered species are required to obtain permits from the USFWS in accordance with either Section 7 (interagency consultation) or Section 10(a) (incidental take permit) of the FESA, depending on the involvement by the federal government in permitting or funding the project.



The permitting process is used to determine whether a project would jeopardize the continued existence a listed or species and what mitigation measures would be required to avoid jeopardizing the species.

A “take” under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect a listed species, or to attempt to engage in any such conduct. Candidate species do not have the full protection of the FESA; however, the USFWS advises project applicants that they could be elevated to listed status at any time.

California Department of Fish and Game. The CDFG derives its authority from the Fish and Game Code of California. Species listed under the California Endangered Species Act (CESA; Fish and Game Code Section 2050 *et seq.*) prohibits take of listed threatened or endangered species. A “take” under CESA is restricted to direct killing of a listed species and does not prohibit indirect harm by way of habitat modification.

California Fish and Game Code Sections 3503, 3503.5, and 3511 describe unlawful take, possession, or needless destruction of birds, nests, and eggs. Fully protected birds (Section 3511) may not be taken or possessed except under specific permit. Section 3503.5 of the Code protects all birds-of prey and their eggs and nests against take, possession, or destruction of nests or eggs.

Species of Special Concern (CSC) is a category conferred by CDFG for those species that are considered to be indicators of regional habitat changes or are considered to be potential future protected species. Species of Special Concern do not have any special legal status except that afforded by the Fish and Game Code. The CSC category is intended by the CDFG for use as a management tool to take these species into special consideration when decisions are made concerning the development of natural lands.

The CDFG also has authority to administer the Native Plant Protection Act (Fish and Game Code Section 1900 *et seq.*). The Act requires CDFG to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the Act, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of plant.

Perennial and intermittent streams also fall under the jurisdiction of the CDFG. Sections 1601-1603 of the Fish and Game Code (Streambed Alteration Agreements) give the CDFG regulatory authority over work within the stream zone (which could extend to the 100-year flood plain) consisting of, but not limited to, the diversion or obstruction of the natural flow or changes in the channel, bed, or bank of any river, stream or lake.

State of California. The Natural Communities Conservation Planning Act of 1991 was established by the California Legislature, is directed by the Department of Fish and Game, and is being implemented by the state, and public and private partnerships to protect habitat in California. As opposed to the single species interpretation of the Endangered Species Act (ESA), this act aims at protecting many species using a regional approach to habitat preservation. A Natural Communities Conservation Plan (NCCP) identifies and provides for





the regional or area wide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity.

City of Santa Clarita. The General Plan provides the framework for evaluating potential biological impacts in Santa Clarita. The General Plan and Unified Development Code include policies to protect biological resources such as oak trees and riparian habitats.

**c. Vegetation.** Habitat types were determined by the composition and structure of dominant plant species as described in Holland, 1986 and Holland and Keil, 1990. Habitat sensitivity was determined by the List of California Terrestrial Natural Communities Recognized by the Natural Diversity Data Base (CNDDDB, July 2001). Each habitat type is described below under groupings based on the composition and structure of the dominant vegetation. Habitats onsite include the following:

- Annual Grassland;
- Riversidean Sage Scrub;
- Mixed Chaparral;
- Coast Live Oak Woodland/Forest
- Riparian; and
- Ruderal/Developed.

The Mixed Chaparral, Riversidean Sage Scrub, and Annual Grassland intergrade with one another and occupy approximately 376 acres onsite. Coast Live Oak Woodland/Forest is a distinct community that is dominant in the western and southern areas onsite and occupies approximately 202 acres onsite. Riparian habitats onsite consist primarily of multiple ephemeral drainages with little vegetation within their channels. One riparian area with a perennial water source is found directly south of the Eternal Valley Cemetery onsite and occupies approximately 4 acres. Ruderal/Developed areas consist of the dirt roadways, water tank pads, and areas adjacent to onsite structures. The general distribution of habitats within the project area is mapped on Figure 4.6-1.

Annual Grassland. This habitat is often present at recently disturbed sites and is dominated by annual grasses. Due to the history of disturbance and fire at the project site, the tracts of Riversidean Sage Scrub that have been historically present onsite have converted to a mix of non-native annual grassland and buckwheat. The annual grasses present include: wild oats (*Avena* spp.), chess (*Bromus* spp.), Schismus grass (*Schimus barbatus*), and barley (*Hordeum murinum* ssp. *leporinum*). Mustards (*Brassica nigra*, *Hirschfeldia incana*, and *Sisymbriuin* spp.) also predominate. Scattered shrubs of remnant Riversidean Sage Scrub are found in this habitat and include California buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), bush sunflower (*Encelia actonii*), and California sage (*Artemisia californica*), primarily on the more exposed south-facing sites where it is too dry for the grasses.

Riversidean Sage Scrub. The species composition of sage scrub communities in Southern California varies from coastal to inland areas, with inland areas such as Santa Clarita supporting a higher proportion of desert-adapted species than do coastal areas. Sage scrub is usually found on steep slopes with well-drained soils, or on clay soils that retain water. The community consists of small-leafed shrubs that are typically less than five feet in height.



Riversidean Sage Scrub onsite is limited to remnant shrubs within the Annual Grassland habitat and along the margins of the Mixed Chaparral onsite. Species present include: white sage (*Salvia leucophylla*), black sage (*Salvia mellifera*), yucca (*Yucca whipplei*), goldenbush (*Hazardia squarrosus* ssp. *grindelioides*), bush aster (*Lessingia filanginifolia*), and golden yarrow (*Eriophyllum confertiflorum*). Perennial grasses include species of the genera *Nassella*, *Elymus*, *Melica*, and *Poa*. Vegetation more typical of arid areas included rabbit brush (*Chrysothamnus nauseosus*), bush sunflower, matchweed (*Gutierrezia californica*), cottonthorn (*Tetradymia comosa*), Great Basin sage (*Artemisia tridentata* ssp. *parishii*), and scalebroom (*Lepidospartum squamatum*).

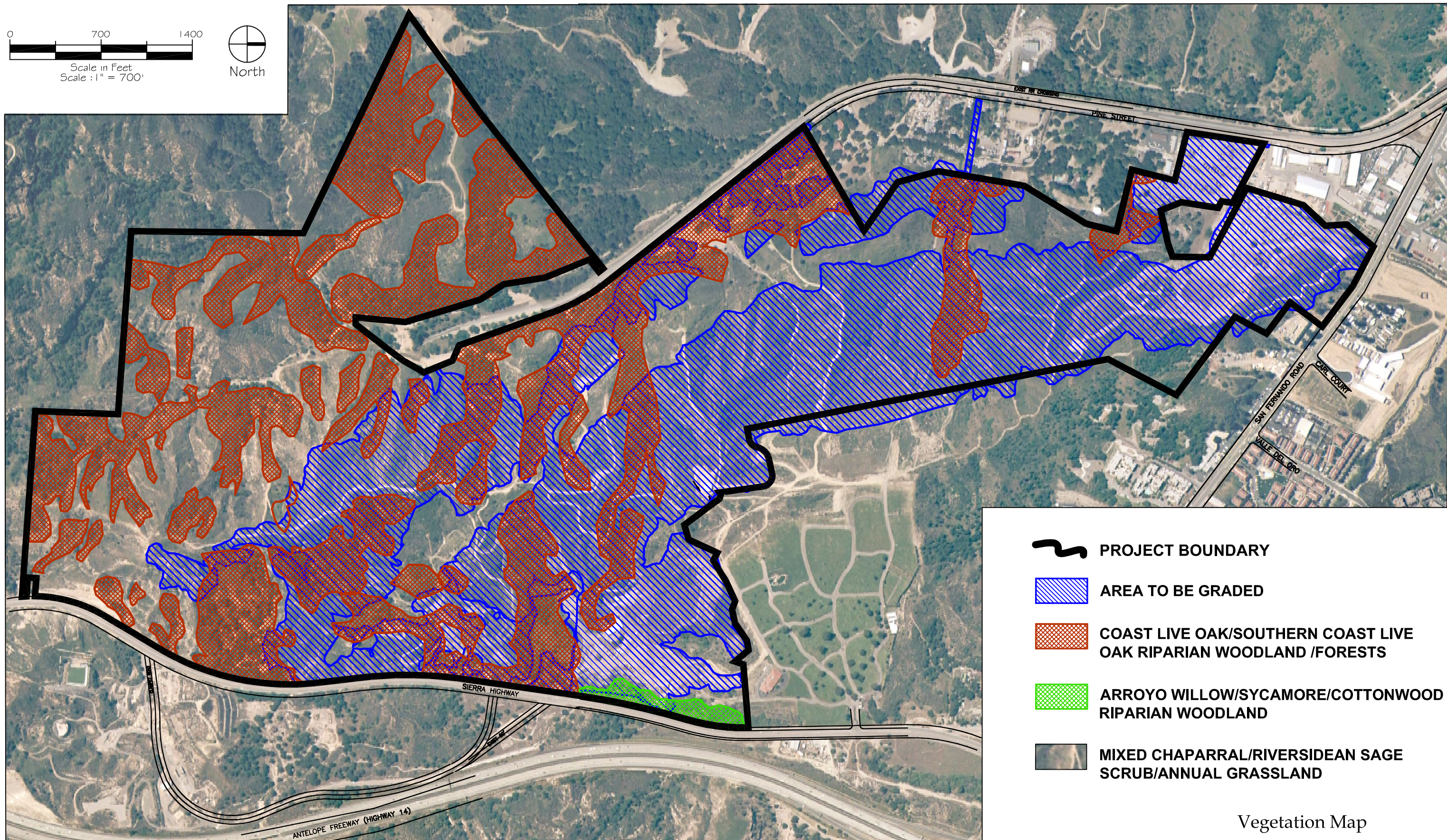
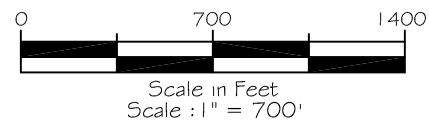
Mixed Chaparral. The species composition of chaparral communities varies from coastal to inland areas, as stated above for scrub vegetation. Santa Clarita supports a higher proportion of desert-adapted species than do coastal areas. The Mixed Chaparral communities are characterized by woody, generally leathery-leaved shrubs, associated with coastal areas, as well as shrubs found in drier inland climates.




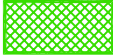

Mixed Chaparral is well represented on the site and occurs on the more protected steeper slopes. This habitat comes in several forms onsite. It often intermixes with Riversidean Sage Scrub components, such as Chamise (*Adenostoma fasciculatum*). This widespread species occurs at lower elevations in transition to Coastal Sage Scrub and can form nearly uniform stands in less disturbed areas. Higher areas display a distinctly different Chaparral vegetation consisting of nearly pure stands of California lilac (*Ceanothus crassifolius*). Native annual wildflowers such as common fiddleneck (*Amsinkia* sp.) and lupine (*Lupinus* sp.) are also common in this habitat type onsite.

Other Chaparral areas are much more mixed and include California lilac, toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), scrub oak (*Quercus berberidifolia*), heart-leaf bush penstemon (*Keckiella cordifolia*), and poison oak (*Toxicodendron diversilobum*). Chamise, black sage, current (*Ribes malvaceum*), buckthorn (*Rhamnus crocea*, and *R. ilicifolia*), ceanothus (*Ceanothus oliganthus*), manzanita (*Arctostaphylos glauca*), wild cucumber (*Marrubium macrocarpa*) and perennial herbaceous perezia (*Acourtia microcephala*) are also present. In many areas, this chaparral quickly transitions in more exposed areas to a sage scrub dominated by such species as goldenbush, California sage, and Yerba santa (*Eriodictyon crassifolium*), and yucca. On rocky slopes, prickly phlox (*Leptodactylon californicum*), live-forever (*Dudleya lanceolata*), and scrub oak (*Quercus berberidifolia*) are present.

Coast Live Oak Woodland/Forest. Coast Live Oak communities are restricted to coastal areas between Sonoma County, California, and Baja California, Mexico and are dominated by coast live oak (*Quercus agrifolia*), which often forms dense stands. Within the project area, this habitat occurs through much of southern and western portions of the site. Scrub oak predominates in other areas and forms dense thickets with a scattering of coast live oaks. Approximately 202 acres of Coast Live Oak Woodland/Forest habitat are estimated to be onsite and are made up of an estimated 9,676 healthy coast live oaks and 1,004 scrub oaks.

Other species present with Coast Live Oak Woodland/Forest habitat include scrub oak (*Quercus berberidifolia*), California walnut (*Juglans californica*), red willow (*Salix laevigata*), Mexican elderberry, and big-cone Douglas fir (*Pseudotsuga macrocarpa*). The understory is sparsely vegetated and is dominated by rippgut (*Bromus diandrus*) and other annual grasses,



-  PROJECT BOUNDARY
-  AREA TO BE GRADED
-  COAST LIVE OAK/SOUTHERN COAST LIVE OAK RIPARIAN WOODLAND /FORESTS
-  ARROYO WILLOW/SYCAMORE/COTTONWOOD RIPARIAN WOODLAND
-  MIXED CHAPARRAL/RIVERSIDEAN SAGE SCRUB/ANNUAL GRASSLAND

Vegetation Map

horehound (*Marrubium vulgare*), black mustard, and wild heliotrope (*Phacelia ramosissima*). In the opening of the oak canopy, squawbush (*Rhus trilobata*), poison oak, nightshades (*Solanum douglasii*, *S. xantii*), and various Riversidean Sage Scrub or Mixed Chaparral species, are present. In some steep canyons, the oaks grow with dense stands of ceanothus (*Ceanothus oliganthus*).

Oak trees onsite provide the majority of canopy habitat values, and support a high diversity of vegetation and wildlife species. Living oak trees provide a broad spectrum of essential ecosystem “services,” including shade, shelter, microclimate, wind dissipation, nest sites, roosts, acorn mast, foliage, twig, branch, trunk, root and bark food resources, soil stabilization, and leaf duff. Dying and dead trees provide a different set of services related to the processes of decay and decomposition, including food for woodboring insects, homes for amphibians, reptiles, cavity nesting birds and small mammals, nursery logs for other plant growth, fungal systems and organic matter to the soil. Oak trees generally are a dominant, and often keystone, element within their communities, defining the physical and ecological character of the habitats and supporting plant and animal species diversity.

The resources provided by individual live oaks and oak woodland/forest habitats are varied. Oak woodland/forests provide areas for nesting, roosting, and sheltering for both local and migrating birds and mammals. This habitat also provides food resources for deer, herbivorous smaller mammals, and some birds. Leaf and wood mass are used by numerous arthropods, which in turn feed reptiles and amphibians. Oak woodland/forest habitats also provide soil stabilization, shading, and other direct weather buffering.

Alteration of oak trees within Santa Clarita requires specific permitting under City Ordinance (Section 17.17.090 of the Development Code) and associated mitigation. The ordinance requires an oak tree permit to be obtained prior to cutting, pruning, removing, relocating, endangering, damaging, or encroaching into the protected zone (5 feet beyond the dripline) of any oak tree. Specific exemptions to the oak tree permit exist for the following cases: pruning of branches less than 6 inches in circumference (about 2 inches in diameter) or trees with a circumference less than 6 inches, emergency conditions, nursery stock and planted trees, and public utility maintenance by the service company. Certain specific findings must be made regarding the removal or relocation of heritage oaks. Standard conditions of the oak tree permit require the replacement/relocation of trees either onsite or offsite and a certification of compliance with permit conditions. Replacement and relocated on-site trees are required to be healthy both initially and two years after planting. A fee equivalent to the value of the trees removed from the property or donation of equivalent value boxed trees to the City may also be required. Equivalent value is determined using the current edition of the *Guide for Plant Appraisal* published by the International Society of Arboriculture. The fee may also be satisfied by donation of property to the City.

As discussed in Section 2.0, *Project Description*, 64 oak trees were previously removed from the site without permits in April 1997. The applicant and City have negotiated a Memorandum of Understanding (MOU) for the project site that includes the dedication by the applicant of at least 150 acres of natural open space as mitigation for past and future oak tree removals. Under this MOU, the applicant would be given a 15-year term on the development agreement for the project.

Riparian. Riparian systems are characterized by the presence, frequency, duration, and intensity of water within a drainage, and the resulting growth of vegetation adapted to the specific hydrological regime. Riparian areas with both ephemeral and perennial water sources are present onsite.

Ephemeral drainages predominate onsite and generally run in a east-west direction from the central ridgeline. These drainages primarily consist of a main drainage with several smaller tributaries, all of which are highly eroded with sandy, cobble bottoms and incised banks. Little vegetation occurs within the channels. Coast Live Oak Woodland/Forest is prevalent along many of these areas onsite. Other species present along the drainages onsite include squawbush, Mexican elderberry, wormwood (*Artemisia* sp.), great basin sage, scalebroom, golden current (*Ribes aureum*), and mule fat (*Baccharis salicifolia*). In more open areas, or where the sand is shallow, the substrates dry quickly after rains, making plant establishment difficult. The vegetation is very open, consisting mostly of scattered Riversidean sage scrub species and an assortment of chess grasses, black mustard, tree tobacco (*Nicotiana glauca*), telegraph weed (*Heterotheca grandiflora*), and horseweed (*Conyza canadensis*).

One well-developed riparian system is located onsite that has some flowing water present throughout the year. This drainage is located south of the Eternal Valley Cemetery and parallels the Sierra Highway and receives waters from drainages originating in the San Gabriel Mountains to the east. The vegetation is confined to a deep ditch and continues only for a short distance before flowing through a culvert under the Sierra Highway and joining the drainage from Elsmere Canyon. This habitat is dominated by arroyo willow (*Salix lasiolepis*), sycamore (*Platanus racemosa*), cottonwood (*Populus fremontii*), and an understory of mule fat, wormwood, poison oak, cattail, (*Typha dominguensis*), cocklebur (*Xanthium strumarium*), sweet clover (*Melilotus* spp.), horehound, Mexican elderberry, dewberry (*Rubus ursinus*), horseweed, and stinging nettle (*Urtica dioica* ssp. *holosericea*). While this area contains water throughout the year, the summertime flow is very low and the water quality not high.

Riparian areas are given special consideration under the City of Santa Clarita General Plan. Stream courses (drainages) are also protected under the Fish and Game Code of California Section 1600 *et. seq.* and Section 404 of the federal Clean Water Act. Any proposed disturbance to aquatic or wetland habitat must be examined by the Corps, which oversees permitting under the Clean Water Act, and the CDFG, which administers steambled alteration agreements. The Regional Water Quality Control Board (RWQCB) has water quality certification requirements under Section 401 of the Clean Water Act. The drainages onsite fall into CDFG, Corps, and RWQCB jurisdiction.

Approximately 6.7 acres of “waters of the U.S.” under Corps jurisdiction and 24.7 acres of “waters of the state” under CDFG jurisdiction were identified within the project area. Due to the topography of the site, this acreage includes an estimate of waters of the U.S. and State within the preservation areas of the site. However, impacts to waters of the U.S. and State within the grading footprint of the project area were formally delineated and total approximately 4.7 acres within Corp jurisdiction and 6.85 acres within CDFG jurisdiction.

Ruderal/Developed. Ruderal habitats are characterized by weedy species that can quickly colonize into recently disturbed areas. The site contains many areas disturbed by past grading, cutting, grazing or fires, and consist primarily of the existing dirt roads, and existing



and historic areas of development. These areas are dominated by annual non-native grasses and weeds, such as chess, barley, thistle, and mustard. This habitat also has some remnant Riversidean Sage Scrub.

**d. Common Wildlife.** Wildlife resources are a function of the quality, quantity, and diversity of the habitats present onsite. The general disturbance from present and past uses of the site, the 1997 wildfire, and the proximity of the site to urban areas is anticipated to have adversely affected species presence and numbers onsite. The discussion below represents a summary of the Independent Environmental Consultants (1999) biological assessment of the site and onsite observations made by Rincon Biologists. Additional information is available in Appendix E.

Amphibians and Reptiles. Amphibians are not well represented onsite due to the limited riparian areas. The western toad could be expected in drier areas of the site (Independent Environmental Consultants, 1999), however, and the Pacific tree frog, and black-bellied salamander could be expected in the riparian area south of the cemetery site or in most areas within the oak woodland/forest.

The reptiles on site are anticipated to be primarily present within the chaparral, scrub, and annual grassland areas onsite as these habitats offer abundant basking sites and food resources, such as rodents and insects. The Great Basin fence lizard, California side-blotched lizard, California kingsnake, San Diego gopher snake, and the Southern Pacific rattlesnake have been observed within scrub/chaparral/grassland habitats onsite (Independent Environmental Consultants, 1999). Other species documented in the project area are listed in Appendix Table 2 of the 1999 Independent Environmental Consultants report, 1999, in Appendix E.

Birds. At least 76 species of birds are anticipated to use the project area. Of these, 36 species were observed during onsite surveys and are listed in Table 3 of the Independent Environmental Consultants (1999) report attached in Appendix E. Most bird species in the study area occur over a wide range of habitat including sage scrub, chaparral, ruderal areas, and oak woodland. Species that would preferentially utilize the scrub, chaparral, annual grassland, and ruderal areas include scrub jay, California quail, phainopepla, bushtit, plain titmouse, mockingbird, California and rufous-sided towhees, red-tailed hawk, turkey vulture, common raven, and common crow. A few additional species are listed for the site due to the presence of the riparian habitat. Hawks, owls, and other birds of prey are expected to be present and would forage within the chaparral/scrub/grassland areas and nest within the oak woodland/forest areas.

Mammals. Up to 43 species may occur on the site (see Appendix Table 4, Independent Environmental Consultants, 1999, in Appendix E). Species observed or noted via tracks, scat, or nests include woodrat, coyote, bobcat, ground squirrel, raccoon, and mule deer. Opossum, long-tailed weasel, ringtail, Audubon cottontail, and small mammals, are typical constituents within the chaparral, scrub and grasslands. Several bat species are anticipated to roost within the woodland areas and forage in the scrub/grassland areas. Due to their mobility, mammals are anticipated to utilize all of the habitats onsite for both foraging and denning. Many of the more mobile mammals such as mule deer, coyote, bobcat, opossum, and raccoon are anticipated to move within and through the site in response to changes in forage and prey availability, territories, and migration patterns.



Wildlife Movement. Habitat linkages are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as between foraging and denning areas, or they may be regional in nature allowing movement across the landscape. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. A group of habitat linkages in an area can form a wildlife corridor network.

It is important to distinguish between a specific migratory corridor and general movement pathways within a habitat linkage. Certain animals follow specific corridors as part of an evolutionary pattern or as seasonal movements and they have little ability to modify their behavior to follow that route given physical changes. Examples of this are certain amphibians that follow specific routes between wintering sites and breeding pools, and steelhead trout and salmon that tend to return to specific native streams. Movement pathways are simply routes that an individual highly mobile animal such as a mountain lion, coyote, or mule deer may travel between seasonal resource areas. Such pathways typically follow drainage patterns, ridges, and passes, but the individual animal, and the population as a whole, can choose to take a different route between the resources provided that alternatives are available.

Habitat linkages, also known as wildlife corridors, are generally areas that connect larger, separate areas of similar habitat. The habitats within this “corridor” through which wildlife move, do not necessarily need to be of the same habitat type as the larger habitats areas that are being linked, but merely need to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically, habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can serve for certain urban-tolerant species. Depending on the species intended to use a corridor, specific physical resources (such as rock outcroppings, vernal pools, oak trees) need to be located within the wildlife corridor at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources, spaced sufficiently close to permit travel along a route in a short period of time.

When habitat linkages are too small or narrow, they may collapse ecologically due to encroachment or edge effects. An example is a corridor intended for deer movement that is so narrow that adjacent residential lighting is too bright for deer to tolerate crossing through it. For small mammals, such as rodents and reptiles, habitat linkages need to be sufficiently wide to minimize the predatory effects of dogs and cats associated with suburban development. In general, the larger and more buffered a wildlife corridor is from adjacent human activities, the better it functions for the movement of animals and genetic material between major areas of open space.

The Santa Clarita Valley lies within a regional area that connects the San Gabriel Mountains to the east, the Santa Susana Mountains to the west, and the Angeles National Forest to the north and east. Interstate 5 and Highway 14 function as significant barriers to migration through the greater region, and movement corridors through the Santa Clarita Valley include a limited number of underpasses and road crossings adjacent to undeveloped lands such as the project site, and open space areas such as the Santa Clara River, and its tributaries. The majority of undeveloped lands are small, often unconnected fragments of open space constrained by development. As more areas urbanize, wildlife corridors are increasingly restricted.



The 1993 animal corridor study by Independent Environmental Consultants identified 10 wildlife corridors that could potentially allow wildlife movement through the “South Newhall Wedge”, the area located between Interstate 5 and Highway 14, to access open space areas in the San Gabriel and Santa Susana Mountains. These crossings are shown on Figure 4.6-2 and their characteristics are summarized in Table 4.6-1. Although any of the 10 corridors identified could be potentially utilized by wildlife present onsite, only corridors # 1–4 are directly adjacent to the project site and therefore are the most relevant to this project. All four of these wildlife corridors entail crossing of the Sierra and Antelope Valley Highways and are located as follows from north to south: near Dockweiler Drive (Corridor #1), at San Fernando Road (#2), at the Elsmere Canyon drainage (#3), and at Los Piñetos Road (#4).

Only three of the four corridors adjacent to the project site, Dockweiler Drive (#1), Elsmere Canyon (#3), and Los Piñetos Road (#4), are likely to be at least moderately used by wildlife, as noted by their Grade B rating in Table 4.6-1. Each of these three corridors has documented complications, however, that constrain free animal movement through them. The Dockweiler Drive corridor is barred by a locked chain-link gate in the area and access to this corridor from the project site entails crossing San Fernando Road, which is heavily traveled. The Elsmere Canyon drainage corridor (#3) is very narrow, without a natural bottom, and while very well protected, leads into a region that necessitates crossing of Sierra Highway at a location that is anticipated to be developed in the future. The Los Piñetos Road crossing (#4) is relatively isolated, but entails a crossing of Sierra Highway. Of the adjacent habitat linkages, the Los Piñetos Road crossing is likely the most functional and frequently used. Animal tracks have been observed at the Elsmere Canyon (#3) and Los Piñetos Road (#4) crossings.

**e. Special-Status Biological Resources.** Special-status biological resources are those that are considered endangered, threatened, rare, or sensitive by federal, state, or local agencies. As discussed in Subsection b of the Setting, this includes vegetation, wildlife, and natural communities that are protected or considered special-status by the USFWS, Corps, CDFG, California Native Plant Society (CNPS), Audubon Society, and City of Santa Clarita.

Special -Status Vegetation. The literature review, database search, and field survey identified 13 special-status vascular plant species as potentially occurring at the site. Table 4.6-2 lists these species, their habitats, and the likelihood of their presence on the project site. Additional information on the life history and habitat preferences of these species is included in the 1999 biological assessment for the project area included in Appendix E.

Two special-status plants have been identified on the project site: the club haired mariposa lily (*Calochortus clavatus* var. *clavatus*) and Peirson’s morning glory (*Calystegia peirsonii*). Both of these species are on the California Native Plant Society’s List 4 (Plants of limited distribution, a watch list).

Although they were not observed, three additional species have been identified by Independent Environmental Consultants, 1999, as potentially present onsite due to their historic distribution, documented occurrence in the region, and the appropriate habitats present onsite. These species include: slender mariposa lily (*Calochortus clavatus* var. *gracilis*), Plummer’s mariposa lily (*Calochortus plummerae*), both of which are CNPS List IB (Plants considered rare, threatened, or endangered in California or elsewhere); and Palmer’s grapplinghook (*Harpagonella palmeri*), a CNPS List 4 species.





**Table 4.6-1 Wildlife Corridors in the Project Vicinity**

#	Corridor Location	Type	Length-width of Corridor (feet) <sup>1</sup>	Bridge Height (feet)	Corridor Quality <sup>2</sup>	Comments
1	State Hwy 14 near Dockweiler Drive	Underpass (undeveloped)	317x40	15-20	B	Potentially used by species to access/egress northern portion of site. Problematic due to traffic on San Fernando Road, existing chain link fence, and future development.
2	State Hwy 14 at San Fernando Road	Underpass	450x102	15-17	D	Problematic crossing due to traffic and future development. Potentially used for access/egress to NW portion of site.
3	State Hwy 14 at Elsmere drainage	Underpass (tunnel)	700x10	10- 14	B	Potentially used for access/egress to NW portion of site. Most likely used by larger animals due to drop-off. Raccoon tracks observed.
4	State Hwy 14 at Los Piñetos Road	Underpass (undeveloped)	184x82	20-25	B*	Best crossing associated with site. Access/egress into the eastern portion of the site. Mule deer, rabbit, and coyote documented.
5	State Hwy 14 at Sierra Highway	Underpass	400x102	30-45	B	Potentially used by animals for access/egress into the southern portion of the site.
6	Interstate 5 at Sierra Highway	Underpass and trail (+1/2 mile)	400x120	15-17	F	Problematic crossing for access/egress into the southern portion of the site.
7	Balboa Blvd. at Interstate 5	Overpass	718x55	15-17	C	Problematic crossing for access/egress into the southern portion of the site due to chain link fence, bridge crossing, and traffic noise. Use likely limited to urban tolerant species like coyote.
8	Weldon Road at Interstate 5	Overpass	256x37 (473 total)	20	C*	Problematic crossing for access/egress into the southern portion of the site due to bridge crossing and traffic noise. Use likely limited to urban tolerant species like coyote.
9	Interstate 5 at The Old Road	Underpass	380x105	120	B*	Potentially used by species to access/egress southern portion of site. Problematic due to limited access due to existing chain link fence, and trailer park.
10	Interstate 5 at Calgrove Ave.	Underpass	612x66	15-17	D	Problematic crossing for access/egress into the southern portion of the site due to steep slope and fencing. No evidence of current use as a corridor. Use likely limited to urban tolerant species like coyote and raccoon.

Source: Independent Environmental Consultants, 1993.

1 = Length of corridor consists of the crossing from bridge off-ramp to on-ramp or from bridge edge to edge where no off-on ramps are present. Width is the width of bridge or roadway that serves as crossing.

2 = Total Evaluation, a summary evaluation of the potential use of the crossing:

A = Expected high usage due to good access and minimal disturbance factors.

B = Moderate usage by local animals with potential access and moderate disturbance factors.

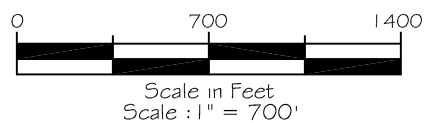
C = With moderate local access but with heavier disturbance factors.

D = With poor access to the crossing and with strong disturbance factors.

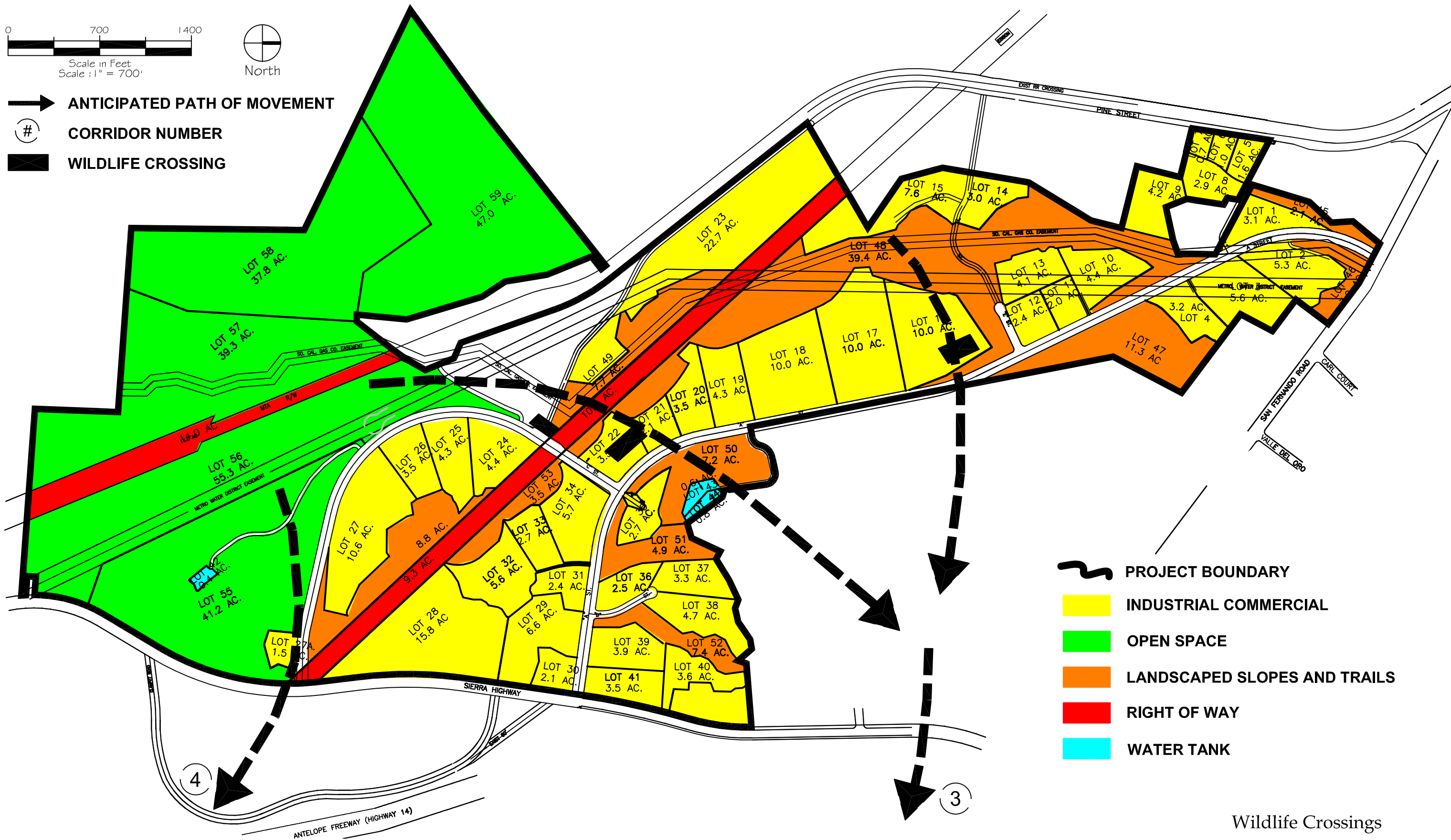
F = The access or disturbance factors or distance through the corridor make it very unlikely it will be used by any wildlife.

\* = The corridor could be improved by removing or moving fencing, and etc. (see text)





- ANTICIPATED PATH OF MOVEMENT**
- CORRIDOR NUMBER**
- WILDLIFE CROSSING**



- PROJECT BOUNDARY**
- INDUSTRIAL COMMERCIAL**
- OPEN SPACE**
- LANDSCAPED SLOPES AND TRAILS**
- RIGHT OF WAY**
- WATER TANK**

Wildlife Crossings

**Table 4.6-2 Likelihood of Occurrence of Special-Status Vascular Plants**

Common Name	Scientific Name	Listing Status (Federal/State/CNPS) <sup>a</sup>	Habitat Present	Likelihood of Occurrence
Nevin's barberry	<i>Berberis nevinii</i>	FE/SE/1B	Chaparral, coastal & alluvial fan sage scrub below 2000 feet.	Unlikely. Survey conducted, species not observed on site.
Club haired mariposa lily	<i>Calochortus clavatus</i> var. <i>clavatus</i>	-/-/4	Clayish flats and slopes in scrub and chaparral.	Observed in open chaparral in moderate numbers.
Slender mariposa lily	<i>Calochortus clavatus</i> var. <i>gracilis</i>	-/-/1B	Chaparral and sage scrub communities in Los Angeles County.	Potentially present in upper slopes onsite. Survey conducted; species not observed on site.
Plummer's mariposa lily	<i>Calochortus plummerae</i>	-/-/1B	Coastal sage scrub, chaparral, valley & foothill grassland, cismontane woodland, and lower montane coniferous forest.	Potentially present in undisturbed areas as known 8 miles to the southeast. Survey conducted; species not observed.
Peirson's morning glory	<i>Calystegia peirsonii</i>	-/-/4	Coastal sage scrub, chaparral; frequently follows fires.	Present infrequently onsite. Frequently found in Santa Clarita area.
San Fernando Valley spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	Candidate/Candidate /1B	Shallow soils and open cover in scrub, washes, and disturbed areas; 660-1150 feet.	Potentially present in scrub, chaparral, annual grassland, and disturbed areas on site. Survey conducted; species not observed. Known in Newhall area and Ahmanson Ranch, Ventura County.
Santa susana tarplant	<i>Deinandra minthornii</i>	-/Rare/1B	Los Angeles and Ventura Counties; sandstone outcrops and crevices in chaparral and scrub; 900 to 2,300 feet.	Unlikely as habitat does not occur on site. Survey conducted; species not observed onsite. Recorded 11 miles to southeast.
Slender-horned spineflower	<i>Dodecahema leptoceras</i>	FE/SE/1B	Sandy substrate in chaparral, coastal & alluvial fan sage scrub.	Unlikely, as habitat not well represented onsite. Survey conducted; species not observed onsite.
Palmer's grappling hook	<i>Harpagonella palmeri</i>	-/-/4	Clay flats in chaparral, scrub, and valley and foothill grasslands.	Potentially present. Survey conducted; species not observed. Recorded in Newhall quad. Widespread outside of California.
Davidson's bush mallow	( <i>Malacothamnus davidsonii</i> )	-/-/1B	Sandy flats and washes.	Unlikely as visible species not observed during surveys.
Spreading navarretia	<i>Navarretia fossalis</i>	FT/-/1B	Vernal pools, chenopod scrub, and marshes in eastern Riverside, San Diego, and Los Angeles counties.	Unlikely as habitat does not occur on site. Survey conducted; species not observed onsite. Recorded in Newhall area.



**Table 4.6-2 Likelihood of Occurrence of Special-Status Vascular Plants**

Common Name	Scientific Name	Listing Status (Federal/State/CNPS) <sup>a</sup>	Habitat Present	Likelihood of Occurrence
Short-joint beavertail	<i>Opuntia basilaris</i> var. <i>brachyclada</i>	-/-1B	Chaparral, Joshua tree woodland, piñon juniper woodland, and Mojave Desert scrub in San Bernardino and Los Angeles Counties.	Unlikely. Survey conducted; variety not observed onsite. Recorded to east of site.
California Orcutt grass	<i>Orcuttia californica</i>	FE/SE/1B	Vernal pool.	Unlikely as habitat does not occur on site. Survey conducted; species not observed onsite. Recorded 10 miles to northeast.

<sup>a</sup> 1B = CNPS List 1B, plants rare, threatened, or endangered in California and elsewhere; 4 = CNPS List 4, plants of limited distribution-a watch list; Candidate = Candidate species for listing under State of Federal Endangered Species Act; FE = Federally Endangered; FPE = Federally Proposed Endangered; FPT = Federally Proposed Threatened; FSC = Federal Species of Concern; Rare = Rare under CESA; SE = State (California) Endangered  
 Source: CNPS, 1994; Hickman, 1994; Independent Environmental Consultants, 1999; USDA, 1999; CNDDB, 2001.

Rincon Biologists have also identified the San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*) (SFVS) as potentially present in areas of low vegetative cover and shallow soils within the Mixed Chaparral, Riversidean Sage Scrub, Annual Grassland and Disturbed areas onsite. Prior to the rediscovery of this species in 1999 at the Ahmanson Ranch in southeastern Ventura County and in the Newhall area (CDFG March 2001), this species was presumed extinct. The last documented occurrence of this species prior to these rediscoveries was in 1929 in Los Angeles County (CDFG October 2000). The historic range of the spineflower includes the San Fernando Valley and Santa Clarita Valley and adjacent hillsides. Due to its limited blooming period in April-June, and the expanse of areas onsite within the development footprint which might host appropriate habitat for the spineflower, onsite surveys to date have not been able to confirm the absence of this species within the project area.

The SFVS has been designated a federal Candidate species for listing as Endangered by the USFWS pursuant to the Federal Endangered Species Act (USFWS October 1999), and is a California Native Plant Society (CNPS) List 1A species (List 1A plants are presumed extinct in California). The USFWS processes listing actions according to its priority guidance, which grants the highest priorities to those species most in need of protection. However, the agency determined that, except for a few listing decisions required by court order, it will be unable to add new species to the list of threatened or endangered species or reclassify any species for the remainder of the Fiscal Year 2001, which ends September 30, 2001 (USFWS January 2001b). The state of California has not listed the species under the California Endangered Species Act (CDFG March 2001). As such, this plant is not afforded legal protection under either the state or federal Endangered Species Acts. However, Section 15380(b and d) of the California Environmental Quality Act establishes criteria for endangered, rare or threatened species if that species is not presently listed or threatened with extinction, but is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens.

No other special-status plant species are known or expected to occur at the project site.



**Special-Status Wildlife.** A review of the relevant literature, including data available via the CDFG CNDDDB (July 2001), USFWS, Audubon Society, and other recognized authorities suggests that numerous special-status species may utilize the site based on suitable habitat and geographic range. An estimated 32 species of special-status animals with declining populations occur within the project vicinity. Table 4.6-3 lists the species that were considered during onsite surveys, their preferred habitat types, and their potential for occurrence within the project area. Those species that were either observed onsite or have the potential to be present within existing habitats in the project area are discussed below. Additional information on the life history and habitat preferences of these species is included in the 1999 biological assessment for the project area included in Appendix E.

**Table 4.6-3 Special Status Wildlife Species Potentially Occurring in the Site Vicinity**

Species	Scientific Name	Agency Status (Federal/ State) <sup>1</sup>	Habitat Requirements <sup>1,2,3</sup>	Potential Occurrence <sup>3,4</sup>
<b>Invertebrates</b>				
Quino checkerspot butterfly	<i>Euphydryas editha quino</i>	FE	Sandy, clay, or serpentine soils, grassy slopes & flats, open woodland; host plant is <i>Plantago erect.</i>	Unlikely to occur onsite according to USFWS <sup>5</sup> . None observed during onsite surveys.
<b>Fishes</b>				
Unarmored threespine stickleback	<i>Gasterosteus aculeatus williamsoni</i>	FE/SE	Quiet water habitats, pools with abundant aquatic vegetation.	Habitat not present. Species limited to the Santa Clara River approximately 5.5 miles to the north.
<b>Amphibians</b>				
California red-legged frog	<i>Rana aurora draytoni</i>	FT/CSC, CP	Dense shrubby riparian vegetation associated with deep, slow moving water.	Unlikely to occur as riparian habitat with permanent water limited onsite. Not observed.
<b>Reptiles</b>				
Coast horned lizard	<i>Phrynosoma coronatum</i>	FSC/ CSC, CP	Open, sandy areas of coastal sage scrub, and chaparral.	Potentially present in open chaparral areas onsite. Survey conducted; none observed.
Coastal western whiptail	<i>Cnemidophorus tigris multiscutatus</i>	FSC/-	Open, sandy grassland, chaparral, riparian & sage scrub, arroyos, and washes.	Potentially present in open scrub/chaparral areas onsite. Survey conducted; none observed.
Coastal rosy boa	<i>Charina (=Lichanura) trivirgata</i>	FSC/-	Rocky brushlands, canyon sides, & dry scrub.	Potentially present in scrub/chaparral areas onsite. Survey conducted; none observed at dusk.
Coastal patch-nosed snake	<i>Salvadora hexalepis virgultea</i>	FSC/ CSC	Sage scrub, chaparral, and woodlands.	Potentially present in scrub/chaparral areas onsite. Survey conducted; none observed at dusk.
Two-striped garter snake	<i>Thamnophis hammondi</i>	-/CSC, CP	Perennial and intermittent streams, stockponds and artificially created aquatic habitats with adjacent vegetation.	Unlikely due to lack of permanent water source onsite. Survey conducted; none observed.
<b>Birds</b>				
Cooper's hawk	<i>Accipiter cooperii</i>	-/CSC (nesting)	Riparian forests, mountain canyons, oak woodlands and eucalyptus groves.	Observed foraging over the site <sup>3,4</sup> ; possible breeder in woodland habitat onsite.



**Table 4.6-3 Special Status Wildlife Species Potentially Occurring  
in the Site Vicinity**

Species	Scientific Name	Agency Status (Federal/ State) <sup>1</sup>	Habitat Requirements <sub>1,2,3</sub>	Potential Occurrence <sup>3,4</sup>
Prairie falcon	<i>Falco mexicanus</i>	-/CSC (nesting)	Nests on cliffs adjacent to grasslands; forages in open fields, grasslands, desert scrub, and ruderal areas.	Nesting habitat not observed on site; possible winter migrant.
White-tailed kite	<i>Elanus leucurus</i>	MNBNC/CFP (nesting)	Nests in trees; forages near agricultural and open areas.	Observed foraging onsite. May nest in woodlands/forest onsite <sup>3</sup> .
Burrowing owl	<i>Athene cunicularia</i>	MNBNC, FSC/CSC (burrow sites)	Nest in banks & roadsides in open habitats.	Potential breeder/forager in open chaparral/scrub/annual grassland. Survey conducted; none observed.
Merlin	<i>Falco columbarius</i>	---/CSC (wintering)	Nests outside of California; forages in a variety of habitats.	Observed onsite. Presence limited to foraging <sup>3</sup> .
California horned lark	<i>Eremophila alpestris actia</i>	---/CSC	Open & disturbed areas (nesting).	Potentially present in annual grassland and disturbed areas onsite. Survey conducted; none observed.
California gnatcatcher	<i>Poliopitila californica californica</i>	FT/CSC	Sage scrub, primarily Riversidean and Diegan.	Not present. USFWS protocol surveys conducted <sup>6</sup> ; none observed.
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE/---	Nests and forages in dense riparian during summer.	Unlikely as very little willow riparian habitat onsite. Survey conducted; none observed.
Loggerhead shrike	<i>Lanius ludovicianus</i>	MNBNC, FSC/CSC	Dry, open habitats with shrubs for perches and nesting.	Observed onsite.
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	FE/SE	Nests and forages in dense riparian during summer.	Unlikely as very little riparian habitat onsite. Survey conducted; none observed.
Yellow warbler	<i>Dendroica petechia brewsteri</i>	---/CSC	Nests and forages in dense riparian woodland, montane chaparral, ponderosa pine, and mixed conifer forest during summer.	Unlikely due to limited population. If present the species would occur in oak woodlands adjacent to onsite drainages. Survey conducted; none observed.
Yellow-breasted chat	<i>Icteria virens</i>	MNBNC/CSC	Nests and forages in dense lowland riparian during summer.	Unlikely as very little riparian habitat onsite. Survey conducted; none observed.
Summer tanager	<i>Piranga rubra</i>	---/CSC	Large cottonwoods, oak riparian woodlands.	Unlikely as relatively unknown to area and limited cottonwoods onsite. Survey conducted; none observed.
Bell's sage sparrow	<i>Amphispiza b. bellii</i>	FSC/CSC	Dry open chaparral.	Observed in dry, burnt sage scrub. <sup>3</sup>
Southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	FSC/CSC	Steep sparsely vegetated slopes in coastal sage scrub.	Observed onsite. <sup>3</sup>
<b>Mammals</b>				
Pale (Townsend's) big-eared bat	<i>Corynorhinus (=Plecotus) townsendi pallescens</i>	FSC/CSC	Roosts in caves.	Potential foraging over site. No night surveys were conducted.
Small-footed myotis bat	<i>Myotis ciliolabrum</i>	FSC/---	Roosts in caves, crevices, and trees; forages in various habitats.	Potential foraging over site. none were observe No night surveys were conducted.
Greater mastiff bat	<i>Eumops perotis californicus</i>	FSC/CSC	Roosts in crevices on cliffs and buildings;	Unlikely rooster due to lack of habitat; potential foraging



**Table 4.6-3 Special Status Wildlife Species Potentially Occurring in the Site Vicinity**

Species	Scientific Name	Agency Status (Federal/ State) <sup>1</sup>	Habitat Requirements <sup>1,2,3</sup>	Potential Occurrence <sup>3,4</sup>
			forages in various habitats.	over site. No night surveys were conducted.
Townsend's western big-eared bat	<i>Corynorhinus (=Plecotus) townsendii townsendii</i>	FSC/CSC	Only roost in areas free from human intrusion.	Unlikely onsite due to history of disturbance. No night surveys were conducted.
California leaf-nose bat	<i>Macrotus californicus</i>	FSC/CSC	Roost in caves and mines in arid desert regions.	Unlikely as appropriate roosting sites not present. No night surveys were conducted.
Southern grasshopper mouse	<i>Onychomys torridus ramona</i>	FSC/CSC	Sandy desert habitats.	Unlikely as appropriate habitat not present. None were observed.
American badger	<i>Taxidea taxus berlandieri</i>	CNNDDB	Open dry habitats.	Potentially present in scrub, chaparral, and annual grassland onsite. Survey conducted; none observed.
San Diego desert woodrat	<i>Neotoma lepida intermedia</i>	FSC/CSC	Rocky south facing slopes in desertic scrub and chaparral.	Unlikely in habitats onsite. Old woodrat nests of unidentified species (likely <i>N. fuscipes</i> ) observed in woodland. <sup>3,4</sup>
San Diego black-tailed jackrabbit	<i>Lepus californicus bennetti</i>	FSC/CSC	Open flat scrub areas.	Potentially present in open scrub onsite. Survey conducted; none observed.

Source: 1= CDFG CNDDDB, July 2001; 2 = USDA, 1999; 3 = Independent Environmental Consultants, 1999; 4 = Rincon Consultants, 2001; 5 = Jennings, 2001; 6 = Ramco, 2001

C(F)P = California (Fully) Protected    CSC = California Species of Concern    CFGC = Cal. Fish and Game Code  
 CNDDDB = listed in CNNDDB only    FE = Federal Endangered    FPD = Federal Proposed Delisting  
 FPT = Fed. Proposed Threatened    FSC = Fed. Sp. Of Concern (term-of-art)    FT = Federal Threatened  
 LS = Locally sensitive    MNBNC = USFWS Migratory Nongame Birds of Management Concern    PT = Proposed Threatened  
 SE = State Endangered    ST = State Threatened

Of the 32 species considered, six special-status birds were observed in the project area: Cooper's hawk, white tailed kite, merlin, rufous crowned sparrow, Bell's sage sparrow, and loggerheaded shrike. Each of these species is categorized as a State and/or Federal Species of Concern and were seen foraging in the chaparral/scrub/annual grassland areas onsite. Cooper's hawk and the white-tailed kite may also nest in trees onsite.

An additional 11 species were identified as potentially present onsite, although none were observed during surveys conducted for those species. The species include the coast homed lizard, coastal western whiptail, coastal rosy boa, coast patch-nosed snake, burrowing owl, California horned lark, and San Diego blacktailed jackrabbit, all of which may be found in the chaparral/scrub/annual grassland habitats onsite. Prairie falcon, Pale (Townsend's) big-eared bat, and the Small-footed myotis bat may also forage in these areas. The American badger may be present within the drier open habitats onsite with sandy soils.

#### 4.6.2 Impact Analysis

**a. Methodology and Significance Thresholds.** The Environmental Checklist Form in Appendix G of the *State CEQA Guidelines* (December 1998), and the Santa Clarita General Plan were reviewed in order to determine which issues should be considered when determining the



level of significance of project related impacts on biological resources. The project would have a significant impact on biological resources in the event that project development would:

- Conflict with local or regional conservation plans or state goals;
- Substantially affect a rare or endangered species of animal or plant or the habitat of the species;
- Substantially diminish habitat for fish, wildlife or plants;
- Interfere substantially with the movement of any resident or migratory fish or wildlife species;
- Have impacts which are individually limited, but cumulatively considerable; or
- Involve the alteration or conversion of biological resources identified as significant within the county or region.

**b. Project Impacts and Mitigation Measures.**

**Impact BIO-1** Project development would result in the direct permanent loss, and indirect degradation and fragmentation of several “common” habitat types onsite, including Mixed Chaparral, Riversidean Sage Scrub, and Annual Grassland habitats. This is considered a *significant but mitigable* impact (Class II).

Approximately 376 acres, or 64%, of the 584 total acres onsite consist of a mixture of Mixed Chaparral, remnant Riversidean Sage Scrub, and Annual Grassland. Cutting and filling to achieve the elevation grade necessary for onsite development would result in the subsequent conversion and loss of approximately 222 acres, or 59% of these habitats onsite. Grading and construction activities would additionally increase the presence of invasive nonnative species onsite by removing established vegetation and producing areas of exposed soil.

Revegetation is planned for 95.3 acres of the landscaped slopes and trails, which are areas of the site that are to be graded and developed with landscaping and a trail system. Although no landscape plan for the project area has been prepared to date, 22 acres of graded open space and areas within the building pads are also anticipated to be landscaped. Even though revegetation is planned, development in previously undisturbed areas would increase the amount of exotic, invasive plant species within the native vegetation flanking the developed portions of the site, thus decreasing the value of retained habitats. The combined loss, degradation, and fragmentation of chaparral, scrub, and annual grassland habitats resulting from project construction would be considered significant, as it would substantially minimize habitat for vegetation and wildlife. These impacts are mitigable with implementation of the following measures.

Mitigation Measures. The following measures shall be implemented to address the loss of these habitats within the vicinity due to direct conversion of vegetation to developed areas, and the potential indirect effects associated with the potential introduction of invasive species.

- BIO-1(a)** Landscaping within fire clearance zones shall include native species indigenous to the region. Modification of fire hazard fuels shall be limited to hand thinning of individual shrubs, clearing dead fuel, replanting with fire-resistant plants indigenous to the area, or other methods to attain fire safety





while producing a viable natural and native vegetation community. No species identified as invasive on the CNPS, Channel Islands Chapter *Invasive Plants List* (1997) shall be utilized in the landscape plans and all landscaping plans shall be prepared by the City and approved by the City and the County Fire Department.

- BIO-1(b)** Revegetation and landscaping plans for the graded road areas onsite shall be prepared and approved by the City before each phase of the proposed project. Plant species, seed mixes, weed suppression, and planting methodology, and irrigation schedule shall be approved by a qualified biologist or landscape architect and shall utilize native species from onsite habitats. No species identified as invasive on the CNPS, Channel Islands Chapter *Invasive Plants List* (1997) shall be utilized in the landscape plans and all landscaping plans shall be prepared by the City and approved by the City and Fire Department.

Significance After Mitigation. Mitigation would reduce the project's direct and indirect impacts on chaparral and sage scrub onsite to a less than significant level.

- Impact BIO-2** **The proposed project may cause the direct loss of special-status plants identified as List 1B or 4 species by the California Native Plant Society (CNPS). This is a Class II, significant but mitigable, impact.**

As discussed in Subsection e, *Special-Status Vegetation*, of the Setting, two California Native Plant Society (CNPS) List 4 plants (Plants of Limited Distribution) have been identified on the project site: the club haired mariposa lily and Peirson's morning glory.

Three additional species that are exclusively identified as CNPS List 1B or 4 species have been identified as potentially present onsite, although these species have not been observed. The Slender and Plummer's mariposa lilies are both listed as CNPS List 1B plants (Plants rare, threatened, or endangered in California and elsewhere), while Palmer's grapplinghook is listed as CNPS List 4. As discussed in Impact B-1, development of the proposed project would remove approximately 222 acres, or 59% of the chaparral/sage scrub/annual grassland habitats in which these species are found.

The CDFG considers the loss of any listed, proposed, or CNPS List 1B species as a potentially adverse impact under the California Environmental Quality Act (CEQA). Therefore, potential impacts to the slender and Plummer's mariposa lilies would be potentially significant, but mitigable.

Potential impacts to CNPS List 4 species, however, are not typically considered significant by CDFG. The club haired mariposa lily and Peirson's morning glory are common in the Santa Clarita area, while Palmer's grapplinghook is widespread outside of California. As a result, potential impacts to these species due to project development would be considered less than significant.

Mitigation Measures. The following mitigation measures would reduce potential impacts on the slender and Plummer's mariposa lilies to a less than significant level.

**BIO-2** Prior to grading of each development phase, focused surveys shall be conducted during the prior flowering season for the slender and Plummer's mariposa lilies to determine the presence or absence of those special-status plants. If no specimens are found within the development footprint or fire clearance zone, then no additional mitigation is required.

In the event either slender or Plummer's mariposa lilies are identified within the development or fire clearance areas, the applicant shall submit a special-status plant restoration plan for review and approval by a City of Santa Clarita Planning Department approved biologist. Target sites for mitigation shall be sampled for soil type and habitat criteria sufficient for the establishment and growth of the affected special-status species. The plan shall additionally include, but not be limited to, the following components:

- 1) Performance criteria (i.e., what is an acceptable success level of revegetation to mitigate past impacts);
- 2) Monitoring effort (who is to check on the success of the revegetation plan, and how frequently);
- 3) Contingency planning (if the effort fails to reach the performance criteria, identify the remediation steps need to be taken); and
- 4) Irrigation method/schedule (how much water is needed, where, and for how long).

Significance After Mitigation. Impacts to special-status plants onsite identified in the CNPS 1B and 4 lists would be less than significant with the above mitigation.

**Impact BIO-3** **Development of the proposed project could potentially affect the San Fernando Valley spineflower (SFVS), if present onsite. Potential impacts to this species would be considered Class II, significant but mitigable.**

As discussed in Subsection e of the Setting, the SFVS, which was distributed historically through the San Fernando Valley and Santa Clarita Valley areas, and was thought to be extinct until the recent discovery of the species at Ahmanson Ranch in southern Ventura County in 1999 and in the Newhall area in 2001. The SFVS is currently identified as a candidate species for listing under the federal Endangered Species Act and was listed by the State of California as endangered species on August 23, 2001. The SFVS is also identified as a List 1B species by CNPS. Given that the SFVS is known from only two locations, for the purpose of this CEQA analysis, it is presumed to meet the CEQA criteria for an endangered, rare, or threatened species. The SFVS is not known to the site; however, appropriate habitat for the species exists in the Mixed Chaparral, Riversidean Sage Scrub, Annual Grassland, and Disturbed areas onsite.

Mitigation Measures. Due to the extreme rarity of the SFVS and its known presence at only two locations, the following mitigation measures are required.



- BIO-3(a)** A survey for the San Fernando Valley spineflower (SFVS) shall be conducted by a qualified biologist in all Mixed Chaparral, Riversidean Sage Scrub, Annual Grassland, and Disturbed areas where ground disturbance is anticipated. If no SFVS are found, no further mitigation is required. In the event the SFVS is discovered onsite, mitigation measures B-3 (b-d) shall be required.
- BIO-3(b)** In the event the SFVS is discovered onsite, the current and anticipated future distribution of the species shall be mapped by a qualified biologist. The CDFG and City of Santa Clarita shall be formally notified and consulted regarding the presence of this species onsite. If the SFVS becomes federally listed prior to grading of the site, the USFWS shall also be notified. A preservation and management plan shall be prepared for the SFVS by a qualified biologist and shall include, but not be limited to, the following:
- The project applicant will provide a buffer between development and any SFVS that may be found onsite as required by CDFG. This buffer zone shall be designated with appropriate fencing to exclude construction vehicles and public access, but not wildlife access;
  - Stormwater runoff, irrigation runoff, and other drainage from developed areas shall not pass through areas populated by the SFVS;
  - Spineflower areas shall not be artificially shaded by structures or landscaping within the adjacent development areas;
  - Pesticide use shall not be permitted within SFVS areas;
  - The agency responsible for monitoring the SFVS area during construction and after project completion shall be identified and the frequency and extent of monitoring shall be determined.
- BIO-3(c)** In the event it is determined that project development could potentially affect the SFVS, the CDFG shall be contacted to determine the need for a “take permit” under the California Endangered Species Act. If the SFVS is federally listed prior to site grading, the USFWS shall be contacted to determine the need for a take permit under the federal Endangered Species Act. Appropriate mitigation required to minimize or mitigate impacts to the SFVS shall be implemented and may include the following: the creation of a spineflower preserve, establishment of vegetated buffers or other setbacks, drainage modification of the adjacent areas, SFVS revegetation, and monitoring to ensure the success of the mitigation.

Significance After Mitigation. Direct and indirect impacts to the San Fernando Valley spineflower would be less than significant with the above mitigation.



**Impact BIO-4** The proposed project would directly remove up to 1,100 healthy oak trees and 709 dead or fire damaged oaks, and could indirectly disturb an estimated 551 individual oak trees. An estimated 69 acres, or approximately 34%, of the oak woodland/ forest habitat onsite would be affected. Impacts to oak woodland/forest habitat are considered Class I, *unavoidably significant*.

The *Needham Ranch Oak Tree Survey* (Henrickson, 2000) prepared for the project site includes the location, size, health, and degree of fire damage for trees within 50 feet of proposed fill, and 150 feet of proposed cut activities. The *Revised Analysis of Oak Tree Removal on Needham Ranch* (Sikand, May 2001) was prepared in order to determine the number of coast live oak and scrub oak trees that would be removed or potentially removed to accommodate the proposed project. In addition, the intent of this study was to estimate the number of coast live oak and scrub oak trees located in the proposed open space areas, which are located outside of the area surveyed in the Henrickson report. Independent review by Rincon Consultants indicates that these reports provide a reasonable estimate of the number of the total number of oak trees onsite and of the number of trees that would be affected by project grading. The Sikand report utilizes a sampling method based off of aerial photography and the oak tree survey to estimate the number and species of trees that are located in the remaining proposed open space/wilderness area. Three sample areas were chosen in which the density and species composition could be obtained from the Henrickson report. These values were then extrapolated to similar remaining areas in the open space area (wilderness area) based on aerial photography review. Although this type of sampling cannot predict exact quantities of oak trees, it provides a reasonable estimate of the number of oaks within the proposed open space/wilderness area.

A total of 11,721 oak trees consisting of healthy, fire damaged, and dead oaks are estimated to be onsite. Of these, an estimated 10,717 (91%) are coast live oaks and 1,004 (8%) are scrub oaks. An estimated 10,680 (91%) oaks are considered healthy and 1,041 (8%) are dead or damaged. Figure 4.6-3 and Table 4.6-4 summarize the direct and indirect impacts to oak trees per species on the project site.

Trees located within the grading footprint would be directly removed by project development. A total of approximately 1,000 healthy oak trees and 709 dead or fire damaged oak trees would be directly removed during project construction and grading activities. Of the healthy oaks, 696 are coast live oaks and 304 are scrub oaks. Approximately 608 of the dead or fire damaged oak trees are coast live oaks and 101 are dead or damaged scrub oaks.

The 1,000 healthy oak trees to be directly removed represent about 9% of all healthy oaks onsite. The 709 dead or fire damaged oaks to be removed represent 68% of all dead/fire damaged trees onsite. The proposed removals include two heritage oaks, which represent 9% of the 22 heritage trees onsite. These impact estimates do not include 64 trees that were previously removed without a City permit (see Section 2.0, *Project Description*, for additional information) or the 100 coast live oaks in the proposed Oak Tree Bank described in Section 2.0 and below.

**Table 4.6-4 Oak Tree Impact Summary**

	Live Trees		Dead/Strong Fire Damaged Trees		Total Live and Dead Trees	
	Coast Live Oak	Scrub Oak	Coast Live Oak	Scrub Oak	Coast Live Oak	Scrub Oak
Direct Project Removal	696	304	608	101	1,304	405
Subtotal	1,000 <sup>1</sup>		709		1,709	
Buffer Area – Potential Disturbance	322	14	170	45	492	59
Subtotal	336		215		551	
Trees to remain - Remaining lots including open space area	8,818	526	103	14	8,921	540
Subtotal	9,344		117		9,461	
<b>TOTAL</b>	<b>10,680<sup>2</sup></b>		<b>1,041</b>		<b>11,721<sup>1</sup></b>	

*Note: Values based on Revised Analysis of Oak Tree Removal on Needham Ranch (Sikand, May 15, 2001).*

<sup>1</sup> Does not include 100 trees that could potentially be removed in the future in accordance with the Oak Tree Mitigation Bank proposed by the applicant and described both in Section 2.0 and below.

<sup>2</sup> Excludes 64 previously removed oak trees and the live oaks in the proposed Oak Tree Bank.

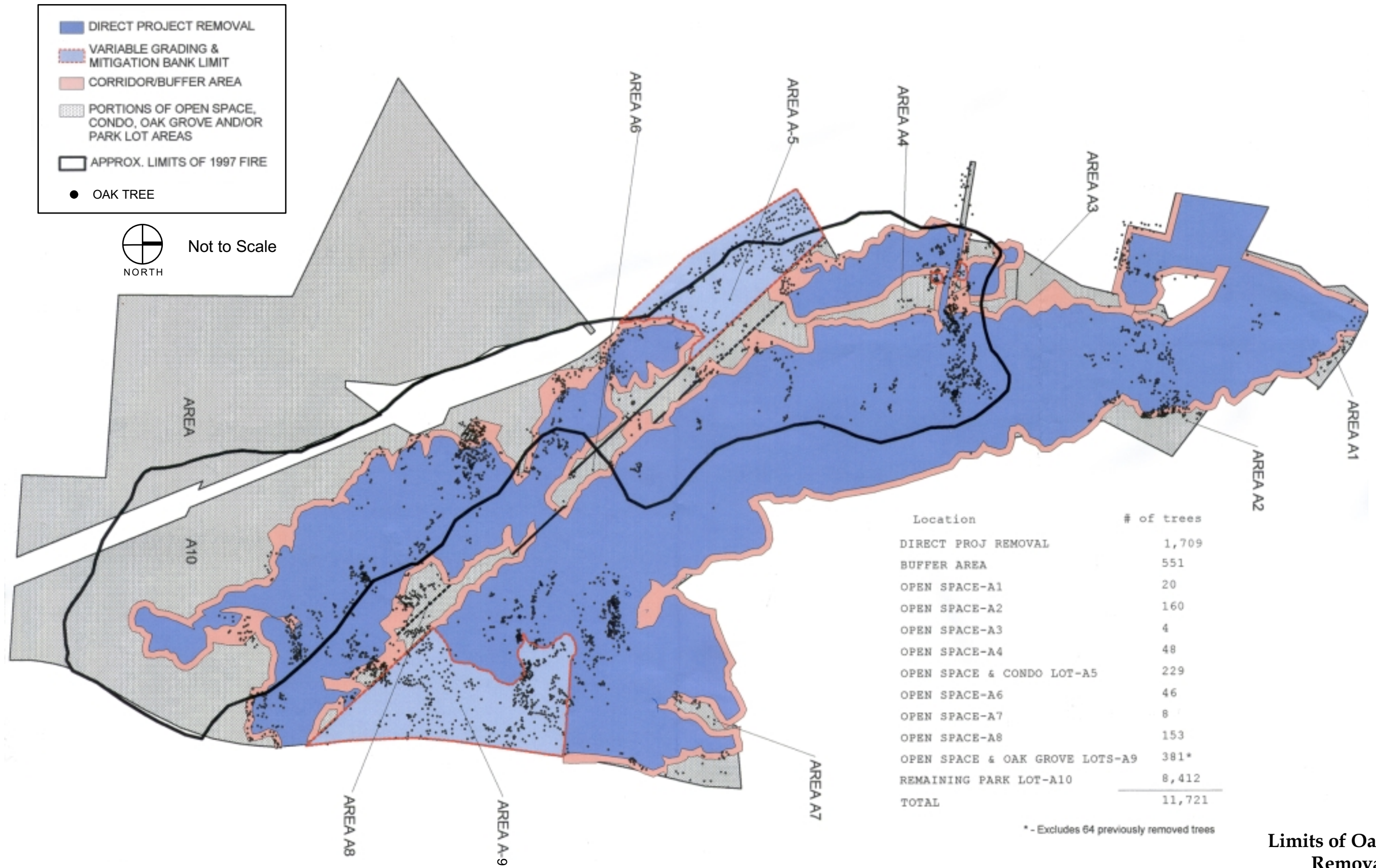
In recognition that onsite grading could affect additional trees outside but adjacent to the grading envelope for the project, the applicant has proposed an Oak Tree Mitigation Bank that would allow the removal of up to 100 additional trees valued at \$243,000 to mitigate potential effects to oaks from nearby grading. This would bring the total number of possible live oak tree removals to 1,100. The mitigation bank would not include any heritage trees.

Trees located within a 50-150 foot buffer area around the proposed grading envelope could be indirectly affected by encroachment into the tree canopy, modified drainage, tree trimming, or inadvertent damage or removal during construction in the adjacent grading footprint. A total of 551 (5%) of oak trees within this buffer area could be indirectly affected by project construction and grading activities. Approximately 492 of these trees are coast live oaks and 59 are scrub oaks, which represent 5% and 6% of all coast live oaks and scrub oaks found on site, respectively. Approximately 336 of the oak trees that may be affected in this area are considered healthy and represent removal of 3% of all healthy oaks onsite. Approximately 215 of the oaks trees are dead or fire damaged, which represents 20% of all dead/fire damaged trees onsite. These impact totals include four (18%) of the 22 heritage trees onsite.

Removal of oak trees and oak woodland habitat can have a variety of secondary impacts not discussed above. Vegetation and wildlife species present in oak woodland would be displaced as oak woodland is converted into developed areas. Because oaks are wind-pollinated, reduction of the number of coast live oak trees on-site could incrementally lower the reproduction, and thus, genetic diversity of the species. Wildlife dependent upon oak tree habitats and sensitive to human activity, such as raptors, could be displaced from retained oaks if trees are adjacent to roadways, lighting, or noise sources.

Oak trees, both live and dead, and oak woodland habitat provide habitat for vegetation and wildlife, and are protected under the City of Santa Clarita General Plan and Unified Development Code. Although the oak trees to be removed can be replaced, the habitat





Limits of Oak Tree Removal

Source: Sikand, 2001

Figure 4.6-3

associated with oak woodland habitat cannot be fully restored; therefore, impacts associated with the loss of oak woodland habitat on-site are considered unavoidably significant.

Measures to minimize the impacts of past and proposed oak tree removal are included as part of the development plan. The applicant has proposed dedication of the open space portion of the site (about 220.6 acres) to the City, and to plant 500 oak trees on the highly visible graded slopes of the post-constructed site. In addition, the applicant is growing approximately 700 agrifolias from local acorns in a nursery for planting in the areas to be developed.

A letter report submitted to the City (Tate, 2001) identifies an average value of \$2,430 for coast live oak trees and \$170 for scrub oaks. This equates to a combined value of \$1,970,200 (includes 64 previously removed trees) for the loss of coast live oak and scrub oaks as a result of direct project removal. The estimated value of trees remaining within the proposed open space area (which would be dedicated to the City) is \$15,878,220. It should be noted that even after assigning monetary values to all of the oak trees within the development area (including dead/strong fire damaged oak trees and oak trees within the buffer area), the proposed open space area is valued at approximately 3.5 times greater than the value of all trees affected in the development area. Although this mitigation substantially reduces impacts to oak trees and oak woodland/forest habitat utilized by vegetation and wildlife onsite, impacts are still considered unavoidably significant.

Mitigation Measures. The applicant is required to obtain a permit from the City for the removal of onsite oak trees and comply with the provisions of the permit. In addition, the following measures to partially mitigate impacts relating to the loss of the oak woodland/forest shall be implemented.

- BIO-4(a)** All direct impacts to oak trees on site shall be avoided wherever feasible. For oak trees that are affected, an oak tree mitigation program shall be developed pursuant to the City's oak tree preservation ordinance. This mitigation program shall include, but not be limited to:
- Identifying specific protective measures for protecting and maintaining all oaks within potential encroachment areas;
  - Mature oak trees and shrubs shall not be removed during preparation of fire clearance zones;
  - Replacement tree planting, maintenance, and monitoring specifications, which shall at the minimum include the following:
    - 1) Performance and success criteria to ensure that at least 80% of the 500 planted coast live oak trees survive for at least five years;
    - 2) Monitoring effort (who is to check on the success of the revegetation plan, and how frequently);
    - 3) Contingency planning (if the effort fails to reach the performance criteria, identify the remediation steps needed to be taken);
    - 4) Irrigation method/schedule (how much water is needed, where, and for how long);
    - 5) A final map, corresponding spreadsheet, and impact summary table indicating all oaks to be removed and that reflects impacts resulting from the final approved project.



- 6) All native California oak trees removed as a result of project implementation shall be replaced with in-kind native California oak tree specimens obtained from regional (i.e., Santa Clarita Valley) stock.”

**BIO-4(b)** The proposed open space wilderness area and any other wildlife/corridor easement areas and/or fee transfers per previous City agreements shall be deeded and/or secured with the City at the time of final tract map approval.

Significance After Mitigation. The recommended mitigation measures, in combination with the requirements of the oak tree permit that the City will require, would partially mitigate impacts relating to the direct removal of oak trees and oak woodland habitat. However, approximately 69 acres of relatively high quality oak woodland habitat, which includes 696 coast live oak trees and 304 scrub oaks, would be directly removed as a result of the proposed project, representing an overall net loss of oak woodland habitat and values. This is considered a significant and unavoidable impact.

**Impact BIO-5** The proposed development would cause direct and indirect impacts to CDFG and Corps jurisdictional drainages onsite. This is a Class II, *significant but mitigable* impact.

An estimated 6.7 acres of waters of the U.S. under Corps jurisdiction and 24.66 acres of waters of the state under CDFG jurisdiction were identified within the project area. The proposed development would affect approximately 4.70 acres, or 70% of Corps jurisdictional areas onsite, which consist of non-wetland waters of the U.S., and 6.85 acres, or 28%, of CDFG waters of the state onsite. The remaining jurisdictional areas would be preserved in the open space portions of the property. All vegetation in the drainages located within the development footprint would be removed during grading and the hills of the watershed would be leveled and filled. Other direct and indirect impacts to aquatic habitat would occur with the filling of onsite drainages. Direct impacts include the permanent loss of riparian habitat and indirect impacts include a change in downstream (offsite) hydrology, water quality, and possibly riparian vegetation.

The project area is characterized by steep topography with ephemeral streams that only experience flows during winter rains. The natural stream areas are susceptible to substantial debris flows because of the erosive soils and steep topography onsite. With the development of the proposed project, the watershed would change from a steep to a more level terrain as a result of the cut and fill of the project site. The reduction of slope in the project area would reduce the rate of runoff and debris flow from storm events, while the addition of impermeable surfaces and maintained landscaping onsite would increase the amount of stormwater runoff. Slopes greater than 3:1 onsite would be provided with drainage terraces to control and redirect onsite flows.

Indirect impacts to aquatic habitat would occur from the redirection of runoff to downstream area drainages. Runoff redirected downstream could alter storm flows, sedimentation, and contamination that may adversely affect downstream habitat, including a possible increase in bacteria, heavy metals, nutrients, oil, and grease. Altered storm flows may also cause a change in riparian vegetation.





A Section 404 permit of the Clean Water Act would be required from the Corps for alteration of the drainages onsite. Additionally, a water quality certification would be required from the Regional Water Quality Control Board. As land disturbance activities are greater than 1 acre in size, the Regional Water Quality Control Board would require a National Pollutant Discharge Elimination System (NPDES) storm water permit. A Streambed Alteration Agreement pursuant to Section 1601 *et. seq.* of the California Fish and Game Code will need to be obtained from CDFG for any activities modifying the bed or banks of the riparian habitats of the project site. These permits require mitigation to reduce impacts to water quality and quantity, vegetation, and wildlife. A minimum mitigation ratio of 1:1 (1 acre replaced for every 1 acre lost) is required by the Corps to meet its “no net loss” goal; however, mitigation ratios may be at a higher ratio (2:1 or 3:1). The mitigation ratios required by CDFG typically range from 2:1 to 5:1 depending on the quality and quantity of the habitat(s) present. Credit for removal of invasive species in jurisdictional areas may also be included as part of the permits.

Mitigation Measures. Compliance with the requirements of the appropriate Corps, CDFG, and RWQCB permits, and implementation of any mitigation measures contained therein, would offset the loss of waters of the U.S. and waters of the state. As discussed in Section 4.3, *Hydrology and Water Quality*, a National Pollution Discharge Elimination System (NPDES) permit is required for development of the proposed project. As a result Best Management Practices (BMPs) would be required to minimize impacts to water quality and quantity both onsite and offsite during construction. No additional mitigation is required beyond that specified in Section 4.3, *Hydrology*.

Although the Corps and CDFG will require specific mitigation as part of their permitting processes, the following measures provide minimum requirements for the project.

- BIO-5(a)** Impacts to jurisdictional waters shall be mitigated at a minimum ratio of 2:1.
- BIO-5(b)** The project applicant shall provide a buffer between development and 1 riparian habitat associated with drainage FF, which is located directly south of the Eternal Valley Cemetery, as required by CDFG.

Significance After Mitigation. Development of the proposed project would result in impacts to jurisdictional drainages and their associated habitats. Mitigation included in the Corps, CDFG, RWQCB, and NPDES permits would reduce impacts to jurisdictional areas to a less than significant level.

- Impact BIO-6** **The proposed development would disrupt wildlife movement corridors through the project area, and between the open space areas associated with the San Gabriel and Santa Susana Mountains. This impact is considered *unavoidably significant* (Class I).**

As discussed in subsection d, *Common Wildlife*, of the Setting, the project is located in a wedge shaped area between Interstate 5 and Highway 14 that serves as an important connection for animal movement between the San Gabriel Mountains to the east and the Santa Susana Mountains, Simi Hills, and Santa Monica Mountains to the west. Although the project site is adjacent to an area of Santa Clarita that is heavily influenced by human development, as noted



by several major roadways that abut the project area (San Fernando Road to the north, Sierra Highway and Antelope Valley Highway to the east), several functional linkages across the I-5 and Sierra and Antelope Valley Highways still permit animal movement through the "South Newhall Wedge" area, which includes the project site. Wildlife corridors crossing Interstate 5 are located approximately 1 mile to the south and would be accessed by wildlife moving through the open space areas in the southern portion of the project site and into the adjacent open space and developed areas to the south. As the southern portion of the site is being preserved as open space, wildlife access to the corridors that span Interstate 5 is not anticipated to be affected by the proposed development.

As described in the 1993 wildlife corridor study by Independent Environmental Consultants, three functional (Grade B) wildlife corridors (# 1, 3, and 4 in Figure 4.6-1) that cross the Antelope Valley and Sierra Valley Highways are located directly adjacent to, or in the vicinity of, the project site. From north to south, these wildlife corridors are as follows: Dockweiler Drive (Corridor #1), Elsmere Drainage (#3), and Los Piñetos Road (#4) (see Figure 4.6-2). Due to project development, access to these corridors, and thus access to the San Gabriel Mountains to the east could potentially be affected.

Wildlife access to the Dockweiler Drive corridor (#1) from the project site currently involves crossing the heavily traveled San Fernando Road at the northern portion of the project site and traveling through two existing vacant lots along the north side of San Fernando Road. Animals could then continue to the northeast to access the Dockweiler Drive corridor. Project development could limit access to this corridor by development of Lots 1-4, 45 and 47, as they would hinder movement from the adjacent open space areas onsite that connect with areas to the south. However, the existing traffic along San Fernando Road and the anticipated future development of the vacant parcels along San Fernando Road, substantially decrease the value of this corridor compared to others for wildlife utilizing the project site. As a result, project related impacts to the accessibility of this corridor (#1) are not considered significant.

The Elsmere Canyon corridor (#3) is located just south of the San Fernando Road corridor and is a functional corridor for at least raccoons as tracks were observed in this area (Independent Environmental Consultants, 1993). The crossing is attractive as the site contains water and is well sheltered from human activity, however navigation of the culvert structures and traversing the artificial habitat of the Eternal Valley Cemetery somewhat would reduce the value of this crossing. Lots 16-21 form an arc that generally limits access of this corridor from other areas onsite. The landscape slopes and trails area located between Lots 16, 12, and 13 would allow continued, albeit limited, access to the Elsmere Canyon corridor.

The Los Piñetos Road corridor (#4) is located about 1 mile south of the San Fernando Road crossing and is the most functional of the four corridors adjacent to the site as noted by the tracks of several species within the corridor. Evidence of mule deer (tracks), rabbits (tracks), raccoon, gray fox and coyote (scat) have been documented in this area. The potential for animal use of corridor is higher than any other crossing studied as it is located in an area that is remote from human activity. This wildlife corridor involves crossing over the Sierra Valley Highway at the eastern border of the project area between Remsen Street and Clampitt Road and then continuing east under the Antelope Valley Highway at Los Piñetos Road via an underpass. The habitat resources for wildlife on both sides of the crossing are relatively good, though those to

the east are disturbed. Crossing over Sierra Highway during the late night hours is not anticipated to result in high wildlife mortalities, as overall traffic is light at this time.

Although an open space area south of Lot 27 allows partial access to the Los Piñetos corridor (#4) from the core wilderness areas onsite, development of lots 27, 28, and 42, could limit wildlife access to it by restricting the area along Sierra Highway through which wildlife can access the corridor. In addition, light sources, noise, and fencing associated with development of lots 27, 28, and 42 could deter animal movement through the area. This is considered a potentially significant impact.

Mitigation Measures. The following mitigation measures would minimize the potential for degradation of habitat linkages due to project development. The Los Piñetos wildlife corridor is the most viable of those available to the project site and mitigation for preserving and enhancing it should be given the highest priority.

- BIO-6(a)** The open space area in lot 55 shall be maintained for continued wildlife access. Dense native vegetation reflecting species currently present onsite shall be planted along the borders of these areas as necessary to provide appropriate cover and resources for wildlife. A pathway for animal movement shall be located between the vegetated buffers.
- BIO-6(b)** Solid barrier fencing onsite shall be prohibited around areas that border open spaces or routes of animal movement. Fencing in these areas shall consist of “ranch style” post fencing or barb-wire style fencing. Fencing shall allow at least one-foot of clearance above ground to permit wildlife movement.
- BIO-6(c)** Wildlife guzzlers (2) shall be constructed in open space areas along wildlife movement corridors in locations to be determined by a qualified biologist.
- BIO-6(d)** The following low-light design features shall be implemented adjacent to open space and wildlife corridor areas:
  - Low sodium lights shall be used on all roadways to reduce glare and direct it away from wildlife corridor and open space areas;
  - Streetlight poles shall be of an appropriate height to reduce the glare and pooling of light into open space and corridor areas; and
  - Street light elements shall be recessed or hoods shall be used to reduce glare impacts on open space and corridor areas.

Detailed information on corridor design for this location is included in the 1993 study by Independent Environmental Consultants attached in Appendix E.

Significance After Mitigation. The above mitigation measures would reduce impacts resulting from project development to wildlife corridors to the degree feasible given the magnitude and design of the proposed development. However, outside of redesigning the project to eliminate lots 27, 28, and 42, impacts to the Los Piñetos Road corridor cannot be avoided. Consequently, this impact is considered unavoidably significant.



**Impact BIO-7 The proposed development may cause the direct loss of special-status wildlife through conversion of onsite habitats to developed areas. Indirect impacts on special-status wildlife species could occur through the habitat fragmentation and degradation because of the introduction of non-native plants. This impact is considered *significant but mitigable* (Class II).**

As indicated in Table 4.6-3, a variety of special-status animals are known to occur within the greater Santa Clarita area. As many species are wide-ranging, they may not be present in suitable habitat within the project site during biological surveys. As a result, the presence of many special-status species known from the greater region and that utilize the types of habitats found on site cannot be definitively determined. Therefore, the presence of special-status species onsite is discussed in terms of “potentially occurring”. Development of the project could potentially result in significant impacts to special-status animals that utilize the project site.

As discussed under impacts BIO-1 (“common” habitats), BIO-4 (oak woodland/forest), and BIO-5 (riparian habitat), vegetation changes associated with project development involve not only a decrease in the acreage of a habitat, but can also result in habitat fragmentation or degradation. As a result, the ability of onsite plant communities to support wildlife populations, including special-status species, may decrease. In addition to direct loss of habitat, project development would likely result in increased mortality to species that continue to utilize the project site after development due to competition from invasive species, wildlife collection, and attrition of important prey resources for wildlife in the remaining habitat.

Vegetation clearing and earth-moving activities associated with site preparation and fire clearance for the proposed project would involve significant disturbance to ground-dwelling animals or nesting birds, especially species such as small mammals, reptiles, amphibians, and birds. These species would be expected to experience displacement and direct mortality. This is considered a significant impact to wildlife resources because these smaller animals provide the prey base for other wildlife, including special-status species.

Mixed Chaparral, Riversidean Sage Scrub, and Annual Grassland habitats onsite are known to be utilized by the following special-status species: Cooper’s hawk, white-tailed kite, merlin, Southern California rufous-crowned sparrow, Bell’s sage sparrow, and loggerheaded shrike. Although not observed onsite, the following special-status species could potentially utilize these habitats as suggested by their historic and current distribution, known occurrences, and habitat preferences: coast homed lizard, coastal western whiptail, coastal rosy boa, coast patch-nosed snake, prairie falcon, burrowing owl, California horned lark, San Diego blacktailed jackrabbit, American badger, pale (Townsend’s) big-eared bat, and the small-footed myotis bat. Cooper’s hawk and the white-tailed kite may breed in trees within the oak woodland/forest onsite, although this has not been confirmed. The loss of habitat and construction related mortality for these Federal and/or California Species of Concern is considered a significant impact.

The incremental loss of habitat and populations of the other more “common” wildlife would not be significant on a regional or site specific basis because of the continuing regional supply of suitable habitat and these species’ widespread distribution. The specifics of potential project impacts to special-status wildlife are discussed below.

Development of the project in this area would remove habitat for the **coast horned lizard**. As these animals do not flee from construction vehicles, they are likely to be killed during construction if they are present onsite within the development footprint. This is considered a locally significant impact.

Project development would remove large expanses of the habitat that could be potentially utilized by the **coastal western whiptail**, an active predator. Although there is extensive habitat for this species onsite in the open space area and within adjacent lands to the south, project development could impact this species due to construction related mortalities.

Project implementation could also cause a significant impact to the **coast patch-nosed snake** and **rosy boa** if these species are present onsite due to mortalities during grading.

Project development is not expected to cause a significant impact to bird species that only forage at the site or occur as transient winter visitors; however, loss of nesting sites for birds of prey would be considered a significant impact. Impacts on **merlins** and **prairie falcons** onsite would be less than significant as their presence would be limited to foraging. **Cooper's hawk** and **white-tailed kite**, which have been observed onsite, could be potentially affected if they breed in trees within or adjacent to the development area. The **burrowing owl** could also be adversely affected if it is present onsite.

Development is not expected to cause a substantial decrease in **California horned lark** numbers if they are present onsite. However, as this species is considered sensitive while nesting, project construction during the breeding season could result in significant impacts.

The incremental loss of sage scrub habitat for this project may be significant for the **Southern California rufous-crowned sparrow** as it is a ground nester.

The project would alter nesting habitat for the **Bell's sage sparrow**, but given its known ability to nest adjacent to suburban development, the project is not expected to have a significant impact on this animal.

The **loggerhead shrike** has been observed onsite. It may nest in the taller vegetation within the scrub and chaparral habitats. It is capable of surviving in adjacent open space areas and implementation of the project is not anticipated to have a significant impact on this species.

The potential alteration of potential foraging areas for the **pale big-eared bat** and the **small-footed myotis** would not be expected to cause a significant impact on bats due to the mobility of the species and their ability to access adjacent and equivalent habitats.

Given the amount of available habitat in the open space areas onsite and in adjacent lands to the south, development of the project would represent a minor incremental loss of habitat for the **San Diego black tailed hare** (or jackrabbit) and **American badger** in the event they are present onsite.

Mitigation Measures. Multiple mitigation measures included in this document would reduce impacts to habitats onsite to the extent feasible, and thus to special-status species that are potentially present within these habitats. Measures BIO-1(a) and (b) require minimization

of impacts to chaparral and scrub habitats within fire clearance zones, when feasible, and revegetation of landscape areas with native chaparral and scrub species. Mitigation measure BIO-4(a) would minimize impacts to oaks and oak woodland to the extent feasible and create a mitigation plan for oak replacement onsite. Mitigation measures BIO-5(a) and (b) would avoid impacts to the perennial riparian area onsite, and mitigate impacts to habitats associated with CDFG and Corps jurisdictional areas through habitat replacement. These measures would mitigate direct and indirect impacts to habitats onsite to the extent feasible.

The following mitigation measures would reduce significant impacts to the following special-status species potentially affected by project development: coast horned lizard, coastal western whiptail, coast patch-nosed snake, rosy boa, California horned lark, the Southern California rufous-crowned sparrow, and birds of prey that may nest onsite such as the Cooper's hawk, white-tailed kite, and burrowing owl.

**BIO-7(a)** Two weeks prior to removal of trees during the raptor nesting season (February through October), a survey for raptor nests shall be made by a qualified biologist. If active nests are located, then all construction work must be conducted at least 500 feet from the nest until the adults and young are no longer dependent upon the nest site.

**BIO-7(b)** Not more than two weeks prior to ground disturbing construction within Mixed Chaparral, Riversidean Sage Scrub, and Annual Grassland habitats, a preconstruction survey for the coast horned lizard, coastal western whiptail, coast patch-nosed snake, rosy boa, California horned lark, Southern California rufous-crowned sparrow, and any other special-status species shall be conducted by a qualified biologist. As all potential special-status species that may occur in these habitats are Species of Concern and not formally listed, any individuals found shall be captured, when possible, and transferred to adjacent appropriate habitat within the open space/wilderness preserve onsite.

Significance After Mitigation. Project development would reduce the amount of habitat available for special-status species utilizing onsite habitats. As discussed above, mitigation measures BIO-1(a, b), BIO-4(a), and BIO-5(a, b) would reduce impacts to onsite habitats to the extent feasible through, avoidance, minimization, and replacement. Mitigation measure BIO-7(a) and (b) would reduce direct impacts caused by construction related mortality on special-status wildlife. Direct and indirect impacts to wildlife would be less than significant after mitigation.

**c. Cumulative Impacts.** Significance criteria for cumulative impacts to biological resources is based upon:

- The cumulative contribution of other approved and proposed projects to fragmentation of open space in the project vicinity;
- The loss of habitats;
- Contribution of the project to urban expansion into natural areas; and
- Isolation of open space within the proposed project by future projects in the vicinity.



The cumulative effect of these impacts depends on the proximity and extent of other approved and proposed projects in the region. An estimated 123,877 residential units and 58,934 thousand square feet of non-residential development are anticipated under buildout of the City of Santa Clarita General Plan. Cumulative projects close enough, or having relative impacts to the proposed project may include infill of the vacant lots along San Fernando Road and development of the areas to the east of the Gate-King site. All of these developments would result in loss of natural habitats for wildlife, including some special-status species, and would contribute to the fragmentation of the City of Santa Clarita and its interface with the Santa Clara River, the San Gabriel and Santa Susana Mountains, surrounding canyons, and the Angeles National Forest.

The wildlife resources on the project site are already somewhat isolated by commercial development on the north and west; historic oil development to the east, transportation corridors to the north (San Fernando Road), east (Sierra and Antelope Valley Highways) Highway) and southwest (Golden State Freeway). Infill development in the project vicinity would further isolate the wildlife resources onsite by limiting animal movement within, and access to, the site.

The wildlife now present on-site will change as a result of habitat alteration, fragmentation of open space, increased human activity, noise, night lighting, influx of domestic and feral animals, and other project-related disturbances. In time, the composition of wildlife communities could shift from a mixture of specialist and generalist species to communities dominated by the latter, with potentially occurring special-status species and larger mammals being shifted to the open space/wilderness areas onsite or eliminated from the project area. This transformation would also be marked by the introduction and spread of invasive, non-native plant and animal species.

Mitigation measures have been proposed that will reduce some direct and indirect impacts to common habitats, special-status plants, and CDFG and USACE jurisdictional areas to a less than significant level. However, the project's impacts to Oak woodland/forest habitat and wildlife corridors would remain unavoidably significant. Regional programs, such as the City of Santa Clarita's designation and protection of Significant Ecological Areas, are in place to minimize cumulative impacts to biology. Nevertheless, the proposed project, in combination with approved and other proposed projects in the area, would result in cumulatively significant impacts to the biological resources in the region and would incrementally contribute to the significant cumulative effect of urbanization.

## 4.7 NOISE

### 4.7.1 Setting

**a. Noise Background.** Noise is defined as unwanted or objectionable sound. Noise level (or volume) is typically measured in decibels (dB) using the A-weighted sound pressure level (A-weighted decibels, or dBA). The A-weighting scale is an adjustment of actual sound power levels to be consistent with that of human hearing response, which is most sensitive to frequencies around 4,000 Hertz (about the highest note on a piano) and less sensitive to low frequencies (below 100 Hertz).

Sound pressure level is measured on a logarithmic scale with the 0 dB level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Decibels cannot be added arithmetically, but rather are added on a logarithmic basis. A doubling of sound energy is equivalent to an increase of 3 dB. Because of the nature of the human ear, a sound must be about 10 dB greater than the reference sound to be perceived as twice as loud. In general, a 3 dB change in community noise levels is noticeable, while 1-2 dB changes are generally not perceived. Quiet suburban areas typically have noise levels in the 40-50 dBA range, while those along arterial streets are in the 50-60+ dBA range. Normal conversational levels are in the 60-65 dBA range, and ambient noise levels greater than that can interrupt conversations.

In addition to the actual instantaneous measurement of sound levels, the duration of sound is important because sounds that occur over a long period of time are more likely to be annoying or to cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers duration as well as sound power level is the equivalent noise level (Leq). The Leq is essentially the average sound level occurring over a specified time period, typically one hour.

Another noise metric used to characterize the variations in sound levels over time is the percentage exceedance level, designated as  $L_{10}$ ,  $L_{50}$ ,  $L_{90}$ , etc. The subscript notes the percentage of time that the noise level was exceeded during the measurement period. For example,  $L_{10}$  is the sound level exceeded 10% of the time and is generally taken to be indicative of the highest noise levels experienced at a site. The  $L_{90}$  is that level exceeded 90% of the time and this level is often called the base level of noise at a location. The  $L_{50}$  sound level (that level exceeded 50% of the time) is frequently used in noise standards and ordinances.

The time period in which noise occurs is also important because noise that occurs at night tends to be more disturbing than noise occurring during the daytime. One of the most frequently used metrics that accounts for the difference in reaction to noise at different times of day is the Community Noise Equivalent Level (CNEL). The CNEL is essentially a 24-hour average sound level that recognizes the increased sensitivity of people to evening and nighttime noise by adding 5 dB to noise occurring from 7 PM to 10 PM and adding 10 dB to noise occurring between 10 PM and 7 AM.





**b. Noise Regulation.**

*Noise Element of the General Plan.* The City of Santa Clarita has adopted the land use compatibility chart contained in the California Office of Noise Control *Guidelines for the Preparation of Noise Elements of the General Plan* as part of its General Plan Noise Element. This chart, depicted on Figure 4.7-1, provides guidelines for acceptable and unacceptable noise levels for various types of land uses. For noise-sensitive single family residential uses, noise levels below 60 dBA CNEL are considered “normally acceptable” while noise levels of 70 to 75 dBA CNEL are considered “normally unacceptable” and levels of over 75 dBA CNEL are considered “clearly unacceptable.” For less sensitive commercial and industrial uses, noise levels of up to 70 dBA CNEL are considered normally acceptable while levels of up to about 78 dBA CNEL are considered “conditionally acceptable.”

*Santa Clarita Noise Ordinance.* The Santa Clarita Noise Ordinance governs noise from non-transportation sources in the City by setting maximum noise levels that one person can produce at the boundary between his/her property and adjoining properties. The creation of noise above these levels, which are shown in Table 4.7-1, is considered a violation of the Ordinance. For noise occurring for between 5 and 15 minutes in any hour, the maximum levels in Table 4.7-1 are increased by 5 dBA. The adjustment is 10 dBA for noise occurring between 1 and 5 minutes in any hour, and 20 dBA for noise occurring for less than one minute.

**Table 4.7-1 City of Santa Clarita Noise Ordinance  
Maximum Noise Levels**

Region	Time	Sound Level
Residential Zone	Day	65 dBA
Residential Zone	Night	55 dBA
Commercial and Manufacturing	Day	80 dBA
Commercial and Manufacturing	Night	70 dBA

Source: *City of Santa Clarita Noise Ordinance, Section 11.44.040.A. At the boundary line between a residential property and a commercial/manufacturing property, the noise level of the quieter zone shall be used.*

The City Noise Ordinance also includes time restrictions for construction activity. Section 11.44.080 of the Ordinance restricts construction activity requiring a building permit on sites within 300 feet of a residentially zoned property to between the hours of 7:00 AM and 7:00 PM Monday through Friday and between 8:00 AM and 6:00 PM on Saturday.

**c. Sensitive Receptors.** The project site is primarily undeveloped and is located in an area of mixed industrial, commercial, residential, and open space land uses. Several residences are located in the western portion of the project site along Pine Street. The next nearest sensitive noise receptors are residential uses along the west side of San Fernando Road and the Eternal Valley Cemetery immediately adjacent to the site’s eastern boundary. New residential areas are also under construction along the east side of San Fernando Road.



LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE					
	Ldn or CNEL, dBA					
	55	60	65	70	75	80
RESIDENTIAL - LOW DENSITY SINGLE FAMILY, DUPLEX, MOBILE HOMES	[Cross-hatched]		[Diagonal lines]		[Dotted]	[Solid black]
RESIDENTIAL - MULTI-FAMILY	[Cross-hatched]		[Diagonal lines]		[Dotted]	[Solid black]
TRANSIENT LODGING - MOTELS, HOTELS	[Cross-hatched]		[Diagonal lines]		[Dotted]	[Solid black]
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES	[Cross-hatched]		[Diagonal lines]		[Dotted]	[Solid black]
AUDITORIUMS, CONCERT HALLS, AMPHITHEATRES	[Cross-hatched]		[Diagonal lines]		[Dotted]	[Solid black]
PLAYGROUNDS, NEIGHBORHOOD PARKS	[Cross-hatched]		[Diagonal lines]		[Dotted]	[Solid black]
GOLF COURSES, RIDING STABLES, WATER RECREATION, CEMETERIES	[Cross-hatched]		[Diagonal lines]		[Dotted]	[Solid black]
OFFICE BUILDINGS, BUSINESS COMMERCIAL AND PROFESSIONAL	[Cross-hatched]		[Diagonal lines]		[Dotted]	[Solid black]
INDUSTRIAL, MANUFACTURING, UTILITIES, AGRICULTURE	[Cross-hatched]		[Diagonal lines]		[Dotted]	[Solid black]

**INTERPRETATION**



**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.



**NORMALLY UNACCEPTABLE**  
 New construction or development should generally be discouraged. If new construction or development does proceed, an analysis of the noise reduction requirements must be conducted and needed noise insulation features included in the design



**CONDITIONALLY ACCEPTABLE**  
 New construction or development should be undertaken only after an analysis of the noise reduction requirements is conducted and needed noise insulation features are included in the design. Conventional construction, with closed windows and fresh air supply systems or air conditioning will normally suffice.



**CLEARLY UNACCEPTABLE**  
 New construction or development should generally not be undertaken.

**Noise Compatibility Matrix**

Figure 4.7-1

**d. Current Noise Environment.** Ambient noise levels on most of the project site are low, reflecting the largely undeveloped nature of the site. Along Pine Street near San Fernando Road, however, noise levels are somewhat higher than in the rest of the site due to nearby industrial activity. Traffic noise from San Fernando Road, Sierra Highway, and SR-14 is audible on portions of the site, although the extreme topography on-site shields the interior portions of the site from traffic-related noise.

Noise level measurements were taken on and around the site on July 30, 2001. The measured levels are shown in Table 4.7-2, while the measurement locations are mapped on Figure 4.7-2. Noise levels on and around the site vary widely. The highest measured levels were along the major traffic corridors that frame the northern and eastern site boundaries, including San Fernando Road and Sierra Highway.

**Table 4.7-2 Measured Noise Levels**

Measurement Location	Measured Leq (dBA)	Primary Noise Source(s)
1. Corner of San Fernando Road and Sierra Highway	70.9	Traffic on San Fernando Rd, Sierra Hwy
2. Corner of San Fernando Road and Pine Street	73.5	Traffic, industrial activity
3. Pine Street, about 4,000 feet south of San Fernando Road	65.4	Train pass-by
4. East side of Sierra Highway, near eastern site boundary	71.5	Traffic on Sierra Hwy, SR-14
5. Eternal Valley Cemetery, near site boundary	59.6	Traffic on Sierra Hwy, SR-14

*All measurements were taken on July 30, 2001. Measurements were for 20-minute time periods. Noise data are shown in Appendix F.*

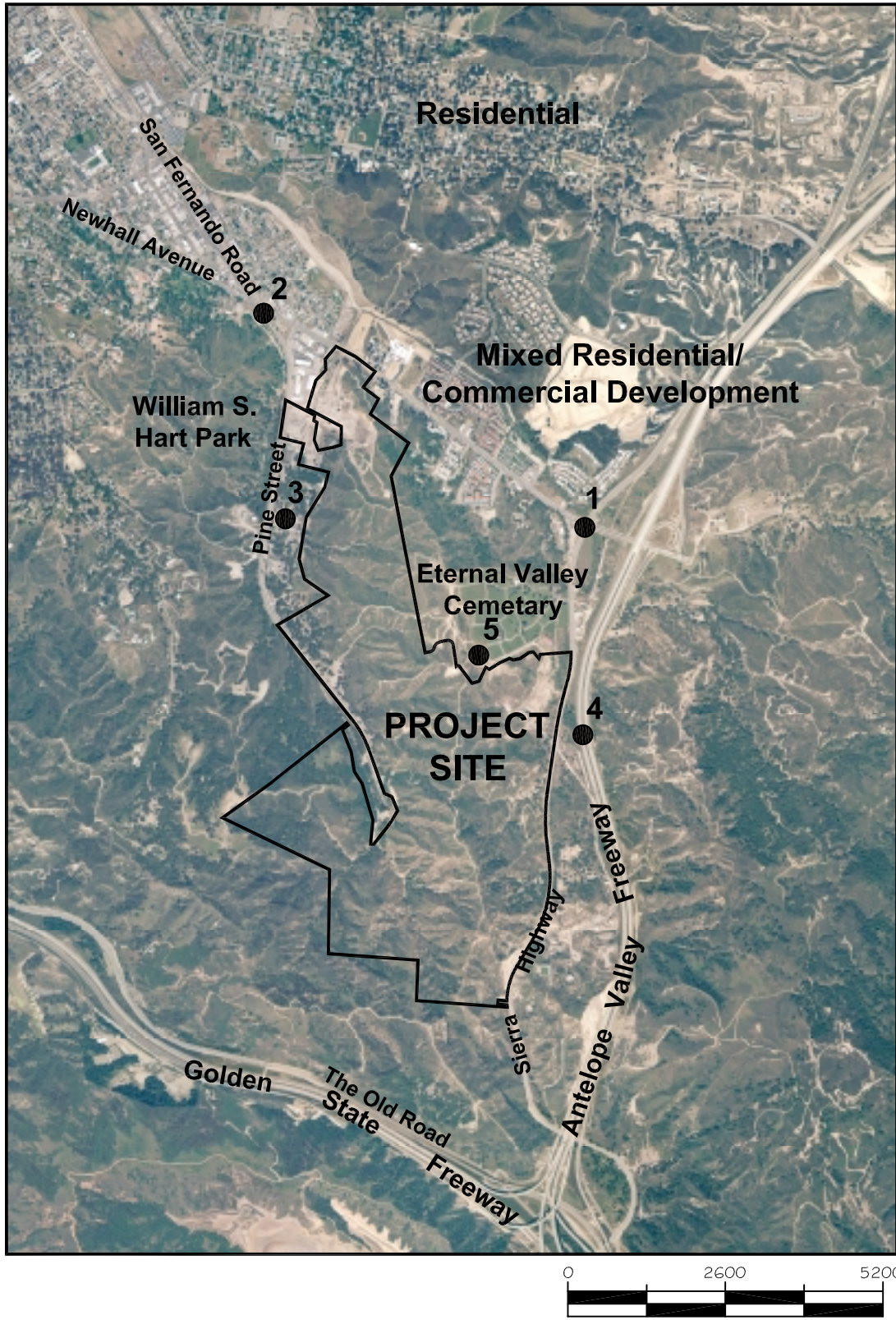
Noise levels in the interior and western portions of the site are generally much lower than in the eastern portion of the site. Other than during a train pass-by along Pine Street, measured noise levels in that portion of the site were in the 45-55 dBA range. The maximum noise level during the single train pass-by was measured at 87.8 dBA.

Metrolink operates about 30 daily trains that would pass by the site along the line adjacent to Pine Street. This line also carries periodic freight train traffic. These trains would elevate noise levels in the western portion of the site during train pass-bys; however, noise associated with rail activity would not be loud enough to create any compatibility conflicts with industrial commercial uses.

#### **4.7.2 Impact Analysis**

**a. Methodology and Significance Thresholds.** The proposed industrial park is not considered a noise-sensitive use and noise levels on-site are not expected to create any compatibility conflicts with operation of the industrial park. Therefore, the analysis of noise impacts focused upon the project's impact upon surrounding land uses.





North

Noise Measurement  
Locations

Figure 4.7-2

City of Santa Clarita

Noise associated with construction activity was evaluated using construction equipment noise level estimates contained in the USEPA report *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* (1971). Noise related to construction activity is considered significant if it would potentially violate applicable provisions of the City’s Noise Ordinance.

Noise associated with on-site operations is estimated based upon typical noise associated with industrial park activities. Such noise is considered significant if it would exceed allowable levels under the City’s Noise Ordinance (see Table 4.7-1).

Existing and future traffic noise levels were quantified using the California Vehicle Noise Emission Levels (Caltrans, January 1987), standard noise modeling equations derived from the Federal Highway Administration STAMINA2 noise model. Traffic-related impacts are considered significant if project-generated traffic would cause an exceedance of the “normally acceptable” noise level for a given land use as identified on Figure 4.7-1. In instances where noise levels already exceeds the normally acceptable level without project-generated traffic, the project’s impact is considered significant if project-generated traffic would create an audible (3 dBA or greater) change in the noise environment along the roadway.

**b. Project Impacts and Mitigation Measures.**

**Impact N-1 Construction activity would temporarily generate high noise levels on-site. Because noise could exceed thresholds in the City Noise Ordinance, impacts are considered Class II, significant but mitigable.**

Construction activity associated with development of the project site would temporarily increase noise levels on-site and in adjacent areas off-site. Construction typically occurs in several distinct phases, each of which has its own unique noise characteristics. Typical noise levels at a distance of 50 feet from the noise source for each of the major phases of construction are shown in Table 4.7-3.

**Table 4.7-3 Typical Noise Level Ranges at Construction Sites**

Construction Phase	Average Noise Level at 50 Feet	
	Minimum Required Equipment On-Site	All Pertinent Equipment On-Site
Clearing	84 dBA	84 dBA
Excavation	78 dBA	88 dBA
Foundation/Conditioning	88 dBA	88 dBA
Laying Subbase, Paving	78 dBA	79 dBA
Finishing and Cleanup	84 dBA	84 dBA

Source: Bolt, Beranek and Newman, “Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances,” prepared for the U.S. Environmental Protection Agency, 1971.



The noisiest activities associated with construction typically occur during the site preparation (excavation and foundation development) stage. This phase of project construction tends to create the highest construction noise levels because of the use of construction equipment, including trucks, bulldozers, graders, and scrapers. As shown in Table 2-9 in Section 2.0, *Project Description*, grading activity is expected to occur on various portions of the site for about 26 months over an approximately three year period.

Sensitive receptors that could potentially be affected by construction activities are residences located near the western site boundary along Pine Street, residences adjacent to the site along the west side of San Fernando Road, and the Eternal Valley Cemetery.

The residences along Pine Street would primarily be affected by construction associated with Phases 1, 5, and 6. Residences could be as close as about 100 feet from the nearest construction sites. At that distance, noise levels could reach as high as 82 dBA during peak construction periods. Similar noise levels could occur at the most affected portions of the Eternal Valley Cemetery. Such levels could create temporary annoyance; however, it should be noted that peak noise levels would occur only sporadically since not all equipment would be operating at all times and because most construction activity would actually take place at longer distances from the receivers.

The nearest residences along San Fernando Road are about 500 feet from the closest construction areas, which are part of Phase 1 (Lot 47) in the northeastern portion of the site. At that distance, maximum noise levels during construction could be as high as about 68 dBA. Such noise may be audible, but would not be substantially higher than ambient conditions and therefore would not be expected to create substantial annoyance to these residents. Again, it should be noted that most construction activity would take place substantially farther from residences along San Fernando Road, with correspondingly lower noise levels.

**Mitigation Measures.** All construction on the project site would be subject to the City Noise Ordinance, which limits noise-generating construction activity to between the hours of 7:00 AM and 7:00 PM Monday through Friday and between 8:00 AM and 6:00 PM on Saturday. Although limiting construction to these hours would ensure compliance with the Noise Ordinance, the following measures are recommended to further reduce the impact of construction-related noise on sensitive receptors.

- N-1(a) All diesel equipment shall be operated with closed engine doors and shall be equipped with factory-recommended mufflers.
- N-1(b) Whenever feasible, electrical power shall be used to run air compressors and similar power tools.
- N-1(c) For all construction activity on the project site, noise attenuation techniques shall be employed as needed to ensure that noise remains below 80 dBA in commercial/industrial areas and below 65 dBA at residences. Such techniques may include, but are not limited to, the use of sound blankets on noise generating equipment and the construction of temporary sound barriers between construction sites and affected uses.



**Significance After Mitigation.** Implementation of Noise Ordinance timing restrictions, in combination with the recommended mitigation measures, would ensure that Noise Ordinance violations do not occur. Although construction activity may cause sporadic annoyance to nearby receptors during construction, construction-related impacts are not considered significant because of their temporary nature.

**Impact N-2 Daytime operations are not expected to violate the City Noise Ordinance, but noise levels could exceed Noise Ordinance standards for nearby residential uses if on-site truck activity occurs at night. Impacts relating to project operation are therefore considered Class II, significant but mitigable.**

On-site operations are expected to involve noise associated with on-site truck movement and parking lot activity. A discussion of each of these possible noise effects follows.

*On-Site Truck Movement.* Surveys prepared by the Institute of Transportation Engineers indicate that trucks comprise an average of about 8% of overall traffic generated by industrial parks. At this rate, and estimated 2,134 daily truck trips would be expected on-site. Based upon measurements of noise associated with truck travel conducted by Rincon Consultants, noise levels generated by individual trucks using the site could range from about 65 dBA Leq to 80 dBA Leq at a distance of 100 feet. Trucks generally operate at a noise level of 65 dBA Leq to 70 dBA Leq at 100 feet while traveling and reach higher noise levels of up to about 80 dBA Leq at that distance while backing up.

Sensitive noise receptors most likely to be affected by on-site truck movement include residences along Pine Street and San Fernando Road and the Eternal Valley Cemetery. Noise level ranges that each of these receptors could be exposed to during the operation of individual trucks are shown in Table 4.7-4.

**Table 4.7-4 Noise Levels Associated with Individual On-Site Truck Operations**

Receptor	Noise Level Range for One Truck
Nearest residences along Pine Street <sup>a</sup>	55-70 dBA
Nearest residences along west side of San Fernando Road <sup>b</sup>	48-63 dBA
Eternal Valley Cemetery <sup>c</sup>	65-80 dBA

<sup>a</sup> Based on a distance from the nearest development lots (14, 15) to the nearest residences along Pine Street estimated at 300 feet.

<sup>b</sup> Based on a distance from the nearest development lot (4) to the nearest residences along San Fernando Road estimated at 750 feet.

<sup>c</sup> Based on a distance from the nearest development lots (14, 15) to the closest portions of the cemetery estimated at 100 feet.

Lots 14 and 15 in Phase 5 are nearest the residences along Pine Street. Maximum noise levels are estimated in the 55-70 dBA range. Such levels exceed the City's nighttime standard of 55 dBA for residential uses. The lower end of the noise level range (when trucks are traveling forward) would be within the City's daytime standard of 65 dBA. The noise level associated



with backing up (70 dBA) would exceed the 65 dBA daytime standard; however, the City’s Noise Ordinance allows levels of up to 85 dBA for noise events lasting less than five minutes. It is anticipated that events involving a truck backing up would last considerably less than five minutes; therefore, violations of the daytime standard are not expected in the Pine Street area. Noise level associated with truck movement on Lot 4 in Phase 1 of the project could range from about 48 to 63 dBA at the nearest residences along San Fernando Road. The lower end of these levels is below the ambient sound levels in that area and therefore generally would not be audible. Sounds in the 63 dBA range may be audible at the residences along San Fernando Road. Such noise levels would not violate the City Noise Ordinance daytime standard, but would exceed the nighttime standard of 55 dBA for residential zones.

Noise levels associated with truck movement on Lots 37, 38, and 40 could generate noise in the 65-80 dBA range at the most affected portions of the Eternal Valley Cemetery. The City Noise Ordinance does not include maximum allowable noise levels specific to cemeteries. However, such levels would not exceed the daytime standard for non-residential uses. Noise occurring at night would exceed the 70 dBA nighttime standard for non-residential uses; however, the cemetery is not considered noise-sensitive during nighttime hours.

*Parking Lot Activity.* Another possible concern is noise generated by parking lot activities. Table 4.7-5 shows estimated noise levels for a variety of possible noise events at a distance of 100 feet. Individual events, such as door slams and car alarms, are short-term events that could be audible on a sporadic basis. However, with the exception of the sweeping activities, these activities would not exceed City Noise Ordinance standards even at the most affected off-site receiver locations. For the most part, parking lot operations would not be audible at off-site locations because of the long distances from areas of the site to be developed and the nearest off-site receivers (with the exception of several residences along Pine Street, all residential receivers are at least 500 feet from the nearest development pad). Therefore, impacts associated with parking lot activities are not considered significant.

**Table 4.7-5 Parking Lot Noise Sources**

Source	Level (dBA)	Distance (feet)
Autos at 14 mph	44	100
Sweepers	66	100
Car Alarm Signal	63	100
Car Alarm Chirp	48	100
Car Horns	63	100
Door Slams	58	100
Talking	36	100
Radios	58	100
Tire Squeals	60	100

*Source: Gordon Bricken & Associates, 1996. Estimates are based on actual noise measurements taken at various parking lots.*

Mitigation Measures. The following measures are recommended to minimize the potential for noise disturbance.





- N-2(a)** Loading dock operations on Lots 2-4, 7- 9, 14, and 15 shall be oriented away from residential areas.
- N-2(b)** Onsite trash pickup services, street and parking lot sweeping, and truck deliveries shall be restricted to between the hours of 7:00 AM and 6:00 PM.

Significance After Mitigation. The recommended measures would be expected to achieve compliance with the standards of the Santa Clarita Noise Ordinance. Thus, the potential for noise disturbance to nearby residences would be reduced to a level considered less than significant.

**Impact N-3** **Project-generated traffic would incrementally increase traffic noise levels along major roadways in the site vicinity. However, the increases would be less than the significance thresholds; therefore, project-related traffic noise impacts are considered Class III, less than significant.**

The proposed project would increase traffic and associated noise on major roadways in the site vicinity (San Fernando Road, Sierra Highway) as well as on Pine Street and the internal roadways on-site. Table 4.7-6 compares projected pre-project noise levels on the most affected portions of the area roadway system at the year of project buildout (2005) to noise levels at that same time with project-generated traffic.

The two major roadways that would receive the majority of project traffic (San Fernando Road and Sierra Highway) already experience high noise levels and will continue to experience noise exceeding the normally acceptable level for the most noise-sensitive uses in 2005.<sup>1</sup> Project-generated traffic would incrementally increase noise levels along both roadways, with noise level increases ranging from 0.6 dBA to 1.3 dBA. However, the noise level would be less than 3 dBA on even the most affected segments of San Fernando Road and Sierra Highway; therefore, noise level changes associated with the project are not considered significant.

The project would increase traffic levels on Pine Street to an estimated 2,000 daily trips. This would increase traffic-related noise along Pine Street to an estimated 55.8 dBA CNEL, which would represent an audible increase over existing ambient noise levels along Pine Street. However, since noise levels would remain within the normally acceptable level for even the most sensitive residential uses, impacts along this roadway are not considered significant.

“A” Street would receive the majority of traffic traveling to the site and would also divert some through traffic from San Fernando Road. Noise levels along “A” Street would range from an estimated 61.2 dBA CNEL to 62.8 dBA CNEL. This is within the normally acceptable level for the industrial park uses planned for the site. Traffic noise from “A” Street may occasionally be audible at the nearest residential uses along the west side of Pine Street. However, the nearest

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<sup>1</sup> It should be noted, however, that the anticipated completion of Dockweiler Drive by 2005 would divert some existing traffic from San Fernando Road, thus lowering traffic levels on San Fernando Road as compared to current conditions.



**Table 4.7-6 Projected Noise Levels  
Along Selected Area Roadways**

Roadway	Noise Level Along Roadways (dBA CNEL)		
	Interim Year Without Project (1)	Interim Year with Project (2)	Project Change (2-1)
<i>San Fernando Road</i>			
w/o Pine Street	68.9	69.8	0.9
e/o Valle do Oro	69.5	70.3	0.8
<i>Sierra Highway</i>			
n/o San Fernando Rd	66.3	66.9	0.6
s/o San Fernando Rd	65.5	68.6	1.3
<i>Pine Street</i>			
s/o San Fernando Rd	-- <sup>a</sup>	55.8	>5
<i>"A" Street</i>			
s/o San Fernando Rd	-- <sup>b</sup>	62.8	N/A
w/o Sierra Hwy	-- <sup>b</sup>	61.2	N/A

*For all roadways, the modeled distance is 100 feet from the road centerline and 8% of project-generated traffic is assumed to consist of trucks. See Appendix F for calculations.*

<sup>a</sup> Existing traffic on Pine Street is negligible; the increase in noise along Pine Street would likely be greater than 5 dBA based on current ambient noise levels in the area.

<sup>b</sup> Road segment does not currently exist, but would be developed as part of the project.

portion of "A" Street is at least 600 feet from the most affected residence. At that distance, noise from "A" Street would be well within the normally acceptable range and would be considerably lower than ambient noise levels along San Fernando Road.

The project would also generate additional traffic on SR-14. However, the amount of project-generated traffic that would use the freeway would be so small a proportion of the overall traffic volume (6% or less, depending upon the segment) that it would not audibly change noise levels associated with freeway traffic.

Mitigation Measures. Significant impacts are not anticipated; therefore, mitigation is not required.

Significance After Mitigation. Project-generated traffic would incrementally increase traffic noise on roadways in the site vicinity. Although this is an adverse effect of the project, noise level increases would be less than significant without mitigation.

**c. Cumulative Impacts.** Cumulative development in the City will continue to increase traffic and traffic-related noise along area roadways. Cumulative traffic increases may create significant impacts to noise-sensitive land uses adjacent to major roadways. The proposed project would incrementally contribute to cumulative traffic noise increases in the area by generating over 26,000 daily vehicle trips. However, such impacts can be mitigated on a case-



by-case basis through the use of appropriate techniques, including building setbacks, appropriate building siting, sound barriers, and sound attenuating building techniques. Use of such techniques on all new development in the area would be expected to maintain an acceptable noise environment, thereby reducing cumulative impacts to a level considered less than significant.

It should also be noted that the proposed project would generate less traffic than would buildout of the existing General Plan land use designations for the site. In addition, the addition of "A" Street on-site connecting San Fernando Road and Sierra Highway would divert some traffic from San Fernando Road between "A" Street and Sierra Highway, thus reducing future traffic noise on San Fernando Road to some degree. A comparison of General Plan buildout traffic conditions with and without the proposed project (which is part of the traffic study available for review at Santa Clarita City Hall) indicates that cumulative traffic levels on San Fernando Road would be 60,000 average daily trips (ADT) without the project and only 56,000 ADT with the project. Thus, the addition of "A" Street associated with the project would incrementally reduce cumulative noise level increases for residential uses along San Fernando Road.



## 4.8 HUMAN HEALTH AND SAFETY

This section discusses hazards associated with on-site soil and groundwater contamination, oil field activity, oil and gas pipelines, and rail operations. Wildland fire hazards are discussed in Section 4.9, *Public Services*.

Portions of this section summarize the findings of a Phase I Environmental Site Assessment (ESA) for the project site that was prepared by Rincon Consultants, Inc. The report is incorporated by reference and is available for review in its entirety at the City of Santa Clarita, Planning and Building Services Department, 23920 Valencia Boulevard, Suite 300, Santa Clarita, California.

The Phase I ESA involved the following tasks:

- Perform an on-site reconnaissance to identify obvious indicators of the existence of hazardous materials.
- Observe adjacent or nearby properties from public thoroughfares in an attempt to see if such properties are likely to use, store, generate, or dispose of hazardous materials.
- Obtain and review an environmental records database search from Environmental Data Resources (EDR), Inc. to obtain information about the potential for hazardous materials to exist at the site or at properties located in the vicinity of the site.
- Review files for the subject site and immediately adjacent properties as identified in the EDR report.
- Review the current U.S. Geological Survey (USGS) topographic map to obtain information about the site's topography and uses of the site and properties in the vicinity of the site.
- Review historic aerial photographs and topographic maps to obtain information about historic uses of the project site and adjacent properties.
- Review California Division of Oil and Gas records to obtain information about historic oil and gas activity in the vicinity of the site.
- Provide an interview questionnaire to the property owner or a designated site representative identified to Rincon by the City of Santa Clarita.
- Conduct a site interview with the owner or designated representative.

### 4.8.1 Setting

**a. Historic Land Use.** Historical sources reviewed as part of the Phase I ESA include aerial photographs (1928, 1947, 1952, 1968, 1976, 1989, 1994 and 2000) and topographic maps (1903, 1941, 1952 and 1969). The photographs and maps reviewed indicate that the majority of the project site has remained vacant land throughout this century. However, since at least 1903, the San Fernando Railroad has traversed the southern portion of the property and structures have been located in the vicinity of the former homestead (located south of the Eternal Valley Memorial Park storage area). The Historic Pioneer Oil Refinery, located adjacent to the northern portion of the project site, is also depicted since at least 1903. Unimproved roads leading to structures similar to oil wells and the SCE overhead powerline right-of-way are depicted since at least 1928. The former Newhall refinery, located east of and across Sierra Highway, is depicted since at least 1941. In addition, unimproved roads following easements



and rights-of-way (water district, SCG pipeline) are depicted in the 1952 and 1968 aerial photographs.

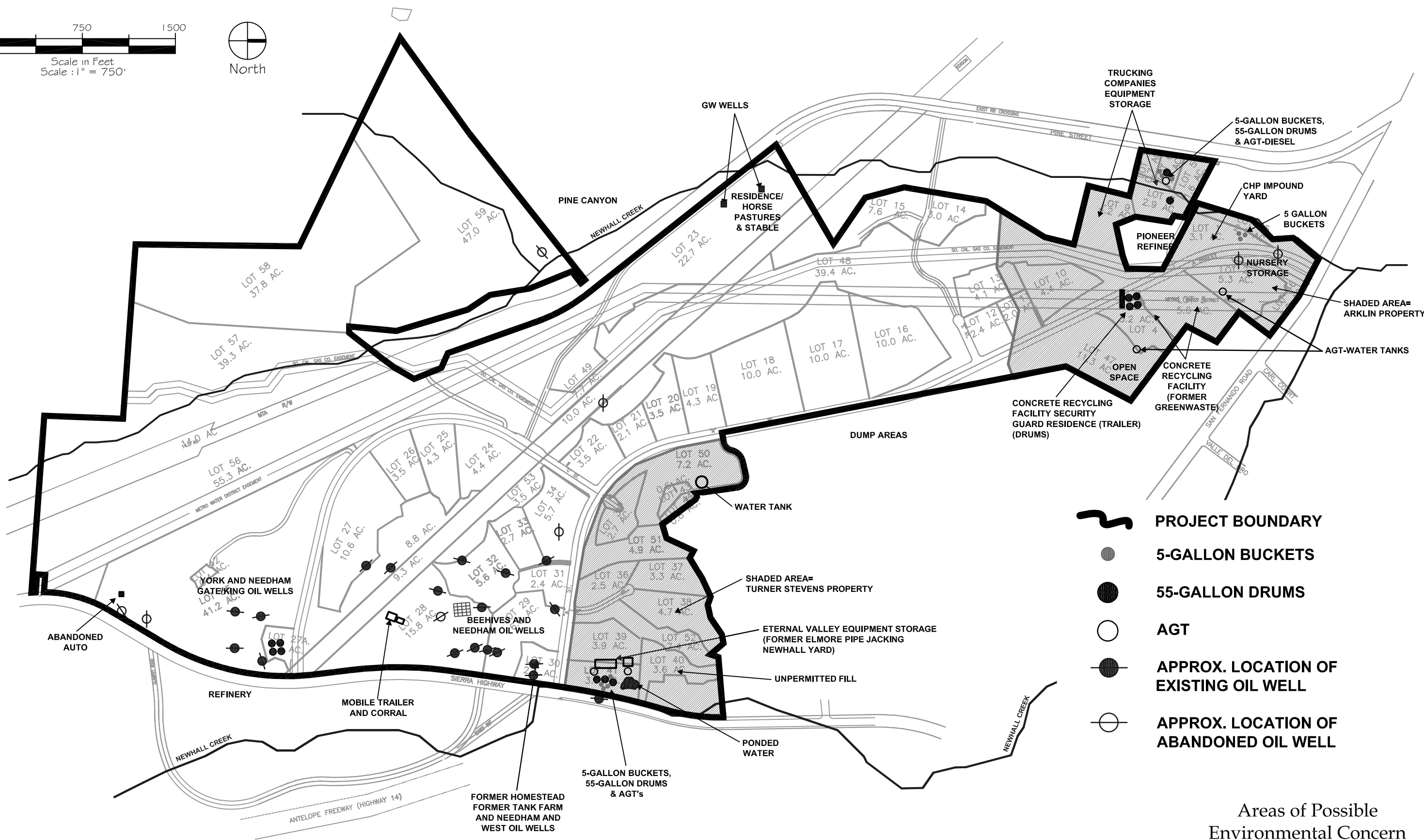
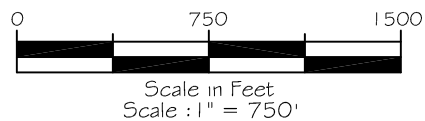
**b. Field Reconnaissance Findings.** The northernmost portion of the site near the San Fernando Road/Pine Street intersection is currently used as a concrete recycling facility, an impound yard for the California Highway Patrol (CHP), and nursery and trucking companies' equipment storage yards and tool sheds. A residence with horse pastures and stables is located on the western portion of the property. The southwestern and southern portions of the property are primarily vacant lands with a railroad tunnel easement, Southern California Edison (SCE) high voltage power line easement, water district easement, and current and former oil and gas pipeline easements located on the property. The Southern California Gas (SCG) easement and the water district easement also traverse the northern portion of the property. Idle oil wells, beehives and part of the oil and gas pipeline easements are located on the southeastern portion of the project site. A storage area for the adjacent Eternal Valley Memorial Park is located on the eastern portion of the project site.

Figure 4.8-1 illustrates the locations of areas of possible environmental concern on the project site. During the site reconnaissance, visible staining of soil beneath three 5-gallon buckets containing hydraulic oil was observed on the project site near the concrete recycling facility. An aboveground storage tank containing diesel and two 55-gallon drums of waste oil were observed on the eastern portion of the property where the Eternal Valley Memorial Park Storage area is located. Fifty-five gallon drums of waste oil were observed on the northern portion of the property in the vicinity of the concrete recycling facility and in the vicinity of the York/West Needham oil wells located on the southeastern portion of the property. Three above ground water tanks were observed on the northern portion of the property in the vicinity of the concrete recycling facility. In addition, a small above ground diesel tank and 55-gallon drums of waste oil were observed on the trucking companies storage lot. Indications of releases from the 55-gallon drums and aboveground tanks were not observed.

Debris and trash were observed in various locations on the project site, primarily in the vicinity of existing oil wells, on the northern portion of the property near the storage areas, and within the tributary of Newhall Creek located along the northern portion of the property. The debris included, but was not limited to, paper and plastic trash, items of clothing, tires, electrical appliances, mattresses, an abandoned automobile and trailer home and miscellaneous empty 55-gallon drums.

Properties in the vicinity of the site include commercial, industrial and residential uses. Construction offices, trucking companies equipment storage areas, a nursery, single-family homes, commercial businesses including a movie prop storage facility, an auto repair facility, an equestrian center and the Newhall County Water District facility are located west of the project site along Pine Street. The Historic Pioneer Oil Refinery is located adjacent to the northern portions of the project site. Automobile sales and repair facilities, a convalescent home, and apartments are located north of the project site. Eternal Valley Memorial Park is located east of the project site and the former Newhall Refinery is located to the east across Sierra Highway. Vacant land is located west and south of the southern portion of the project site.





- PROJECT BOUNDARY
- 5-GALLON BUCKETS
- 55-GALLON DRUMS
- AGT
- APPROX. LOCATION OF EXISTING OIL WELL
- APPROX. LOCATION OF ABANDONED OIL WELL

Areas of Possible Environmental Concern

Base Map Source: Sikand, December 2000

Figure 4.8-1

Current adjacent land uses are described in Table 4.8-1.

**Table 4.8-1 Current Uses of Adjacent Properties**

Area	Use
Northern Properties	<ul style="list-style-type: none"> <li>• Santa Clarita Convalescent Home</li> <li>• Moulair Auto Group, ATM Auto Sales</li> <li>• Open space</li> <li>• Various commercial businesses</li> <li>• Apartments on San Fernando Road and open space fronting the subject property</li> </ul>
Eastern Properties	<ul style="list-style-type: none"> <li>• Sierra Highway</li> <li>• Eternal Valley Memorial Park</li> <li>• Abandoned Newhall Refinery structures across Sierra Highway</li> </ul>
Western Properties	<ul style="list-style-type: none"> <li>• Pine Street and Railway tracks used by Southern Pacific and Metrolink.</li> <li>• Solomon and Rita Lowi property (northwestern): contains storage sheds, equipment storage, and construction offices, auto wreckers, auto body and paint store, animal hospital, traffic control services and storage, Gas Co. Newhall Station and a wholesale nursery</li> <li>• Open space</li> <li>• Single family residences, stables/barns, horse pastures/corrals and outbuildings.</li> <li>• Auto sales and dismantling yard</li> <li>• Southern California Edison right of way</li> <li>• Storage of autos and mechanical equipment used for movie props</li> <li>• Equipment sheds, offices and storage for a fence company</li> <li>• Newhall County Water District offices, equipment sheds, storage yard and water tank</li> <li>• Interior lot occupied by the Historic Pioneer Oil Refinery</li> <li>• William S. Hart Park/Heritage Junction</li> </ul>
Southern Properties	<ul style="list-style-type: none"> <li>• All open space</li> <li>• AT&amp;T telephone station</li> <li>• Underground railroad tunnel used by Metrolink and Southern Pacific</li> <li>• Southern California Edison right of way for high-tension wires</li> </ul>

**c. Environmental Records Review.** Environmental Data Resources, Inc. (EDR) was contracted to provide a database search of public lists of facilities that generate, store, treat or dispose of hazardous materials or facilities/sites for which a release or incident has occurred. The EDR search was conducted for the project site and included data from surrounding sites within a specified radius of the site. The project site was listed as a CERCLIS, FINDS and HMS site in the EDR database. Multiple adjacent properties were also listed in certain databases searched by EDR. Sites that were identified in the vicinity of the project site are listed in Table 4.8-2 and include sites that appear in the following databases:

**CHMIRS:** CHMIRS contains information on reported hazardous material incidents (accidental releases or spills). This database is through the Office of Emergency Services.

**UST:** The UST database contains registered USTs. This database is maintained by the State Water Resources Control Board.

**FINDS:** Facility Index System. Contains both facility information and pointers to other sources that contain more detail.



**LUST:** LUST records contain an inventory of reported leaking underground storage tank incidents. This database is maintained by the State Water Resources Control Board.

**RCRIS-(TSD, LQG, SQG):** The RCRIS database includes selected information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act. TSD refers to transfer, storage or disposal facility. LQG refers to large quantity generator. SQG refers to small quantity generator. The source of this database is the U.S. EPA.

**Ca. FID:** California Facilities Inventory Database contains active and inactive underground storage tank locations as provided by the California State Water Resources Control Board.

**CERCLIS:** Comprehensive Environmental Response, Compensation, and Liability System. This database contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies, and private persons, pursuant to section 103 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

**ERNS:** Emergency Response Notification System. This database records and stores information on reported releases of oil and hazardous substances.

**CAL-SITES (ASPIS):** Calsites. Known and potential hazardous waste sites.

**NOTIFY 65:** Proposition 65 notification reports.

**WMUDS/SWAT:** The Waste Management Unit Database System is used for program tracking and inventory of waste management units. The Solid Waste Assessment Test Program contains information on groundwater monitoring at landfills.

**SWE/LS (SWIS):** Solid Waste Information System. Active, closed, and inactive landfills.

**TOXIC PITS:** Toxic Pits. Identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

**CERC-NFRAP:** No further remedial action planned.

**HMS:** This list includes sites that temporarily store industrial waste or use underground storage tanks onsite (information is provided by the Los Angeles Department of Public Works).

**HAZNET:** Data that is extracted from the copies of hazardous waste manifests received each year by the DTSC (information is provided by the Department of Toxic Substances Control).





**Table 4.8-2 EDR Listing Summary of Sites in the Vicinity of the Project Site**

Site Name	Site Address	Distance from Project Site	Database Reference
Santa Clarita Greenwaste Fire	Pine Street/ San Fernando Road	Project Site	CERCLIS, FINDS
Santa Clarita Recycling Center	23872 Pine Street	Project Site	HMS
Ray & Son Recycling	23845 San Fernando Road	Project Site	HMS
ATM Auto Sales & Leasing Inc.	23737 San Fernando Road	Adjacent Property – north	HMS
The Dip Stick / Dutro's Auto / H&H Properties	23755 San Fernando Road	Adjacent Property – north	HMS
Eternal Valley Memorial Park	23287 North Sierra Highway	Adjacent Property – east	HMS
Newhall Creek / Newhall Refinery / Newhall Refining Co Inc.	22674 Clampitt Road	Adjacent Property – east	Notify 65, Toxic Pits, FINDS, RCRIS-SQG, CERC-NFRAP, HAZNET, HMS, Cal-Sites
Sierra Highway, S/O Newhall Refinery	Sierra Highway, S/O Newhall Refinery	Adjacent Property – east	CHMIRS
Calex Engineering Company	23651 Pine Street	Adjacent Property – west	HMS
Newhall County Water District	23780 Pine Street	Adjacent Property – west	HMS, RCRIS-SQG, FINDS, UST, Ca.FID, HAZNET
William S. Hart County Park	24151 N. San Fernando Road	Adjacent Property – west	HAZNET
Giant Auto Wreckers Inc. / John A. Ippolito / K-C wheel covers	23944 Pine Street	Less than 1/8 mile	HAZNET, HMS
Suzy's Motorhomes	23980 Pine Street	Less than 1/8 mile	LUST, HMS
All Valley Equipment / Vacant	23986 Pine Street	Less than 1/8 mile	RCRIS-SQG, FINDS, HMS
KWIK Rig Inc. / Have You Seen My Truck / Custom Specialties	23919 San Fernando Road	Less than 1/8 mile	HMS
Traffic Control Service Inc.	23925 San Fernando Road	Less than 1/8 mile	HMS
Evergreen Animal Hospital	23947 San Fernando Road	Less than 1/8 mile	HAZNET
Same Day Paint & Body Centers	23951 San Fernando Road	Less than 1/8 mile	RCRIS-SQG, FINDS, HAZNET
West Coast Classic Car Sales / Same Day Auto Painting / J&S Auto Body and Paint Supply	23953 San Fernando Road	Less than 1/8 mile	RCRIS-SQG, FINDS, HMS
Newhall / Caltrans Truck Maintenance Yard / Caltrans District 7 / Caltrans Newhall Regional Station / Caltrans Maintenance Station	23922 San Fernando Road	Less than 1/8 mile	UST, HMS, HAZNET, FINDS, RCRIS-LQG, Cortese, LUST
Auto Factory	23222 Sierra Highway	Less than 1/8 mile	HMS
EML Laboratories	23655 San Fernando Road	Less than 1/8 mile	HAZNET



**Table 4.8-2 EDR Listing Summary of Sites in the Vicinity of the Project Site**

Site Name	Site Address	Distance from Project Site	Database Reference
23681 San Fernando Road	23681 San Fernando Road	Less than 1/8 mile	ERNS
Remsen Street east of Highway 14	Remsen Street east of Highway 14	Less than 1/8 mile	CHMIRS
Santa Clarita Car Wash	23912 N. San Fernando Road	1/8 – 1/4 mile	HMS
Chevron Newhall / Jessup Dairy & Gas	24020 N. San Fernando Road	1/8 – 1/4 mile	HMS, HAZNET, UST, Ca.FID
23801 The Old Road	23801 The Old Road	1/4 – 1/2 mile	ERNS
S/B 1-5 at Weldon Canyon	S/B 1-5 at Weldon Canyon	1/4 – 1/2 mile	CHMIRS
I-5 on Coltrane Avenue	I-5 on Coltrane Avenue	1/4 – 1/2 mile	CHMIRS
Eddie Hank's Mud Sump	23700 Wildwood Canyon Road	1/4 – 1/2 mile	SWF/LF
Sierra Highway, near San Fernando Road	On Sierra Highway, near San Fernando Road	1/4 – 1/2 mile	ERNS
Wildwood Debris Disposal Site	18950 Wildwood Road	1/4 – 1/2 mile	WMUDS, SWF/LF
Exxon Company USA #7-2505 / Exxon Service Station / Gus Hilu Chevron / 1X Exxon Station 72505 / Exxon #7-2505 (Former)	20500 San Fernando Road	1/4 – 1/2 mile	HMS, UST, HAZNET, Ca.FID, LUST
S/B SR-14 south of San Fernando Road	S/B SR-14 south of San Fernando Road	1/4 – 1/2 mile	CHMIRS
Carl's Jr. Restaurant	20425 N. San Fernando Road	1/4 – 1/2 mile	HMS
Flying J Gas & Convenience / SV Holding Ltd. / Santa Clarita Mobil / Flying J Service	23502 San Fernando Road	1/4 – 1/2 mile	UST, HAZNET, LUST, HMS
City of Santa Clarita Field Services	22200 Park Street	1/4 – 1/2 mile	HAZNET
TNT Welding and Muffler	22419 2 <sup>nd</sup> Street	1/4 – 1/2 mile	HMS
Tom's Auto Glass	20971 Judah Lane	1/4 – 1/2 mile	HMS

The EDR databases indicate that 25 sites with environmental listings are located within one-quarter mile of the project site. The project site (Santa Clarita Greenwaste Fire, Santa Clarita Recycling Center and Ray & Son Recycling) is listed as a CERCLIS, FINDS and HMS site. Two adjacent properties to the north (ATM Auto Sales and The Dip Stick/Dutros Auto/H&H Properties) are listed as HMS sites. Three adjacent properties to the east were listed in the EDR database. One of the sites is listed as a CHMIRS site. Eternal Valley Memorial is listed as an HMS site and the former Newhall Refinery property is listed as a Cal-sites, Notify 65, Toxic Pits, FINDS, RCRIS-SQG, CERC-NFRAP, HAZNET, and HMS site. Three properties to the west are listed in the EDR database. Calnex Engineering is listed as an HMS site. William S. Hart Park is listed as a HAZNET site, and Newhall County Water District is listed as an HMS, RCRIS-SQG, FINDS, UST, Ca.FID and HAZNET. A nearby property to the west, Suzy's Motor Homes, is listed as a LUST and HMS site.

The Greenwaste fire that occurred on the project site was listed as a CERCLIS site. Also, the following sites, located on the project site, were listed as HMS sites. According to the EDR database, these facilities temporarily stored hazardous waste on the property; however, no reported releases were reported for the properties.



- Santa Clarita Recycling Center
- Ray & Son Recycling

The following adjacent properties were listed as HMS or HAZNET sites. According to the EDR database, these facilities temporarily store hazardous waste on the property; however, no reported releases were reported for the properties.

- ATM Auto Sales & Leasing Inc.
- The Dip Stick / Dutro's Auto / H&H Properties
- Eternal Valley Memorial Park
- Calex Engineering Company
- Newhall County Water District
- William S. Hart County Park

The following incident occurred adjacent to or nearby the project site and was listed as a CHMIRS site in the EDR database. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills):

- **Sierra Highway, s/o Newhall Refinery** – According to the EDR database, on August 10, 1990, an incident occurred on a vacant lot along Sierra Highway involving an unknown chemical that may have affected the air in the vicinity of the incident.

As a follow-up to the EDR database search, requests were filed to review files for the project site and select adjacent properties with the Regional Water Quality Control Board (RWQCB), the Los Angeles County Public Health Investigations (LACPHI), the County of Los Angeles Public Works Department (LACPWD), and the Department of Toxic Substances Control (DTSC). No files were located at the agencies for the project site. Files for the former Newhall Refinery property were reviewed at the Regional Water Quality Control Board (RWQCB).

According to the documents reviewed, soil and groundwater beneath the former Pioneer Oil Refinery has been affected by hydrocarbons and volatile organic compounds (VOCs). Free-phase floating product was detected in one of the onsite groundwater monitoring wells on the former refinery property. Files for the adjacent Newhall County Water District site were reviewed at the Los Angeles County Public Works Department (LACPWD). According to the documents reviewed, an underground storage tank (UST) located on that property failed a tank test; however, no testing or remediation of soil or groundwater occurred following the removal and replacement of the tank. Files for the nearby Suzy's Motor Homes property were also reviewed at the LACPWD. According to the documents reviewed, a UST was removed from the site in September 1993. Two soil samples collected from beneath the former tank pit and one collected beneath the dispenser island indicated non-detectable levels of total petroleum hydrocarbons as gasoline (TPH-g) and benzene, toluene, ethylbenzene and total xylenes (BTEX). The tank cavity was backfilled with native soils. The LACPWD issued no further action for the site in a letter dated December 9, 1993.

According to documents provided by the designated site representative, the project site was previously occupied by a green waste recycling facility located in the vicinity of the current



concrete recycling facility. Prior to 1998, a stockpile fire occurred at the facility. The property owner began the process of site restoration under the California Code of Regulations (CCR). In the fall of 1998, an inquiry about the fire was made by the California Department of Toxic Substances (DTSC). Soil samples were collected for laboratory analysis. No significant concentrations of a regulated material or hazardous materials were detected. The investigation by DTSC ended without any further testing or enforcement being required.

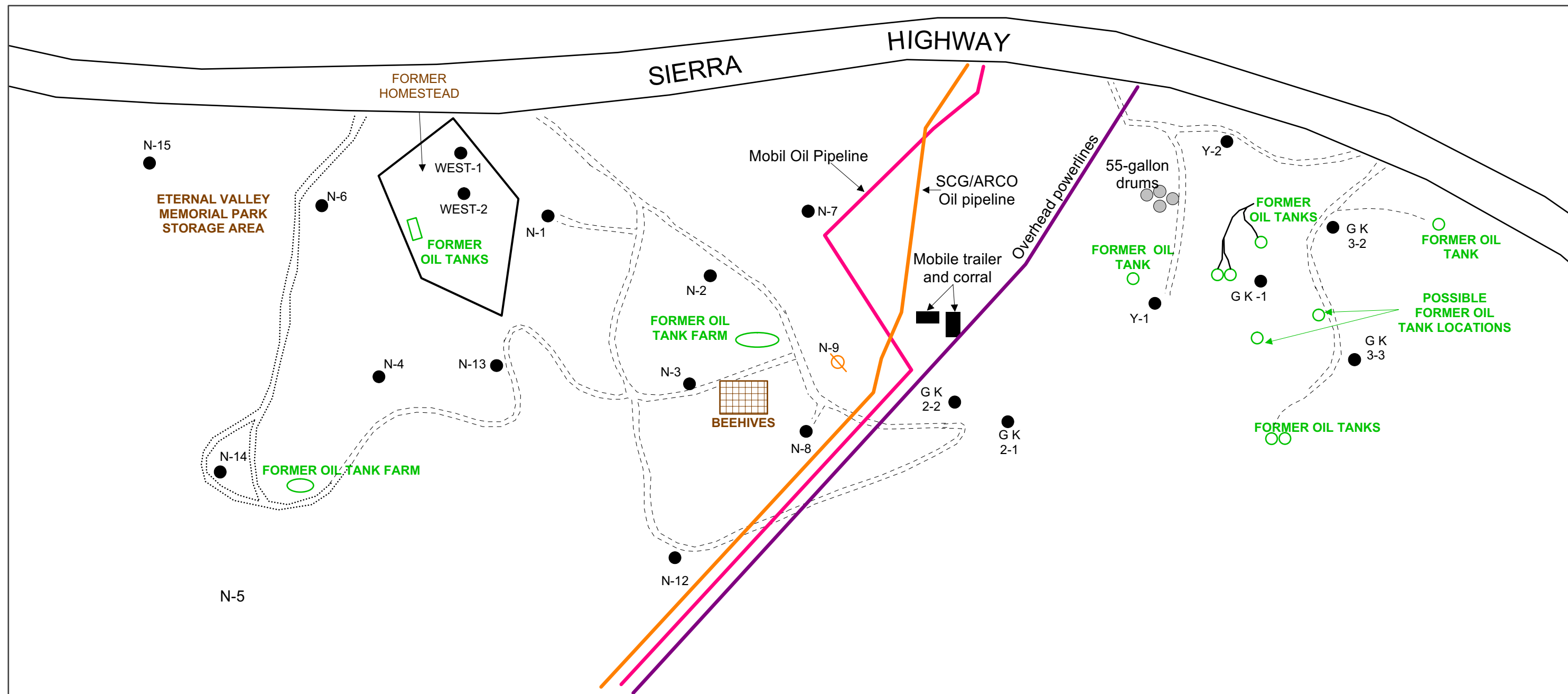
A limited Phase I ESA report, dated March 1996, was completed by Atkins Environmental H.E.L.P., Inc. for the Elmore Pipe Jacking Newhall Yard formerly located in the eastern portion of the project site. According to the report, a fueling station with three fuel pumps existed on the property. Based on three pipe vents and three fuel pumps, it was determined that three underground fuel tanks were most likely located in the area. Surface staining, which appeared to be hydrocarbon in nature (motor oil or hydraulic fluid leaking from onsite loading equipment), was observed in various locations of the property. Staining was also observed in the vicinity of a shed with a sink in it. It was determined that washout was occurring in the sink connected to a septic tank on the property. The report concluded that the presence of USTs, the presence of a septic system and surficial staining all might have contributed to contamination of the soil beneath the project site.

A Subsurface Soil Investigation for Environmental Assessment Report for a 420-acre portion of the project site written by Converse Environmental West (CEW) was also provided by the designated site representative. The report, dated October 1990, detailed the results of soil sampling and laboratory analysis at 14 oil well locations and 2 tank farm locations on the project site. The area of the oil wells is shown in detail on Figure 4.8-2. According to the report, no petroleum hydrocarbon contamination was detected in soil borings completed adjacent to the 2 tank farms. Soil samples collected adjacent to 12 of the 14 wells indicated that petroleum hydrocarbon contamination was present; however, only 5 of the 14 oil wells exhibited significant levels of surficial soil contamination. The levels detected in the five wells were determined to be in excess of what is typically allowed to remain in place without remediation. CEW recommended that the contaminated soil be excavated during abandonment of the wells. CEW also recommended that surficial staining in the vicinity of the other nine wells and the tank farms also be excavated during the abandonment of the wells and the removal of the tanks. According to the designated site representative, five of the oil wells are in the process of being properly abandoned to Department of Oil and Gas (DOG) standards. Per an agreement with DOG, the remaining wells are to be properly abandoned, beginning in 5 years.

**d. Summary of Environmental Conditions.** Based on the findings of the Phase I ESA, there are several potential recognized environmental conditions (RECs) on the site. These include the following:



- 1) The presence of former or existing underground storage tanks on the eastern portion of the property in the vicinity of the current Eternal Valley Memorial Park storage area
- 2) The presence of a septic tank located on eastern portion of the property in the vicinity of the current Eternal Valley Memorial Park storage area



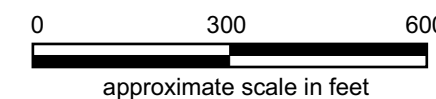


Source: Site Map, Converse Environmental West, August 31, 1990

**LEGEND**

<b>G K</b> Gates/King Wells	 Abandoned
<b>N</b> Needham Wells	 Completed/Idle
<b>Y</b> York Wells	

Note: Not a survey plat, all locations are approximate.



**On-site Oil Well Area**

Figure 4.8-2  
 City of Santa Clarita

- 3) The presence of oil wells and former tank farms located on various areas of the property
- 4) The presence of current (SCG and ARCO) and former (Mobil) oil and gas pipeline easements located on the project site
- 5) The presence of a railroad easement located on the southern portion of the property
- 6) The presence of Newhall creek and tributary located on the project site with runoff and debris in the creek
- 7) The presence of staining in the vicinity of the three 5-gallon buckets of hydraulic oil on the project site adjacent to a storage area located near the concrete recycling facility

In addition, there are three offsite potential RECs. These include the following:

- 1) The presence of a former (possibly leaking) UST and current UST located on the Newhall County Water District property (adjacent property to the west)
- 2) The presence of soil and groundwater contamination beneath the former Newhall Refinery located east of and across Sierra Highway
- 3) The potential for soil and groundwater contamination beneath the adjacent Historic Pioneer Refinery located within the northern portion of the project site.

**e. SCE Electric Transmission Lines.** An SCE overhead power line passes through the central portion of the project site in a southwest to the northeast direction. This line carries approximately 500 kilovolts.

The primary health concern associated with electrical transmission lines is the emission of electromagnetic fields (EMFs). Scientific data on the health effects of exposure to EMFs from high voltage transmission lines are not conclusive. Nevertheless, EMFs are suspected of contributing to a variety of deleterious health effects. The characteristics of and potential health concerns associated with EMFs are described below.

Electrical Fields. Electrical fields are created by objects that are electrically charged. The change in voltage over distance is known as the electrical field. Units used to describe electrical fields are volts per meter (V/m), or expressed as 1,000 volts per meter (kilovolt per meter, kV/m). Electrical fields become stronger as one approaches the charged object.

Electrical fields in nature are quite common. Static electricity, as an example, can produce high voltages. An action as simple as taking off a sweater or walking across a carpet can create voltages as high as 8,000 to 16,000 volts. The earth has a natural static electric field of about 120 to 150 volts per meter. Thus, a six-foot tall person would have a static potential of about 275 volts between his or her head and feet. Static electricity in clouds (such as associated with electrical storms) can reach 10 to 100 million volts.

Household electrical appliances also create electrical fields. The fields are produced when an appliance is plugged into an electrical outlet, regardless of whether the appliance is being used. Typical reported values of appliances measured one foot away from the device are listed in Table 4.8-3.



**Table 4.8-3 Electrical Field Levels One Foot From Common Appliances**

Appliance	Electrical Field, kV/m
Electric Blanket	0.250
Broiler	0.130
Stereo	0.090
Refrigerator	0.060
Toaster	0.040
Coffee Pot	0.030
Clock	0.015

Source: *Enertech Consultants (1989)*

Electrical transmission lines also create electric fields. The strength of the field is a function of the line voltage, distance between the line and the point of measurement, the design of the line, and the electrical phasing characteristics. The largest transmission lines in California (500 kV) typically have a maximum electric field directly under the conductors as high as about 7-9 kV/m. (Enertech, 1989)

Magnetic Fields. An electric current flowing in any conductor creates a magnetic field. The magnetic field intensity is measured in units of Gauss, a measurement of the magnetic flux density. Values are often reported in one-one thousandth of a Gauss (milligauss, written as mG). As with electric fields, the strength of the magnetic field decreases as the distance from the source increases.

Magnetic fields on the ground measured under electrical transmission lines are usually smaller than the magnetic fields associated with electrical appliances. This is primarily caused by the attenuation of the field with distance. The height of the power line from the ground reduces the field at ground level, whereas the strength of magnetic fields in household appliances can be high if the measurement is taken near the source. Appliances that have the highest magnetic fields are those that have high currents or high speed electrical motors. Table 4.8-4 lists typical magnetic fields associated with common household appliances and power lines.

Electromagnetic Spectrum. Electromagnetic fields are a part of the larger electromagnetic spectrum. Other components of the spectrum include: X-rays, ultraviolet light, visible light, infrared light, microwaves, and radio waves. The electromagnetic spectrum is characterized by the frequency and wavelength of the different bands. The frequency and wavelength are related; as the frequency increases, the wavelength decreases. The frequency is the rate at which the electromagnetic field changes direction and is given in the units Hertz (Hz). One Hertz is one cycle per second.

Power lines in the United States operate at 60 Hz and have a wavelength of 5,000 kilometers (3,000 miles). By comparison, AM radio has a frequency of about 1-million Hz and a wavelength of 300 meters; microwave ovens have a frequency of 2.5 billion Hz and a wavelength of about 12 cm; X-rays have a frequency of about  $10^{15}$  Hz and a wavelength of less than 100 nanometers. The electrical fields associated with electrical power transmission are also



**Table 4.8-4 Typical Magnetic Fields**

Appliance	Measurement Point	Magnetic Field in mG (typical)
Refrigerator	Chest	1-8
Can Opener	Belt	30-225
Toaster	Belt	2-6
Blow Dryer	Head	1-75
Computer	Belt	1-25
Ceiling Fan	Head	1-11
Microwave Oven	Belt	3-40
Aquarium	Belt	1-40
Typical Magnetic Fields from Power Transmission Lines		
115-765 kV line	Center of Right of Way	100
115-765 kV line	Edge of Right of Way	1-10
12 kV	10 meters from line	2-10

Source: *Enertech Consultants (1989) and Moulder (1996)*

referred to as extremely low frequency fields. This name is defined as fields up to 3,000 Hz (engineers define it as ranging from 30 to 300 Hz).

Medical Effects of Electromagnetic Sources. The effect on biological material by electromagnetic sources depends on the frequency of the source. At very high frequencies, such as those produced by X-rays and ultraviolet rays, electromagnetic particles (photons) have enough energy to break chemical bonds. The breaking of chemical bonds is called ionization, and these frequencies are called the ionization range of the electromagnetic spectrum. At lower frequencies, such as in visible light, radiowaves, and microwaves, the energy of the photons is below the range needed to break chemical bonds. This part of the spectrum is known as nonionizing.

Nonionizing frequencies have the ability to produce biological effects. The effects depend on the photon energy. These effects generally produce electronic excitation and not ionization, and do not occur for frequencies less than infrared (below  $3 \times 10^{11}$  Hz). Radiowaves and microwaves have the ability to produce electrical currents in tissues, causing the tissue to heat up. Frequencies less than broadcast AM radio (about  $10^6$  Hz) do not interact with human or animal tissues, and thus are very inefficient in inducing electrical currents that cause heating.

Electromagnetic sources produce both radiant energy and non-radiant fields. Radiant energy, or radiation, travels away from the source and continues to travel even after the source is removed. In contrast, non-radiant fields exist near a source and stop once the source is removed. Power lines emit very low levels of radiant energy. Typical maximum power radiated by a power line is less than 0.001 microWatt per centimeter squared (Moulder, 1996). This is less than the power produced by a full moon on the Earth's surface on a clear night (0.2 microWatts per centimeter squared).





Electric fields produce very few biological effects because they are not strong enough to penetrate through structures or even human skin. In contrast, magnetic fields are able to easily penetrate buildings and people. The development of magnetic fields by electric currents has the potential to affect biological systems. In general, magnetic fields are elevated in structures near power lines whereas electrical fields are not.

Medical Studies. Medical studies have focused on the relationship between electromagnetic fields and cancer and these fields and reproductive outcome.

Investigation of the responses of animals and several types of cells in vitro (laboratory conditions) have not revealed that growth, proliferation, or any other parameter that would be indicative of cancer-initiating, cancer-promoting, or cancer progressing responses is affected to any significant extent by exposure to 60 Hz electric and magnetic fields. The appearance of tumors, stimulation of cells toward uncontrolled growth or damage to DNA have not been observed in well-controlled and reproducible experiments that exposed animals or cells to 60 Hz electric or magnetic fields. Isolated reports which have suggested that exposure to these fields results in DNA damage or in alterations of the growth potential of cells have failed to be replicate in subsequent studies (Environmental Research Information, Inc., 1989).

Occupational studies on workers in high exposure environments have produced mixed results. Some studies have shown slight, but statistically significant elevated cancer rates among workers in electrical occupations, while other studies have not shown any association with cancer and these occupations. Because of a lack of proper control of the variables in the studies and the difficulty in measuring electric/magnetic exposures, the studies have been inconclusive as to the relationship between occupational exposure and cancer (Environmental Research Information, Inc., 1989).

Population studies performed to date not found a link between magnetic fields and an increase in the risk of cancer. To date, the studies performed have been inconsistent in their measurement of exposure and control populations. As a result, the scientific community has been unable to conclude that there is any relationship between magnetic fields and cancer (Environmental Research Information, Inc., 1989).

Several studies have focused on the relationship between the use of electric blankets, electrically heated waterbeds, and ceiling cable heat and reproductive outcome. These studies did not consider the electromagnetic effects from electric power lines. The studies did not have enough data and control populations to make any conclusions regarding the use of these electrical devices and pregnancy outcome. Laboratory studies on animals have been used to determine a link between electrical use and pregnancy outcome. The experimental outcome has not shown a link between exposure to electric and magnetic fields to health and pregnancy (Environmental Research Information, Inc., 1989).

Exposure Levels. Several jurisdictions have developed allowable levels of electric and magnetic fields within the rights-of-way of electrical power transmission corridors. The State of Florida, United Kingdom National Radiation Protection Board, the International Commission on Non-Ionizing Radiation Protection, and the American Conference of Governmental Industrial Hygienists have developed exposure standards. Table 4.8-5 lists these exposure



standards. The California Department of Education has adopted a policy that recommends minimum distances between new schools and the edge of transmission line rights-of-way. The setback guidelines are 100 feet from 50-133 kV lines; 150 feet from 220-230 kV lines; and 350 feet from 500-550 kV lines.

**Table 4.8-5 Exposure Standards for Electric and Magnetic Fields**

Agency <sup>a</sup>	Parameter	Magnetic Field	Electric Field
Florida	230 kV	150 mG at edge of Right-of-Way	
Florida	500 kV (single circuit lines)	200 mG at edge of Right-of-Way	
Florida	500kV (double circuit lines)	250 mG at edge of Right-of-Way	
NRPB-UK	less than 50 Hz	16 G	12 kV/m
NRPB-UK	60 Hz	13.3 G	10 kV/m
ACGIH	60 Hz	10 G	
ICNIRP	continuous occupation of structure	5 G	10 kV/m
ICNIRP	short term occupation of structure	50 G	30 kV/m

<sup>a</sup> NRPB-UK- United Kingdom National Radiation Protection Board  
 ACGIH- American Conference of Governmental Industrial Hygienists  
 ICNIRP- International Commission on Non-Ionizing Radiation Protection  
 Source: Moulder, J (1996) and Environmental Research Information, Inc. (1989)

**f. Rail Operations.** A Southern Pacific rail line passes the project site to the west along Pine Street. This line carries about 30 Metrolink passenger trains per day as well as periodic freight train traffic. Freight trains carry a range of goods, some of which may include materials that could potentially be hazardous in the event of a train derailment or spill.

## 4.8.2 Impact Analysis

**a. Methodology and Significance Thresholds.** The findings of this analysis are based upon the Phase 1 ESA prepared for the site by Rincon Consultants, which is available for review at Santa Clarita Hall. As discussed in the Setting, the ESA included both a review of relevant agency databases and files, as well as a site reconnaissance.

For the purpose of this analysis, a significant effect is one that adversely affects human health, either acutely or chronically, adversely affects the environment by leading to the compromise of human health, or adversely affects natural habitats. Significant environmental impacts may occur if project activities result in the exposure of people to contamination or poses a threat to human health or safety.

### **b. Project Impacts and Mitigation Measures.**

**Impact HHS-1** Several areas on-site potentially have soil and/or groundwater contamination that could pose a risk to human health and safety. This is considered a Class II, *significant but mitigable* impact.



Several areas on-site have potential recognized environmental conditions (REC) that could pose a health and safety risk to site construction workers and future occupants of the proposed development. Possible RECs on and adjacent to the project site are discussed below.

*Turner and Stevens Property.* The presence of former or existing underground storage tanks on the Turner and Stevens property (see Figure 4.8-1) is a potential REC. It is unknown whether the tanks were ever removed from the property, and according to the site representative, testing or soil remediation has not occurred in the vicinity of the tanks. Petroleum hydrocarbons may have contaminated or may be contaminating the soil and/or groundwater beneath this portion of the project site, where development lots 35-41 are proposed.

The presence of a septic tank located on the Turner & Stevens property, formerly utilized by the Elmore Pipe Jacking Facility, is also a potential REC. According to a former limited Phase I conducted for the property, wash-outs of petroleum hydrocarbons may have been occurring in a sink linked to the septic tank. The soil beneath the leach lines of the septic tank may be contaminated with hydrocarbons.

*Oil Wells.* The presence of 19 existing oil wells and 4 former tank farms, located in the southeastern portion of the property (see Figures 4.8-1 and 4.8-2), are potential RECs. Development lots 24-27 and 27A are planned in this general area. Hydrocarbon-contaminated soil was observed in the vicinity of 12 of the 14 oil wells tested and analyzed for the presence of hydrocarbons in soil, 5 of which exhibited significant levels of surficial soil contamination (during soil collection and testing activities conducted by CEW in 1990). Soil samples were not collected and analyzed for the presence of hydrocarbons from 5 of the 19 oil wells. Soil samples were collected from exploratory trenches adjacent to the oil wells, and from soil borings adjacent to the two tank farms. The report did not indicate the presence of drilling mud sumps adjacent to the oil wells, or if any of the samples collected were from within or beneath the sumps. No hydrocarbons were detected around two of the former tank locations; however, it is unknown whether soil samples were collected and analyzed from immediately beneath the tanks, following their removal. Also, two of the tank farm locations were not tested due to inaccessibility of the testing drill rig. Hydrocarbon contaminated soil may exist in the vicinity of the oil wells, tank farms, and associated piping located on the project site.

*Gas and Oil Pipelines.* The presence of current SCG and ARCO gas pipelines that traverse the central portion of the project site, and a former Mobil oil pipeline located on the site are also potential RECs. Hydrocarbon contaminated soil may exist in the vicinity of the pipelines located on the project site.

*Railroad Tracks.* The presence of railroad tracks located on the western portion of the property and within a tunnel on the southern portion of the property is a potential REC. Although no staining was observed along the exposed portion of the railroad tracks, the majority of the tracks are located within the San Fernando Tunnel. The presence of the railroad may have resulted in some soil contamination over the past century of operation.

*Surface Runoff.* The presence of runoff from the project site and adjacent properties into Newhall creek and its tributary located on the project site is a potential REC. Runoff from



adjacent properties and the industrial activities involving truck and equipment storage on the project site may have contaminated the sediments in the creek.

The standing water observed on the Turner & Stevens property was apparently associated with heavy rains in the area prior to the site reconnaissance. The water was most likely rain water and did not appear to be a regular occurrence in that location. The standing water is thus judged to represent a de minimus condition, not warranting additional assessment.

*Soil Staining – Arklin Property.* The visible staining of soil beneath the three 5-gallon buckets of hydraulic oil, observed on the Arklin property in the northern portion of the site near San Fernando Road (see Figure 4.8-1), is a potential REC. The soil beneath the 5-gallon buckets may be contaminated with hydrocarbons.

*Underground Storage Tanks.* The presence of a former (possibly leaking) UST and current UST located on the Newhall County Water District property, which is adjacent to planned development lots 5-9 in the western portion of the project site, is a potential REC. In documents reviewed at the LACPWD, a tank test failure occurred; however, no testing or remediation of the soil or groundwater was noted following the removal and replacement of the tank. Groundwater in the vicinity of the property is reportedly to the northwest. The soil and/or groundwater beneath the tank may be contaminated with hydrocarbons and could affect adjacent portions of the project site.

*Newhall Refinery.* The presence of soil and groundwater contamination beneath the former Newhall Refinery located across Sierra Highway from the project site is a potential REC. According to the files reviewed, hydrocarbons have contaminated the soil and groundwater beneath the former refinery property. Although the floating hydrocarbons observed on the groundwater in MW-2 appear to be at least 1,000 feet east of the project site, the VOC contamination in the soil and groundwater appears to be only 160 feet from the project site. Due to the proximity to the project site, VOCs and hydrocarbons related to the former refinery operations may be affecting the groundwater beneath the project site.

*Pioneer Refinery.* The presence of soil contamination and potential groundwater contamination beneath the adjacent Historic Pioneer Refinery located adjacent to the northern portion of the project site (directly adjacent to planned development lots 1, 8, and 9) is a potential REC. According to the documents reviewed, hydrocarbons have affected the soil beneath the historic refinery property, and may be affecting the groundwater, which reportedly flows to the northwest. Hydrocarbons related to the historic refinery operations may be affecting the soil and/or groundwater beneath the project site.

*Debris and Trash.* The debris and trash, including tires, electrical appliances, mattresses, and miscellaneous empty drums are located on various portions of the property, including within Newhall Creek.

#### Mitigation Measures.

- HHS-1(a)** The sampling program outlined below shall be implemented prior to issuance of grading permits for areas suspected of being contaminated:



- Collect soil samples in the vicinity of the former or existing underground storage tanks on the Turner and Stevens property. Complete a geophysical survey to determine if the tanks are still present on the property.
- Collect soil samples from beneath the leach lines of the septic tank located on the Turner & Stevens property, formerly utilized by the Elmore Pipe Jacking Facility.
- Collect soil samples in the vicinity of any oil wells not previously sampled and any wells not scheduled for abandonment. Also, collect soil samples from directly beneath the former tank farm locations, formerly located on various areas of the property.
- Collect soil samples from near the current (SCE and ARCO) and former (Mobil) oil and gas pipeline easements located on the project site.
- Collect soil samples from areas of the site near the railroad tracks located adjacent to the western portion of the property.
- Collect sediment samples from Newhall creek and its tributary located on the project site.
- Collect soil and groundwater samples on the project site adjacent to the border of the Newhall County Water District property.
- Collect groundwater samples from the project site adjacent to the former Newhall Refinery (across Sierra Highway).
- Collect soil and groundwater samples from the project site adjacent to the Historic Pioneer Refinery.
- Collect soil samples from beneath the three 5-gallon buckets of hydraulic oil observed on the Arklin property.

If contamination exceeding regulatory action levels is found in any of the above locations, appropriate remediation shall be undertaken prior to issuance of grading permits for the contaminated area. Any remedial activity shall be conducted to the satisfaction of the appropriate regulatory oversight agency (for example, the County Health Department, Department of Conservation, Regional Water Quality Control Board, Department of Toxic Substances Control).

- HHS-1(b)** The debris and trash, including tires, electrical appliances, mattresses, abandoned automobile and trailer home and miscellaneous empty drums located on various portions of the property, including within Newhall Creek, shall be removed and properly disposed of offsite prior to issuance of grading permits.

Significance After Mitigation. Implementation of the above measures, including remediation of any contamination found to exceed regulatory action levels prior to issuance of grading permits would reduce health and safety impacts to a less than significant level.



**Impact HHS-2**    **Disturbance of oil and gas lines on-site during site grading could potentially result in hazardous conditions for site workers. Implementation of appropriate safety precautions would reduce such impacts to a Class II, *significant but mitigable* level.**

The project site is crossed by several oil and gas pipelines, including a Southern California Gas pipeline, an ARCO gas pipeline, and a former Mobil oil pipeline. The locations of these pipelines are shown on Figure 4.8-1.

Grading and construction activity would occur in the vicinity of each of the above mentioned pipelines during one or more construction phases. Unless proper precautions to avoid the pipelines are implemented, this could potentially result in disturbance of these facilities. Disturbance of the pipelines could potentially result in gas or oil leaks and/or explosions. This would pose potential hazards to site workers and, depending upon their location within the site, to neighboring properties. This is considered a potentially significant impact.

Mitigation Measures. The following measures are recommended for all grading activity in the vicinity of onsite oil or gas pipelines.

- HHS-2(a)**    Pipeline operators shall be notified in advance of any grading activity in the vicinity of an oil or gas pipeline. Any specific requirements of the operator to avoid disturbance that could create a safety hazard shall be fully implemented. Possible methods to protect underground utilities include dielectric coating, cathodic protection, mortar coating or encase in cement-slurry or concrete.
  
- HHS-2(b)**    Prior to grading in the vicinity of oil or gas pipelines, the locations of the pipelines shall be marked. Underground Service Alert shall be notified 48 hours in advance of grading and shall clear the pipeline locations prior to grading activity.

Significance After Mitigation. With implementation of the recommended mitigation measures, significant impacts relating to pipelines onsite are not anticipated.

**Impact HHS-3**    **Project development would expose site workers to electromagnetic radiation from the high voltage overhead transmission line onsite. However, such hazards are considered Class III, *less than significant*.**

The proposed project would add new development in proximity to the overhead transmission lines that traverse the site. Therefore, an incremental increase in exposure to EMFs from overhead transmission lines could occur. However, no scientific consensus on the health effects of EMFs has been reached and no standards for location of industrial or commercial uses in proximity to overhead transmission lines have been adopted. Generally speaking, the industrial commercial uses proposed for the site are considered less sensitive to EMF exposure than many other types of uses (residences, for example).



The City will adopt and implement appropriate local standards for proximity of residential and commercial development to overhead transmission lines if national or state standards for EMF exposure are developed in the future. If such standards are adopted prior to development of the project site, they would apply to future on-site development. Imposition of such standards would reduce this impact to a level considered less than significant.

Mitigation Measures. None required.

Significance After Mitigation. As no consensus on the health effects of EMF exposure has been reached, impacts relating to EMF exposure are not considered significant.

**Impact HHS-4**    **The project would introduce new industrial park development in the vicinity of the rail line along Pine Street. Although this would incrementally increase the potential for safety conflicts with rail activity, compliance with standard safety requirements would reduce such impacts to a Class III, less than significant level.**

The proposed project would introduce 4.45 million square feet of industrial park development on a site adjacent to a rail line that carries both passenger and freight trains. The approximately 6,500 workers at the site would be exposed to potential safety hazards associated with train operations, including potential spills of hazardous materials in the event of a train accident. However, safety conflicts would be minimal for two reasons. First, the project does not involve development of any rail crossings; therefore, the potential for conflicts between trains and persons trying to cross the tracks would be minimal. In addition, all rail operations are expected to comply with state and federal safety requirements pertaining to train travel and transport of hazardous materials. Finally, it should be noted that the proposed industrial park development is generally considered the type of development that would be most appropriate adjacent to a rail line for safety and other reasons and the proposed development provides several possible evacuation routes ('A' Street, 'C' Street, Pine Street) in the event of an emergency requiring evacuation of the site. Significant safety conflicts are not anticipated.

Mitigation Measures. None required.

Significance After Mitigation. Significant rail safety impacts are not anticipated.

**c. Cumulative Impacts.** Cumulative development in the Santa Clarita area will have the potential to increase exposure to hazardous areas by developing and redeveloping areas that have previously been contaminated. However, the magnitude of hazards for individual projects depends upon the location, type, and size of development and the specific hazards associated with individual sites. Therefore, hazard evaluations would need to be completed on a case-by-case basis. Any necessary remediation would be completed in accordance with applicable regulatory requirements prior to development of any sites determined to have significant hazards. Assuming compliance with such requirements on all new development in and around the City, cumulative human health and safety impacts can be reduced to a less than significant level.



## 4.9 PUBLIC SERVICES

This section discusses project and cumulative impacts to fire and police protection, schools, and libraries. Impacts to utilities, including electricity, natural gas, water, sewer, and solid waste service, are discussed in Section 4.10. Impacts to recreational facilities are discussed in Section 4.13.

### 4.9.1 Setting

#### a. Fire.

Fire Protection Service. As part of the Consolidated Fire Protection District, the Los Angeles County Fire Department (LACFD) provides fire protection and emergency medical service to the City of Santa Clarita and the planning area. Fire Station 73, located at 24875 N. San Fernando Road in Newhall, is the jurisdictional station for the project site. This station houses two engines, a truck and a total of 11 full time staff members. Table 4.9-1 lists the closest response units, their approximate distance/time, and staffing.

**Table 4.9-1 Fire Emergency Response Capabilities**

Equipment	Distance (Miles)	Time (Minutes)	Staffing
Engines 73 & 273	1.6 (A) 2.9 (B)	4.8 (A) 8.7 (B)	7
Engine 124	3.8 (A) 6.3 (B)	11.3 (A) 10.4 (B)	3
Truck 73	1.6 (A) 2.9 (B)	4.8 (A) 8.7 (B)	4
Squad 124	3.8 (A) 6.3 (B)	11.3 (A) 10.4 (B)	2
Hazardous Materials Squad	8.8 (A) 11.2 (B)	17.6 (A) 16.7 (B)	5

(A) A Street and Lot 3

(B) C Street and Lot 26

Source: Los Angeles County Fire Department, April 2001.

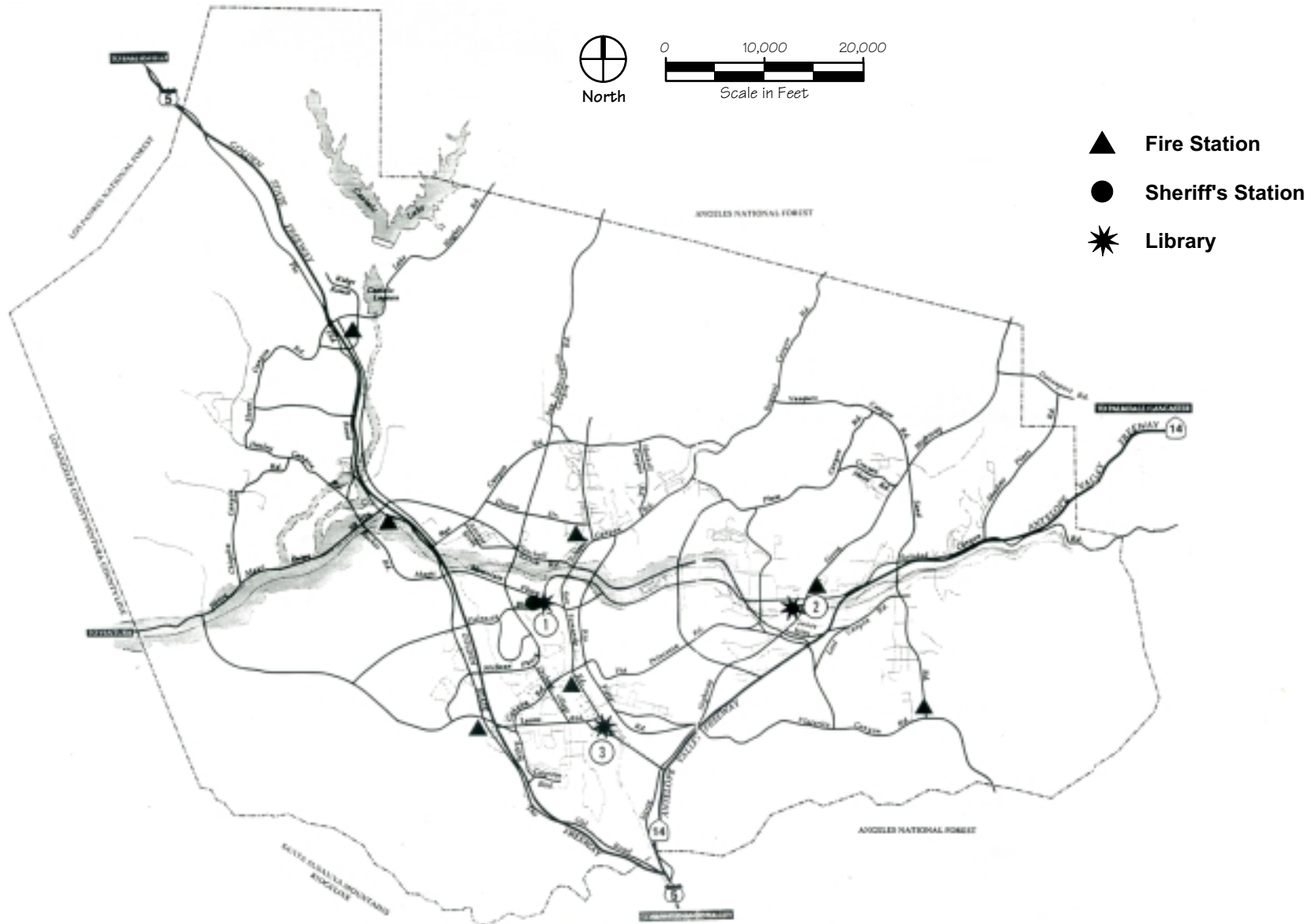
Note: Station 124 is to be permanently relocated, increasing the distance from the project site by about 1.3 miles, or 2.3 minutes.

On-Site Fire Hazards. The project site is located on 584 acres of primarily undeveloped hillside terrain that is subject to the threat of wildfire. Site elevations range from about 1,350 to 1,900 feet above mean sea level. There are moderately steep and steep slopes within the project site. The larger canyons on-site are “U” shaped with flat bottoms, while the smaller canyons and ravines are “V” shaped.

Wildfire potential depends upon several factors, including topography, the composition of on-site vegetation, and climate. Topography can affect the spread of fires, as well as the ability to fight fires. Generally, fires burn upslope faster than downslope. In addition, the steeper the slope, the faster a fire will spread. Another problem created by steeply sloped areas is reduced access for controlling wildfires. Since the project site consists largely of heavily sloped terrain, wildfire is a substantial concern across much of the site. Areas with slopes of 50% or more are particularly fire prone.







Public Safety Facilities

Figure 4.9-1  
City of Santa Clarita

The semi-arid climate of the Santa Clarita Valley also contributes to the area's high wildfire potential. Summers in Santa Clarita are typically very hot, dry and can be very windy, conditions that create high potential for intense wildfires. Solar heating, in combination with locally steep topography, can also result in small-scale local wind that contributes to fire spread. Occasional Santa Ana wind conditions can also exacerbate the potential for wildfires to spread rapidly.

In August 1998, a fire occurred at a "green waste" facility operated by the Santa Clarita Greenwaste Company and located on the Arklin property along Pine Street. The incident occurred when an unsorted green waste pile consisting of construction timber and debris, tree and grass clippings, soil, and miscellaneous household trash caught fire and burned for 12 days. In 1999, the property owner (Hank Arklin) evicted the greenwaste company and prohibited the dumping of additional green waste on the site. That same year, Mr. Arklin initiated a restoration of the site that was overseen by several regulatory agencies, including the City, the Department of Toxic Substances Control (DTSC), the County, and the Regional Water Quality Control Board (RWQCB). Material was hauled offsite and testing and cleanup and grading of the site were undertaken. Final laboratory testing indicated that bacteria and metal levels in the soil were below regulatory action levels and, in October 2000, the Los Angeles County Solid Waste Management Program and County Fire Prevention Division gave verbal closure of the cleanup.

Fire Hazard Rating. The County of Los Angeles classifies the project site as Zone 4, Very High Fire Hazard Severity Zone (VHFHSZ). Development within this zone is subject to special building and design requirements for construction, access, water mains, fire flows and hydrants to reduce the risk of property loss. The Santa Clarita General Plan Safety Element designates the entire project site as a Potential Wildland Fire Hazard Area.

**b. Safety.** The Los Angeles County Sheriff's Department provides police protection service throughout the Santa Clarita Valley. The Santa Clarita Valley Substation, located at 23740 Magic Mountain Parkway, provides primary service in the project area. This station is located approximately 6-7 miles from the project site and serves a population of approximately 200,000 residents within a 656 square mile area. The jurisdiction area consists of the City of Santa Clarita and unincorporated County areas between the Los Angeles City Limits to the South, to Kern County to the North, and all areas between the Ventura County Line to the West and Aqua Dulce to the East. The California Highway Patrol provides additional traffic policing in the unincorporated portions of the Valley.

The Sheriff's Department has expressed concerns about its ability to adequately police the project area due to the rapidly expanding population in the Santa Clarita Valley and the cumulative effects of new development in the area. The Sheriff's Department anticipates the need to expand field personnel and support resources to meet growing demand for safety services (Baca, 2001).

**c. Schools.** The project site is within the boundaries of the William S. Hart Union High School District (HSD) and the Newhall Elementary School District (ESD). The HSD enrolls over 15,000 students in four junior high schools, six high schools, an adult school, and a regional occupational program. The ESD operates seven elementary schools providing kindergarten



through sixth grade (K-6) instruction. Table 4.9-2 shows current enrollments and design capacities at both the HSD (excluding the adult school and occupational program) and the ESD.

**Table 4.9-2 Current School District Enrollment and Design Capacities**

School District	Design Capacity	Enrollment (April 2001)	Percent Capacity Utilization
Newhall (K-6)	5,385	6,168	115%
William S Hart High School District (7-12)	10,262	15,445	151%

*Sources: Newhall Elementary School District and William S. Hart Union High School District, April 2001*

As shown, both districts are currently enrolled beyond capacity. In the ESD, the percent capacity utilization may be even higher in reality because six of the seven schools in the district are on multi-track year round calendars, which causes capacity numbers to be artificially inflated (Winger, 2001).

Operating revenue provided to school districts is funded by local property tax revenue accrued at the state level and then allocated to each school district based on the average daily student attendance. However, physical improvements to accommodate new students come primarily from assessed fees on development projects.

California Government Code § 65995 was enacted in 1990 to generate revenues to school districts for capital acquisitions and improvements. On January 28, 1998, the State increased the one-time fee of \$0.30 fee per square foot of commercial and industrial space to \$0.31 per square foot. As shown in Table 4.9-3, this fee is divided equally between the HSD and ESD.

**Table 4.9-3 Developer Fees Charged by Local School Districts**

School District	Non-Residential Fee (per square foot)
Newhall Elementary School District	\$0.155
William S. Hart Union High School District	\$0.155
<b>Total</b>	<b>\$0.31</b>

*Sources: Newhall Elementary School District, William S Hart Union High School District, March 2001*

**d. Libraries.** The County of Los Angeles Public Library system provides library services in the Santa Clarita Valley. The Valley is served by three County libraries (Valencia, Newhall, and Canyon Country), as well as a mobile library service. Existing library space in the area does not currently meet County public library standards.



## 4.9.2 Impact Analysis

### a. Methodology and Significance Thresholds.

Fire Protection. The Los Angeles County Fire Department (LACFD) and the City of Santa Clarita establish standards for fire protection. If the proposed development would result in additional demand that would increase the emergency response time, the LACFD would consider impacts significant.

For commercial areas, water flow must be supplied at a rate of 5,000 gallons per minute, with a residual pressure of 20 psi for a duration of 5 hours in addition to the maximum domestic water use. Construction of dwelling units or other habitable structures in or adjacent to a Very High Fire Severity Zone or placement of habitable structures within a brush clearance area as defined by the LACFD, would be a significant impact in the absence of appropriate wildfire mitigation. Brush clearance areas are determined through preparation of a Fuel Modification Plan for areas determined by the LACFD to be exposed to wildfire potential.

Police Protection. The standard of service for the County Sheriff's Department is one officer per 1,000 people. If the proposed development would result in additional demand and that would create a deficiency of officers with respect to the 1,000 per person ratio, impacts would be considered significant in the absence of fees paid to support staff and equipment increases.

Schools. Current enrollment, capacity, and student generation rate information was gathered from the Newhall ESD and the William S. Hart Union HSD. School capacity and enrollment numbers were evaluated to determine if the project would exacerbate current overcrowded conditions. Any increase in enrollment not accompanied by a corresponding increase in capacity is considered a potentially significant impact

Libraries. As provided by the County of Los Angeles Regional Planning Department, demand for library space and books is estimated at 0.35 square feet and two volumes per capita. Impacts would be significant if an increase in population and associated demand for library facilities and services would go unmet without provision of facilities/services or payment of appropriate library fees.

### b. Project Impacts and Mitigation Measures.

**Impact PS-1** **The proposed project would increase demand for fire protection service. However, provision of funding for additional fire protection equipment and facilities, and adherence to guidelines regarding access to all property would reduce the impact to fire protection service to a Class II, significant but mitigable, level.**

The number of emergency calls would be expected to incrementally increase with the addition of up to 4.45 million square feet of industrial park development. Industrial parks typically do not generate high levels of emergency service calls; nevertheless, the LACFD has indicated that additional manpower, facilities and equipment would be required in order to provide adequate service to the Gate-King proposed development (Leininger, 2001). The LACFD has indicated



that it may need a fire station placed in the southern portion of the development, close to Lot 26 on "C" Street, in order to provide adequate fire and emergency medical service (see Figure 4.9-2).

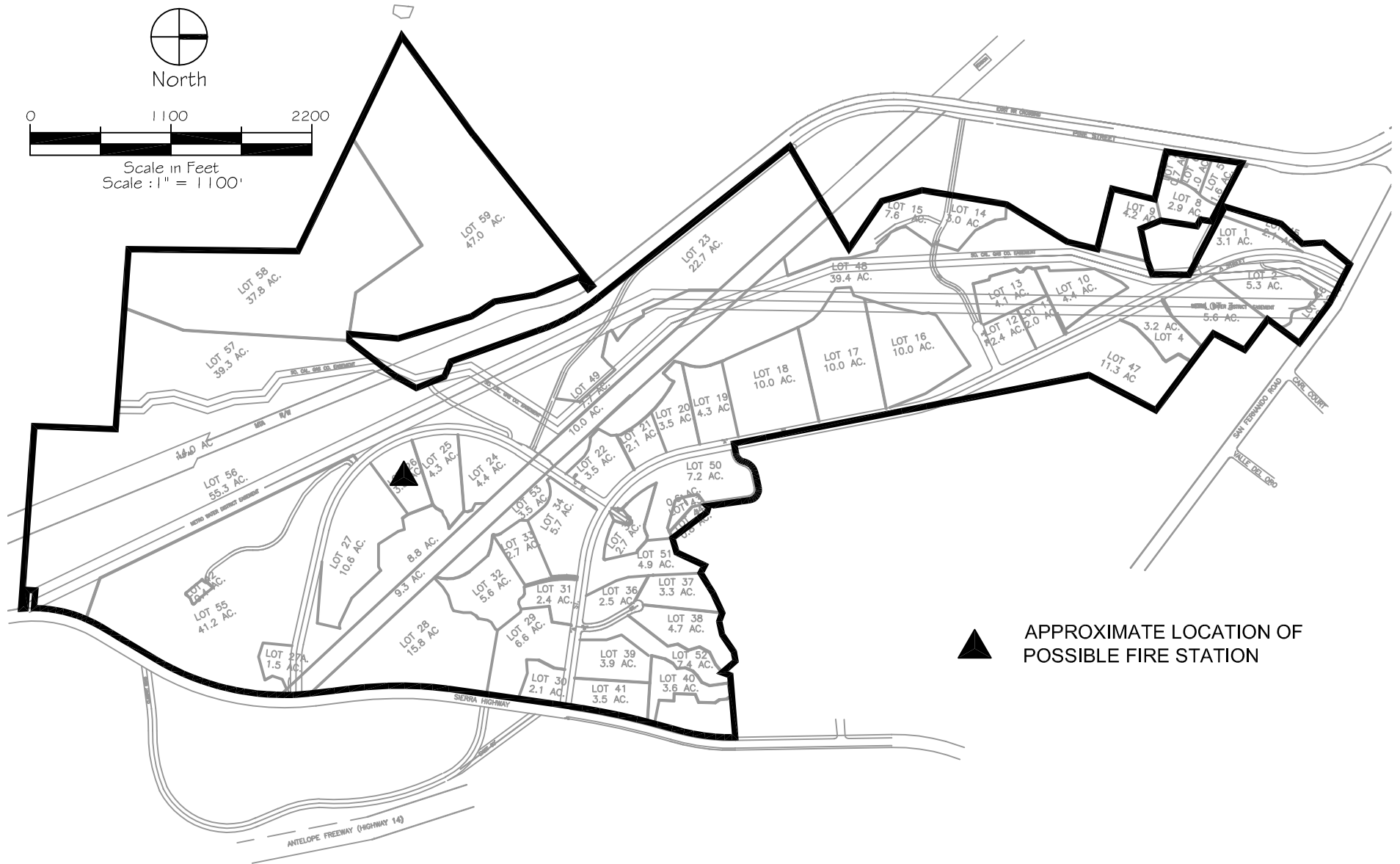
The applicant would be required to pay the applicable fire protection impact in lieu fees in effect when building permits are issued. Currently, the developer fee is a set amount per square foot of building space, adjusted annually, and is due and payable at the time a building permit is issued. Payment of these fees would alleviate impacts relating to increased demands of fire fighting equipment. However, if such fees are not in effect at the time of building permit issuance, potentially significant impacts to fire protection could result.

The LACFD provides specific design guidelines within the development regarding access by fire personnel and equipment to the property that should be followed in order to ensure sufficient fire protection services. Adherence to these requirements would alleviate any concerns relating to fire response access.

Mitigation Measures. The following measures are recommended to ensure that fire response times are adequate and that sufficient funding is available for needed fire protection equipment.

- PS-1(a)** The applicant will provide a fire station site and a helo-pad site as provided in a separate agreement with the County Fire Department.
- PS-1(b)** Coordination with the Los Angeles County Fire Department is required in order to determine the need for a fire station within the development and its inclusion in the tract map. If the Fire Department requests an on-site station, a fire station site shall be provided on-site in a location satisfactory to the Department as provided in a separate agreement between the applicant and the County Fire Department.
- PS-1(c)** All applicable building codes and ordinance requirements for construction, access, water mains, fire hydrants, fire flows, brush clearance and fuel modification plans must be met. The Los Angeles County Fire Department has set forth specific guidelines regarding access issues. These guidelines are as follows:
- The roadway to every building shall be accessible by an all weather surface that is not less than the prescribed width, unobstructed and clear to sky and be extended to within 150' of all portions of the exterior walls.
  - When a bridge is required as part of a fire access road, it shall be designed for a live load of a minimum of 75,000 pounds.
  - The maximum allowable grade shall not exceed 15% except where the topography makes it impractical to keep within such a grade, and then an absolute maximum of 20% will be allowed for up to 150 feet in distance. The average maximum allowed grade, including topography difficulties, shall be no more than 17%. Grade breaks shall not exceed 10% in 10 feet.





Possible Fire Station Location

Figure 4.9-2  
 City of Santa Clarita

- No portion of lot frontage shall be more than 200' via vehicular access from a public fire hydrant, and no portion of a building shall exceed 400 feet via vehicular access from a properly spaced (every 300') public fire hydrant.
- A cul-de-sac shall not be more than 500' in length and shall have a turning radius of at least 42'; when extending beyond 200' a hydrant shall be required at the corner and mid-block
- On-site driveways shall provide a minimum unobstructed width of 26' clear to sky and are to be within 150' of all portions of the exterior walls of the first story of any building. Driveway widths are required to be greater than 26' depending on the height of the building and the amount of parking allowed on the access road.
- Limited access devices (gates etc.) shall be 26' wide if used for both directions of travel and 20' if used for one direction of travel. They shall be positioned 50' from a public right-of-way and shall have a turnaround with a minimum of a 32' radius. If an intercom system is used, the 50' shall be measured from the right-of-way to the intercom control device.
- Any proposals for traffic calming measures (speed bumps, traffic circles etc.) shall be submitted to the Fire Department for review prior to implementation.

Significance After Mitigation. After mitigation, impacts to fire protection service would be reduced to a less than significant level.

**Impact PS-2 The proposed project would be located in a Very High Fire Severity Zone as designated by the Los Angeles County Fire Department. Impacts relating to wildfire hazards are considered Class II, significant but mitigable.**

The entire site is within the Fire Hazard Area as depicted in the General Plan Safety Element and entirely within the LACFD Very High Fire Severity Zone. Therefore, hazards relating to wildland fire are considered potentially significant. The project would need to comply with applicable requirements of the LACFD for such zones.

Mitigation Measures. Specific fire safety requirements would be addressed by the LACFD at the building fire plan check stage. However, the following minimum requirements would be part of the requirements for the project.

- PS-2(a)** The applicant shall develop a Fuel Modification Plan for all development areas adjacent to or potentially exposed to wildfire hazard areas. The plan shall be subject to review and approval by the Los Angeles County Fire Department Fuel Modification Unit.
- PS-2(b)** The landscape palette for the project shall prohibit the use of highly flammable species near areas of open space.
- PS-2(c)** Landscaping of manufactured slopes shall use plant species appropriate for use in fuel modification zones. Use of native plants shall maintain the



natural landscape of the project area and will reduce the use of exotic and possibly invasive non-native species.

Significance After Mitigation. The LACFD would require project construction to comply with the building requirements for the Very High Fire Severity Zone. These requirements include specifications for building materials and structure design. With implementation of applicable requirements of the County Fire Building Code and Fuel Modification Plan, impacts would be reduced to a less than significant level.

**Impact PS-3 The project would generate a modest increase in demand for police services. Provision of funding for additional police protection personnel and equipment and adherence to the crime prevention guidelines suggested by the Los Angeles County Sheriff's Department would reduce the impacts to a *significant but mitigable* (Class II) level.**

Industrial/commercial development such as that proposed typically generates relatively few police calls. Nevertheless, the addition of up to 4.45 million square feet of new development would be expected to result in some increase in demand for police protection services.

The County of Los Angeles funds the Sheriff's Department with public funds that are divided between all of the regional Sheriff stations in Los Angeles County. Each regional station, including the Santa Clarita Sheriff's Station then decides how funds should be spent for sheriff service.

The Sheriff's Department bases staffing on population. Therefore, since the non-residential project would not directly bring additional population to the area, it would not trigger the need for staffing increases based upon Sheriff's Department criteria. Any indirect increase in population in the area resulting from jobs generated on-site may warrant increases in Sheriff's Department staffing. However, it would be speculative to say how many people would relocate to the area to fill jobs offered on the project site.

The proposed project would generate additional property and sales tax revenues, which could be used in part to fund needed increases in Sheriff's Department staffing. Assuming that such revenues would be used to maintain staffing levels, significant impacts to police protection service would not occur.

Mitigation Measures. The following measure, suggested by the Los Angeles County Sheriff's Department, is intended to implement "defensible space" concepts and foster crime prevention at the proposed development.

**PS-3** The project shall incorporate the following crime prevention measures:

- Adequate lighting in open areas and parking lots
- Visibility of doors and windows from public streets and between buildings
- Adequate parking spaces in all parking lots
- Well lit building address numbers that are large enough to be readily apparent from the street





- A four-lane roadway as the major street access through the site (note: this is consistent with the applicant's proposal)

Significance After Mitigation. Assuming that available revenues are used in part to fund needed increases in Sheriff's Department staffing, implementation of the recommended crime prevention measures would reduce the proposed project's impact to a less than significant level.

**Impact PS-4 The proposed project would not directly generate additional students at local public schools. Any indirect increase in school enrollment associated with on-site job generation would be mitigated through implementation of applicable developer school impact fees. Impacts to schools are considered Class III, less than significant.**

As a non-residential project, the proposed Gate-King Industrial Park would not directly generate additional students and therefore would have no direct impact upon local public schools. However, the project would generate an estimated 6,527 jobs in Santa Clarita, which may bring additional people to the area and indirectly generate additional students. In this way, the project could indirectly add to the existing overcrowded conditions that exist in area schools (see Table 4.9-2).

It would be speculative to say how many people may relocate to the Santa Clarita area to fill the jobs that would be generated by the project; therefore, an accurate estimate of the possible indirect effect on school enrollment is not possible. In any event, however, the applicant would be required to pay applicable school impact fees to Newhall ESD and William S. Hart Union HSD, as outlined in Table 4.9-3. Based upon the current fees of \$0.155 per square foot for both districts, each district would receive roughly \$700,000 in school impact fees. As this would meet the applicant's financial obligation under SB 150, it is presumed that payment of these fees would mitigate the project's potential indirect impact to public schools.

Mitigation Measures. The City is strictly limited in the mitigation measures it may impose against developers of residential projects to address school crowding issues. The presumption of State law is that the developer's payment of school impact fees to the local school district, in an amount established by the school districts, would address school capacity impacts.

Significance After Mitigation. Payment of applicable school impact fees would reduce the project's potential indirect impact to schools to a level considered less than significant. The current overcrowded conditions would remain in both the Newhall Elementary School District and the William S. Hart Union High School District; however, these conditions are not the result of this project.

**Impact PS-5 The proposed project would not directly generate demand for library services. Impacts to libraries would be Class III, less than significant.**



The proposed project would not directly generate demand for library services since it would not increase the resident population of the Santa Clarita Valley. The new employment opportunities that would be created by the project may indirectly generate demand for library services as people move to the area to fill new jobs. However, any new residential development built in the area would be required to pay the standard library impact fee imposed by the County in effect at that time. The current fee is \$569.87 per residential unit. Payment of this fee by future residential developers would provide funds for new demand for library space and books that may be indirectly created by the proposed project. Therefore, significant impacts to library services are not anticipated.

Mitigation Measures. None required other than payment of standard library fees by future residential developers.

Significance After Mitigation. Payment of standard library fees by future residential developers would reduce impacts to a level considered less than significant.

### **c. Cumulative Impacts.**

Fire. Cumulative development projects in the Santa Clarita area will continue to increase the City's population and place development within High and Very High fire severity zones. The County Fire Department indicates that funding for fire protection service has not kept pace with growth in the Santa Clarita area in recent years. If this trend continues, the cumulative effect of growth on fire protection service could be adverse.

The project applicant would be required to pay in lieu fire protection impact fees in place at the time of issuance of building permits. Compliance with these standard requirements would offset the project's impact, reducing the project's contribution to cumulative impacts to a "de minimus" level. Thus, the cumulative effects of growth would be essentially the same with or without the proposed project.

Sheriff. Cumulative build out of Santa Clarita will increase demands on police protection services by adding up to about 124,000 residences and 59 million square feet of non-residential development. According to the Sheriff's Department, such cumulative growth would strain Department resources. The proposed project would incrementally contribute to this increased demand. Without increases in staffing and facilities correlating to these population increases, potentially significant impacts could occur. It is anticipated that needed Sheriff's Department staff and equipment will be funded by the increased public revenues generated as the City builds out. Assuming that increases in staffing and equipment would keep pace with growth in the area, cumulative impacts to police services can be mitigated.

Schools. Cumulative development in the City would increase enrollment in local public school districts by adding up to 124,000 residences. As all local school districts are currently over capacity, such growth in enrollment could adversely affect the operation of local schools. The local school districts have indicated that the statutory fees that can be charged by school districts on residential development are not considered adequate to fully mitigate the costs associated with direct enrollment increases. However, affected districts have indicated that payment of applicable non-residential fees would mitigate the project's indirect contribution to



cumulative impacts. Thus, cumulative impacts to schools would be essentially the same with or without the proposed project.

Libraries. Cumulative development in the City would increase demand for library facilities by adding up to 124,000 residences. However, the proposed project would only indirectly contribute to this growing demand since it would not include any resident population. Library facilities in the Santa Clarita Valley do not currently meet County standards. However, new residential development in the area will be required to pay County-mandated library impact fees. Payment of these fees by all residential developers for the development of needed new facilities would be expected to mitigate cumulative impacts to library services.



## 4.10 UTILITIES

This section discusses impacts to water supply and conveyance infrastructure, sewage conveyance and treatment systems, electricity and natural gas distribution systems, and solid waste collection and disposal systems.

### 4.10.1 Setting

#### a. Water.

Water Supplies. The site is currently within the Newhall County Water District (NCWD) service area. Water supply for the NCWD is obtained from local groundwater wells and the Castaic Lake Water Agency (CLWA).

CLWA's original contract with the State Water Project in 1966 was for a water entitlement 41,500 acre-feet (AFY). In the 1980s, the CLWA purchased 12,700 AFY of State Water Project water entitlement from a Kern County water district. In addition, CLWA purchased 41,000 AFY of water entitlement from the Kern Delta Water District as part of the Monterey Agreement Contract between the Department of Water Resources and State Water Project contractors in 1994. Therefore, CLWA's current total water entitlement is 95,200 AFY of State Water Project water. It should be noted, however, that CLWA's State Water Project entitlement can fluctuate from year to year based on a number of factors, including hydrologic conditions, the status of State Water Project facilities, construction, environmental requirements, and evolving policies for the Bay-Delta.

CLWA has developed a capital improvement program with funding that provides for the following activities to achieve water supply reliability: (1) purchase of additional State Water Project supplies; (2) implementation of recycled water programs; (3) development of additional dry-year Saugus Formation Supplies (new wells); (4) enhancement of groundwater banking programs; and (5) seawater desalination/water exchange. According to the CLWA "Urban Water Management Plan 2000" (UWMP; December 2000), no water supply shortages are expected within CLWA's service area throughout the 20-year UWMP period, if projected and local supplies are developed as indicated.

The NCWD service area lies within Newhall, Pinetree, and Castaic. NCWD's service connections are spread over a 34-square-mile area. At the end of 1999, NCWD served approximately 6,758 water connections. As identified in Table 4.10-1, NCWD supplies water from both groundwater wells and CLWA imported water. As indicated, the area's total entitlement is approximately 103,22 to 180,900 AFY during an average or normal rainfall year, and approximately 201,100 to 279,700 during a dry year.<sup>1</sup>

The Alluvial aquifer system, a shallow upper basin, generally underlies the Santa Clara River and its tributary creeks. Water seeps down into the sands and gravels beneath the river, where it is pumped from relatively shallow wells (to 200 feet in depth). This aquifer is estimated to

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<sup>1</sup> According to the UWMP, dry year supplies are greater than wet year supplies because the NCWD will tap reserves, including drilling new wells in the Saugus Formation and importing additional water.



**Table 4.10-1 Newhall County Water District  
Existing and Planned Water Supplies**

<b>Source</b>	<b>Average/Normal Year (acre-feet/year)</b>	<b>Dry Year (acre-feet/year)</b>
Alluvial Aquifer	30,000-40,000	30,000-35,000
Saugus Aquifer	7,500-15,000	11,000-15,000
Saugus New Wells	--	10,000-20,000
Recycled Water	1,700-17,000	1,700-17,000
Imported Water	64,000-108,900	148,400-192,700
<b>TOTAL</b>	<b>103,200-180,900</b>	<b>201,100-279,700</b>

*Source: Castaic Lake Water Agency, Urban Water Management Plan, December 2000.*

store over 200,000 AF of water. The aquifer has historically been pumped in numerous years and for extended periods without any evidence of overdraft (UWMP, Appendix D, December 2000). This aquifer has been managed within its perennial yield while pumping in the broad range of nearly 20,000 AFY to more than 42,000 AFY.

The Saugus aquifer is a deeper layer of groundwater that underlies the Alluvial aquifer. The Saugus aquifer receives water from seepage of the Alluvial aquifer as well as from parts of the aquifer exposed to the surface. This aquifer has historically been pumped up to a maximum of nearly 15,000 AFY, and an average of slightly more than 7,000 AFY over the last 20 years. The aquifer has a ground water storage capacity of approximately one million AF and there is no long-term change or other evidence of overdraft of the aquifer. Therefore, increases in pumpage from the Saugus aquifer from 15,000 to 25,000 to 40,000 AFY, in a ramped manner, would be hydrologically feasible (UWMP, Appendix D, December 2000).

The UWMP anticipates a projected normal/average year water usage of 75,100 acre-feet of water per year in the area. Therefore, the area would maintain a water supply surplus of 28,100 AFY. As demand for water increases in the future, additional water supplies are expected to be available from the CLWA.

Water Infrastructure. The site is currently undeveloped and has no water supply infrastructure in place. The project area is currently served by an existing 12-inch water main in the San Fernando Road right-of-way, north of and adjacent to the site. The area is served by two water tanks with a pad elevation of approximately 1,457 feet msl, west of the site. These wells have a total storage capacity of approximately 3.75 million gallons. Water is distributed within the area from wells 12 and 13, with flows of 2,600 and 2,500 gpm, respectively, and one booster fed from the Castaic Lake Water Agency, with flows of 2,600 gpm. An existing water tank is located on Lot 43, in the central eastern portion of the site, near the Eternal Valley Cemetery. In addition, a water tank is located at an elevation of 1,905 feet msl on Lot 42, in the southeastern portion of the site.

A Metropolitan Water District (MWD) easement that contains the MWD's Foothill Feeder Newhall Tunnel, a 20-foot, 8-inch water pipeline, traverses the site in a northeast/southwest direction through the central portion of the site.



**b. Wastewater.** The project site is currently located outside the Los Angeles County Sanitation Districts' service area. Annexation of the project site into District 32 would be required to obtain wastewater treatment service.

Sewage generated within District No. 32 is conveyed through the District's Newhall trunk sewer, located in Walnut Street at 16<sup>th</sup> Street. This 21-inch diameter trunk sewer has a design capacity of 4.3 million gallons per day (MGD) and conveyed a peak flow of 1.5 mgd when last measured in 1996 (County Sanitation Districts of Los Angeles County, 2001).

The Districts operate two water reclamation plants: the Saugus Plant and the Valencia Plant. Both plants function together to provide tertiary treatment to wastewater which is discharged into the Santa Clara River after treatment. These two treatment plants have been interconnected to form a regional sewage treatment system.

The two treatment plants currently have the combined permitted capacity to accommodate 19.1 MGD of wastewater. The plants currently process an average flow of 16.9 MGD, which represents approximately 88% of current capacity. A two-phase expansion is planned for the Valencia Plant, which would increase the combined capacity to 34.1 MGD. The first phase of the expansion is anticipated to be completed in 2002, and would consist of a 9.0 MGD expansion that is expected to meet the Regional Growth Management Plan's forecasted demand through 2010. The second phase of the planned expansion is anticipated to be functioning by 2010, and would consist of an additional 6.0 MGD expansion, which would be sufficient to meet demand until 2015.

**c. Electrical Power.** Electrical service in the project area is provided by Southern California Edison Company (SCE). An existing aerial high voltage facility currently traverses the approximate center of the site in a generally northwest/southeast direction. The high voltage lines and towers are located within an approximately 150-foot-wide easement. SCE has stated that existing electrical loads are being met in the vicinity of the project site (SCE, 2001).

**d. Natural Gas.** The project site is located within the Southern California Gas Company, Valencia District service area. The project site is currently served by Southern California Gas Company. An existing 12-inch medium pressure gas line is located within an easement that traverses the central portion of the project site in a generally north/south direction. In addition, a 22-inch high pressure gas main is located within the right-of-way of Sierra Highway, west of and adjacent to the site, and a 4-inch gas main is located within the right-of-way of San Fernando Road, north of and adjacent to the site.

**e. Solid Waste.** Solid waste collection in the City of Santa Clarita is currently provided by private refuse collectors, managed and overseen by the City of Santa Clarita Department of Planning and Building Services. Blue Barrel Disposal, Santa Clarita Disposal, and Atlas Transport are private waste haulers that provide solid waste collections services in Santa Clarita. The City contracts with these haulers for residential pick-up, but businesses contract with haulers independently.

Local haulers pick up municipal solid waste from the project area and transport it directly to Chiquita Canyon Landfill, which is located approximately at 29201 Henry Mayo Drive in Valencia. This landfill has a weekly capacity of 30,000 tons and currently accepts an average of



about 27,600 tons of waste per week, or about 92% of capacity (Terrell, 2001). As of June 2001, the landfill had an overall remaining capacity of about 26 million cubic yards. Based on current and projected disposal rates at the facility, the expected closure date for the landfill is November 24, 2019 (CIWMB, California Waste Facilities, Sites & Operations Database, 2001).

The State Legislature, through Assembly Bill (AB) 939, the California Integrated Waste Management Act of 1989, mandates that all cities develop and implement source reduction and recycling programs that achieve a 25% reduction in waste stream by the year 1995 and a 50% reduction by the year 2000. In an effort to meet AB 939 requirements, the City has implemented a variety of source reduction, recycling, composting, waste diversion, and education programs.

#### 4.10.2 Impact Analysis

##### a. Methodology and Significance Thresholds.

Water. Water demand generated by the project was estimated based upon a rate of 2.27 acre-feet per year per acre of commercial development. Impacts to water supplies would be considered significant if project generated demand exceeds available existing or future supplies, facilities, or proposed service lines.

Wastewater. Wastewater generation was estimated based on 80% of water demand. Potential impacts to local wastewater treatment facilities were assessed by comparing estimated wastewater generation to treatment facility capacity. Impacts to wastewater infrastructure are considered significant if the proposed project would result in sewer line or treatment plant system deficiencies.

Electrical Power. Electrical power demand was estimated based upon factors provided by the South Coast Air Quality Management District (SCAQMD). The proposed project is considered to have a significant impact on electrical power services if it would add demand that would exceed existing or planned capacity or if substantial infrastructure improvements would be required.

Natural Gas. Natural gas demand was estimated based upon factors provided by the SCAQMD. Impacts to natural gas services are considered significant if the proposed project's demand exceed existing or planned capacity or if substantial infrastructure improvements would be required.

Solid Waste. Solid waste generation was estimated using factors from the California Integrated Waste Management Board website ([www.ciwmb.ca.gov](http://www.ciwmb.ca.gov)). The rate of 8.93 pounds of waste per employee per day from the City of Los Angeles CEQA Thresholds Guide (1998) was used to estimated project-generated solid waste.

Solid waste collection service and landfill capacity already exists in the project area; therefore, for the purpose of this EIR, the project would cause a significant impact if it does not implement measures to reduce the amount of solid waste entering landfills in accordance with State requirements and/or if solid waste generated by the proposed project exceeds the capacity of landfills where waste would be disposed.



**b. Project Impacts and Mitigation Measures.**

**Impact PU-1** The proposed project would generate demand for an estimated 386 acre-feet of water per year. The Newhall County Water District would be able to supply the projected demand. Nevertheless, because of ongoing concerns about regional water supplies, impacts to water supply are considered Class II, *significant but mitigable*.

Water would be delivered to the project through an existing water main within the San Fernando Road right-of-way, north of and adjacent to the site. Smaller water lines would then branch off this main line to the proposed development areas.

Based on historical water usage in the area, commercial uses consume 2.27 AFY per acre of development. Therefore, the 170.1 buildable acres of proposed commercial development would consume an estimated 386 AFY of water. This amount represents about 1.4% of the area's current excess supply of 28,100 AFY. According to the NCWD, adequate water supply is available to serve the water demand generated by the proposed project (Shollenberger, 2001). Therefore, impacts to water supplies are not considered significant.

The proposed project would include construction of water tanks on Lots 42 and 44, in the central eastern portion of the site, adjacent to an existing water tank. These tanks would be expected to provide adequate storage capacity to serve the proposed development.

Mitigation Measures. The project's demand for water would not exceed available supply at the NCWD. Nevertheless, the following measures are recommended to minimize the project's impact upon regional water supplies.

**PU-1(a)** Interior water conservation measures, as required by the State of California, shall be incorporated into the project. These include, but are not limited to:

- Installation of low flow toilets and urinals in all new construction.
- Installation of water heating system and pipe insulation in all new construction to reduce water used before water reaches equipment or fixtures
- Installation of self-closing faucets in all lavatories

**PU-1(b)** Exterior water conservation features as recommended by the State Department of Water Resources, shall be incorporated into the project. These include, but are not limited to:

- Landscaping of common areas with low water-using plants
- Minimizing the use of turf by limiting it to lawn dependent uses
- Wherever turf is used, installing warm season grasses

**PU-1(c)** The project shall, to the extent feasible, use reclaimed water for irrigation of landscaping.





**PU-1(d)** Landscaped areas shall use vegetation that will eventually naturalize and require minimal irrigation.

Significance After Mitigation. Impacts related to water supply would be less than significant without mitigation. The recommended measures would minimize the project's demand for water to the maximum degree feasible.

**Impact PU-2 Project implementation could potentially affect the existing MWD Foothill Feeder Newhall Tunnel pipeline, which traverses the central portion of the site. Conflicts with MWD right-of-way that could result in an interruption of MWD service or facilities would be considered a Class II, *significant but mitigable, impact.***

An existing MWD easement that contains a 20-foot, 8-inch pipeline within the MWD's Foothill Feeder Newhall Tunnel traverses the central portion of the project site in a generally northeast/southwest direction. Project construction and/or operation of industrial uses adjacent to this easement could result in conflicts with MWD service and facilities.

Mitigation Measures. The following mitigation measures are required by the MWD:

**PU-2** During project construction and throughout project operations, the applicant and future occupants shall comply with all requirements of the MWD's "Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of the Metropolitan Water District of Southern California." Per these guidelines, the applicant shall identify on-site MWD facilities on all applicable project maps and plans. The project applicant and/or future occupants shall obtain approval from MWD for all landscaping, structures, or other facilities within the MWD pipeline easement.

Significance After Mitigation. Implementation of the recommended mitigation measure would ensure that the proposed project would not affect MWD service or facilities.

**Impact PU-3 Buildout of the proposed project would generate an estimated 0.276 million gallons of wastewater per day. Because the wastewater treatment plants serving the site have adequate capacity to accommodate this amount of wastewater, this impact is considered Class III, *less than significant.***

As discussed under Impact PU-1, the project's water demand is estimated at 386 acre-feet per year, or about 345,000 gallons per day (GPD). Discounting for water consumed by landscape irrigation, it is estimated that wastewater generation would be 80% of total water demand, or about 276,000 GPD. This would represent a wastewater demand factor of approximately 62 GPD per 1,000 square feet of industrial development.

Wastewater generated at the project site would be transported about 3.5 miles northwest of the site to the Saugus treatment plant. The wastewater generated on the project site represents



about 11.5% of the current unused combined capacity (2.4 MGD) at the Saugus and Valencia reclamation plants and about 1.5% of the unused capacity that will exist following completion of the planned plant expansions. The two water reclamation plants therefore have adequate combined capacity to serve the proposed project (Frazen, 2001). Consequently, impacts to wastewater treatment infrastructure are not considered significant.

Mitigation Measures. No mitigation is required. The project site would need to be annexed into District No. 32 so that the LACSD may provide sewage treatment services to the proposed project. In addition, the District's Sphere of Influence would need to be amended to include the project site, and the project applicant would be required to pay the applicable fee for this amendment.

Significance After Mitigation. Once annexed into the service area (Sphere of Influence) for District No. 32, the Sanitation Districts could serve the project site. The Saugus and the Valencia treatment plants have sufficient combined capacity to serve the proposed project. Therefore, significant impacts to wastewater treatment infrastructure are not anticipated.

**Impact PU-4 The local wastewater conveyance system is anticipated to be adequate to accommodate project-generated wastewater. Therefore, the impact to the wastewater conveyance system is considered Class III, less than significant.**

The on-site conveyance system would consist of a series of pipes within the rights-of-way of on-site roadways that would convey wastewater flows to existing Los Angeles County Public Works Department main trunk lines located at Sierra Highway and San Fernando Road (see Figure 4.10-1). The trunk sewer that would serve the project site is the Newhall Trunk Sewer, which can accommodate an additional 2.8 MGD of wastewater, based on most recent capacity measurements. The proposed project would add an estimated 276,000 GPD of wastewater flows to this trunk sewer. According to the Sanitation Districts, the Newhall Trunk Sewer has adequate capacity to convey wastewater generated by the proposed project (Frazen, 2001).

Mitigation Measures. No mitigation is required. The project applicant would be required to pay wastewater conveyance connection fees to the County Sanitation Districts. The connection fee is required so that necessary expansions to the sewage collection system can accommodate new development. In addition, the plans for the necessary pumping station and sewer collection infrastructure will need to be reviewed by Los Angeles County Public Works and approved by the Sanitation Districts and the City of Santa Clarita.

Significance After Mitigation. The local wastewater conveyance system has adequate capacity to accommodate the proposed project. Given that project infrastructure plans are required to be reviewed and approved by the County Sanitation Districts and Santa Clarita Public Works to ensure that proposed wastewater infrastructure meets design specifications, impacts related to wastewater collection are less than significant.

**Impact PU-5 The proposed project would consume an estimated 107 million kilowatt-hours per year. SCE indicates that it anticipates being able to serve the proposed development; therefore, impacts are considered Class III, less than significant.**



Development of the Gate-King Industrial Park Project would consume an estimated 107 million kilowatt-hours (kWh) per year based on a demand rate of 24.1 kWh/square foot/year for commercial uses (Kraus, 2001). SCE indicates that it can provide service to the project and that, although energy shortages remain a possibility, the greater Santa Clarita area is no more susceptible to energy supply problems than other SCE service areas (Montoya, 2001).

Electrical lines in the project vicinity are located along Sierra Highway. The locations of service lines for the project site have not been determined yet; however, SCE would be responsible for determining the most appropriate location for lines. It is anticipated that service to the project site would be provided via extensions of the existing lines to the west along Sierra Highway and the existing lines that traverse the project site. According to SCE, the local distribution system is adequate to meet the electrical load requirements of the proposed project (LaPlante, 2001). Therefore, significant impacts to electrical power are not anticipated.

Mitigation Measures. No mitigation measures are required. The proposed project would be required to comply with energy efficiency standards of California Administrative Code Title 24. To comply with these requirements, the proposed project may include energy conservation measures such as incorporating specialized glass to reduce heating/cooling loads, installing insulation, or using ventilation devices to reduce the demand on heating/cooling systems.

Significance After Mitigation. Impacts to electrical power supplies would be less than significant.

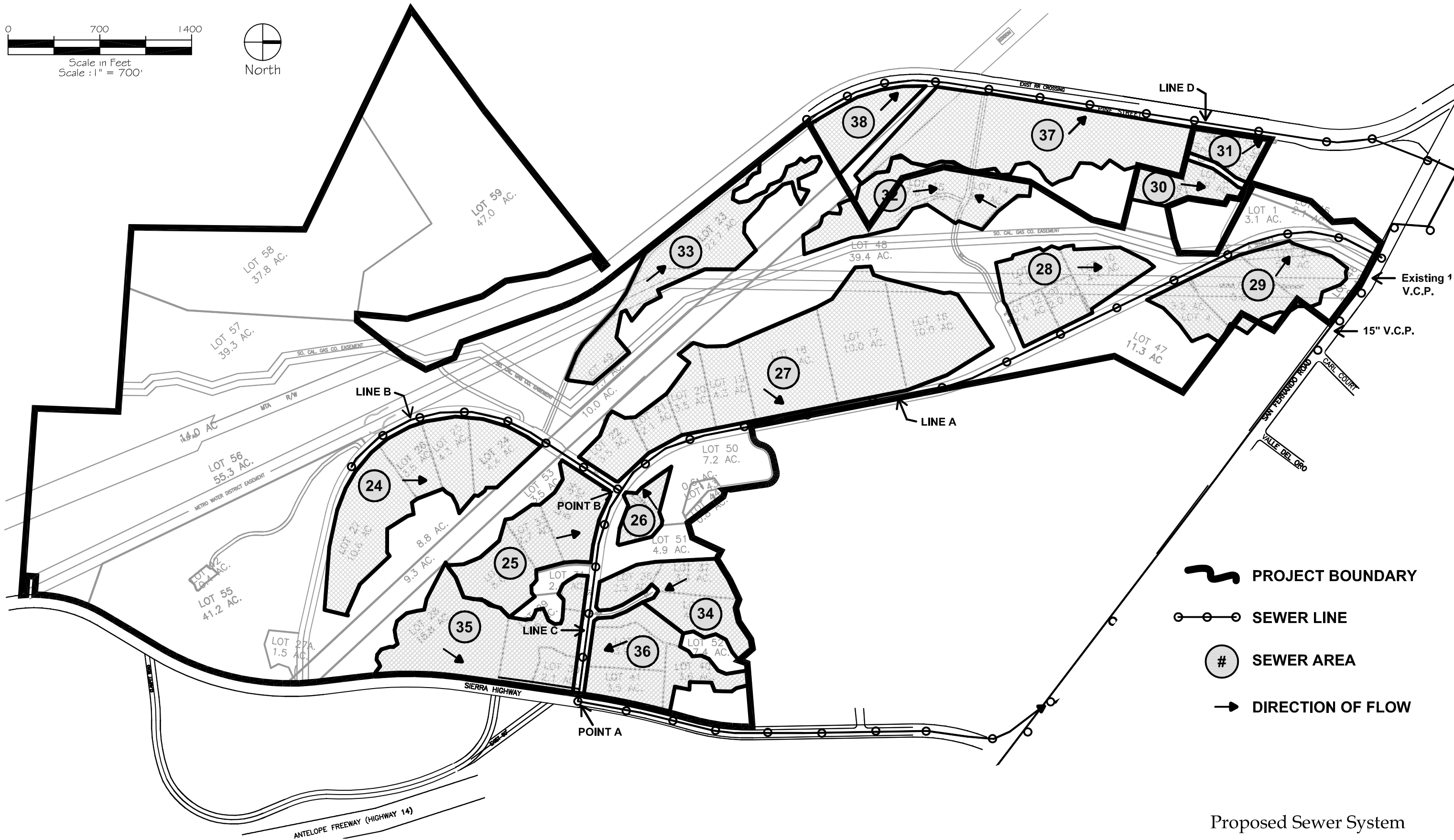
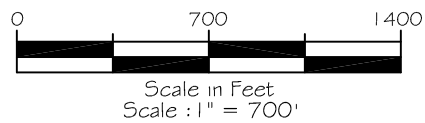
**Impact PU-6 The proposed project would consume an estimated 292 million cubic feet of natural gas per year. Southern California Gas Company could provide service to the project site; therefore, impacts are considered Class III, less than significant.**

The proposed project would result in an estimated natural gas demand of about 292 million cubic feet per year, based on the usage rate of 5.48 cubic feet/square foot/month for commercial uses (Kraus, 2001). The project would connect to existing gas lines located on the site. The project would require alterations to existing buried gas facilities. According to SCG, existing infrastructure could supply sufficient gas to accommodate the proposed project (Hammel, March 2, 2001). Consequently, no significant impact is anticipated.

Mitigation Measures. No mitigation measures are required. Per state and local energy guideline requirements, the proposed project will be required to meet the Energy Building Regulations adopted by the California Energy Commission (Title 24). Meeting these standards would conserve non-renewable natural resources to levels acceptable to the State of California.

Significance After Mitigation. Impacts to natural gas services would be less than significant.





- PROJECT BOUNDARY
- SEWER LINE
- SEWER AREA
- DIRECTION OF FLOW

Proposed Sewer System

Figure 4.10-1

**Impact PU-7** The proposed project would generate about 29.1 tons of solid waste per day. Participation in Citywide and Countywide waste reduction efforts would reduce waste sent to area landfills to just under 15 tons per day. Because existing landfills serving the City have adequate capacity to accommodate project-generated waste, impacts related to solid waste are considered Class III, *less than significant*.

The proposed project would generate an estimated 29.1 tons of solid waste on a daily basis and about 7,286 tons annually (based on a solid waste generation rate of 8.93 pounds of waste per employee per day and 250 work days per year). These quantities represent the project's solid waste generation under worst-case conditions without any recycling activities in place.

Under an existing City ordinance (the California Integrated Waste Management Board Model Ordinance adopted by the City in 1993) the project would be required to provide adequate areas for collecting and loading recyclable materials in concert with Countywide efforts and programs to reduce the volume of solid waste entering landfills. Although the project would generate approximately 29.1 tons per day, it can also be assumed that the project would meet the current recycling goals of the community; therefore, only about half this total (or 14.55 tons per day) would be sent to area landfills.

Solid waste would be disposed of at the Chiquita Canyon Landfill, which has a remaining capacity of 26 million tons. The maximum permitted weekly intake at the landfill is 30,000 tons and the landfill currently has about 2,400 tons per week of available capacity. The 72.75 tons per week (14.55 tons per day x 5 work days) generated by the project would represent about 3% of the available weekly capacity; therefore, significant impacts relating to landfill capacity are not anticipated. Based on projections of waste to be disposed of at the facility and the permitted capacity, the landfill is expected to close in November 2019.

Mitigation Measures. Although impacts related to solid waste would be less than significant, the following mitigation measures are recommended to reduce the amount of waste disposed of in landfills. Compliance with the City's Model Ordinance would ensure that adequate areas are provided for collecting and loading recyclable materials on the project site.

- PU-7(a)** Construction contractors shall provide recycling bins for glass, metals, paper, wood, plastic, green wastes, and cardboard during construction.
- PU-7(b)** Building materials shall be made of recycled materials, to the greatest extent possible.
- PU-7(c)** Reduce yard waste on the project site through the use of xeriscape techniques and the use of drought-tolerant and native vegetation in common area landscaping wherever possible.
- PU-7(d)** Business park tenants shall receive educational material on the City's waste management efforts.



Significance After Mitigation. Impacts related to solid waste would be less than significant without mitigation. The recommended mitigation measures would reduce impacts to area landfills to the maximum degree feasible.

**c. Cumulative Impacts.**

Water. Cumulative development in Santa Clarita would continue to increase citywide water demand. However, even with the proposed project, the NCWD would maintain an excess water supply of over 20,000 AF/Y. In addition, as previously discussed, additional water supplies are expected to be available from the CLWA if demand for water exceeds currently available supplies at some point in the future. Therefore, significant cumulative impacts to water supply are not anticipated.

Wastewater. The two wastewater treatment plants serving the City currently have excess capacity of about 2.2 MGD. Although currently planned and pending development would use up most or all of this available capacity, an additional 15 MGD expansion of the Valencia Treatment Plant is currently planned. This expansion would bring total treatment capacity for the City to 34.1 MGD, which is expected to be adequate to serve currently anticipated development within the service area.

Electrical Power. Planned and pending development in Santa Clarita would cumulatively increase electrical demand. However, SCE does not indicate having any problems providing electrical service to meet demand increases; therefore, significant cumulative impacts to electrical service are not anticipated.

Gas. Cumulative development in Santa Clarita would increase citywide natural gas demand. However, the Southern California Gas Company does not indicate any problems providing natural gas service to meet demand increases. Consequently, significant cumulative impacts to natural gas supplies are not anticipated.

Solid Waste. Planning and pending development in the City would cumulatively increase the amount of solid waste sent to area landfills. The Sunshine Canyon Landfill to which project-generated waste is anticipated to go has adequate capacity to accommodate cumulative solid waste generation in the near term. Nevertheless, Chiquita Canyon Landfill is anticipated to reach its full capacity in November 2019 and the long-term availability of landfill adequate capacity remains a concern throughout the southern California region. Therefore, although the project's contribution to the overall cumulative volume of solid waste generated in the region would be nominal, cumulative impacts relating to solid waste generation are considered unavoidably significant.



## 4.11 AESTHETICS/LIGHT AND GLARE

### 4.11.1 Setting

**a. Visual Character of the Project Site.** The project site is located in an urban/rural transition zone in the southern portion of the City of Santa Clarita. This site itself is primarily undeveloped and is characterized by varied terrain and visual conditions. Vegetation on the site consists of grasses and shrubs, as well as substantial clusters of oak trees. Existing dirt roads for access to the land and various rights-of-way, pipelines, oil wells, and tanks, traverse the hillsides on the site as do cuts for easements and rights-of-way. In addition, existing high voltage aerial lines and towers traverse the project site in a generally east-west direction. Existing water tanks are located in the eastern portion of the site. These roads and facilities are currently visible from off-site viewpoints to the north and east.

The eastern and northern portions of the site are partially visible from Sierra Highway, San Fernando Road, and SR-14, and includes substantial ridgelines and steep ravines. The steep terrain that covers much of the site provides dramatic views from public rights-of-way, but hides internal areas of the site at lower elevations from public view. Though the ravine areas on-site generally cannot be seen from public vantage points, they offer a natural visual setting characterized by stands of oak trees.

The western portion of the site along Pine Street is characterized by less dramatic elevation differences, and is rural in character. Near the Pine Street/San Fernando Road intersection is industrial development characterized by high levels of truck activity. Farther south along Pine Street is scattered residential and non-residential development in a semi-rural setting, with large numbers of oak trees and other natural features.

**b. Visual Character of the Site Vicinity.** The site vicinity currently includes a mix of developed and undeveloped land uses and has historically been a rural area. The area is undergoing rapid suburban development, particularly along the San Fernando Road corridor.

Primarily rural open space conditions remain to the southwest, and south, as well as to the east across SR-14 from the site. The presence of SR-14 and Sierra Highway, as well as the Eternal Valley Cemetery and associated commercial structures, east of the site provides a transition from open space areas across SR-14 to suburban uses along the San Fernando Road corridor. Open space areas extend along either side of Highway 5 south and southwest of the site.

Commercial and residential development extends along a portion of Sierra Highway east of the site and San Fernando Road north of the site, and along Pine Street west of the site. Several small, one-story, older neighborhood commercial uses are located along San Fernando Road in the vicinity of the site. The Community Design Element also notes that the Newhall area has developed without regard to any particular architectural style, street development standards, or consistent streetscapes.

**c. Regulatory Setting.** The City of Santa Clarita has adopted a range of policies and ordinances aimed at protecting and enhancing the visual character of the incorporated portion of the Santa Clarita Valley. The Community Design Element of the City's General Plan identifies goals and policies to guide City decision-makers in several facets of community



design. These include goals relating to protection of neighborhood identity, natural resource preservation, open space design, landscape architecture, and architecture. Relevant policies are described in detail under Impact AES-3 in Subsection 4.11.2, *Impacts and Mitigation Measures*.

The City's Development Code, in addition to providing the core zoning requirements, contains special sections relevant to design issues. Section 17.80, *Ridgeline Preservation and Hillside Development Ordinance*, includes detailed standards relative to ridgeline preservation, slope gradation, slope landscaping, contour grading, road design, massing, and landforms. The Ridgeline ordinance also includes the Ridgeline Preservation Map (1992), which identifies Primary and Secondary ridgelines that the City considers significant in terms of visual quality. The map identifies one ridgeline that traverses the site in a north-south direction and one ridgeline that extends in an east-west direction in the southern portion of the site as "Primary Ridgelines" and identifies two smaller ridgelines that cross the site in an east-west direction as "Secondary Ridgelines." These designated ridgelines are shown on Figure 4.11-1.

All of the documents and codes discussed above are incorporated by reference and are available for review at the City of Santa Clarita Department of Planning and Building Services.

#### 4.11.2 Impact Analysis

**a. Methodology and Significance Thresholds.** Different viewers react to viewsheds and aesthetic conditions differently. Consequently, the assessment of aesthetic impacts is inherently subjective in nature. This evaluation measures the existing visual resources against the proposed action, and analyzes the nature of the anticipated change. The project site was observed and photographically documented on several occasions, as was the surrounding area. To assess the potential change in visual conditions associated with the project, the analysis included the development of post-project "photo simulations" that illustrate what portions of the project site might look like immediately following project buildout.

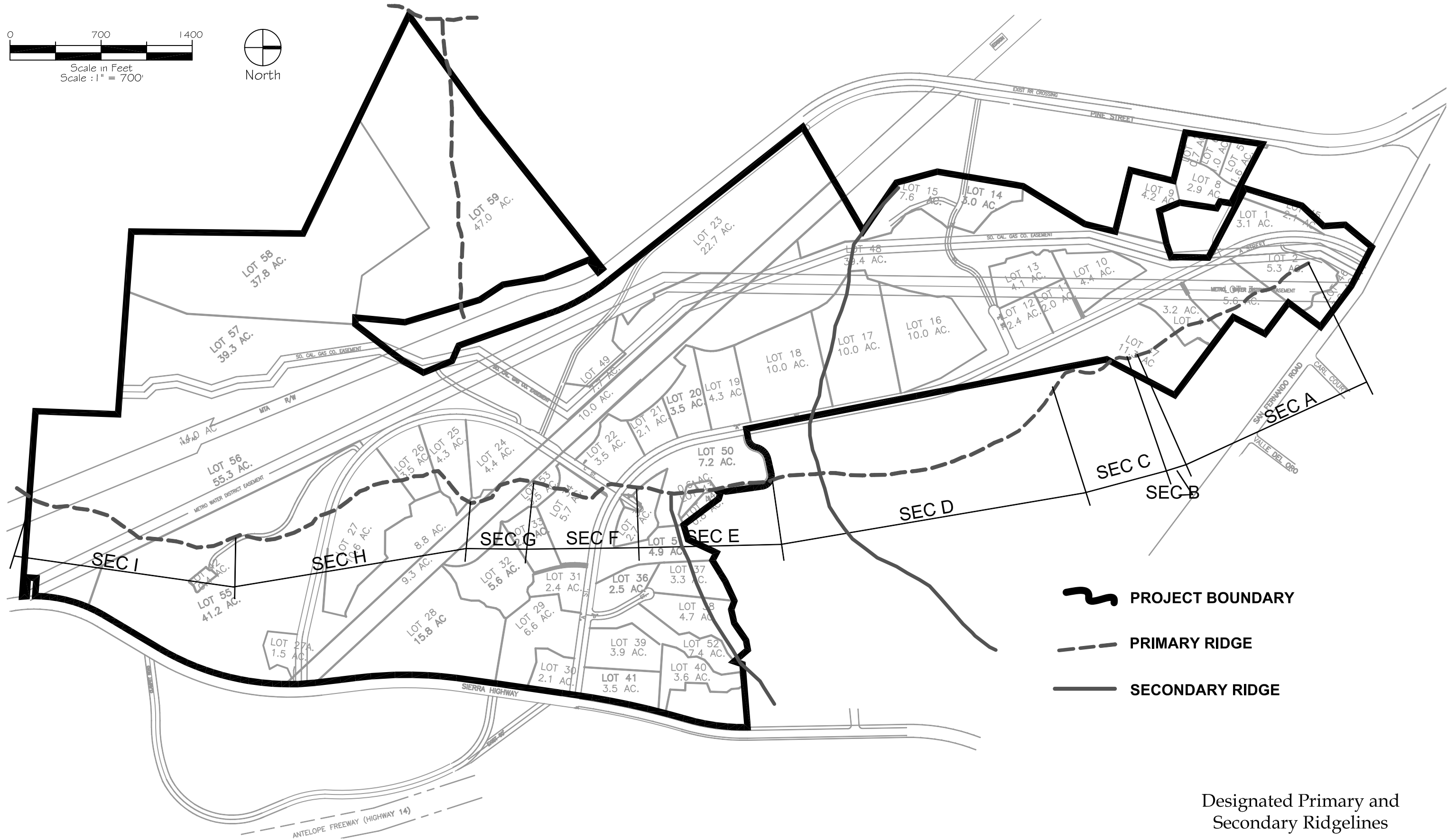
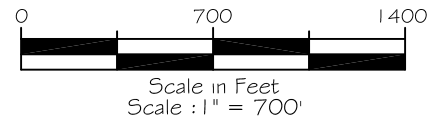
The City of Santa Clarita General Plan and Chapter 17.80 of the Unified Development Code, *Ridgeline Preservation and Hillside Grading Ordinance*, were reviewed for policy instruction relative to visual resources and community design policy. Section 4.2, *Earth*, evaluates the project's consistency with the grading design standards of the Ridgeline Preservation and Hillside Grading Ordinance. Because inconsistencies with City policies do not in themselves represent physical changes, they are not actually "environmental effects" as defined by CEQA. Therefore, policy consistency issues are not classified in the same way in which physical effects are classified in this EIR (significant and unavoidable, significant but mitigable, less than significant, beneficial). Rather, the discussion focuses on factors that would aid in determining whether or not the project is consistent with each relevant policy. It should be noted that the final determination of consistency with local planning policies will rest with City decision-makers.

An aesthetic impact is considered significant if it can be reasonably argued that:

- *The change would adversely affect a viewshed from a public viewing area*
- *An existing identified visual resource is obstructed*
- *A City-identified Primary or Secondary Ridgeline would be modified so as to alter its significance*







Designated Primary and Secondary Ridgelines

Figure 4.11-1

- *A new light and glare source or sources would substantially alter the nighttime lighting character of the area and adversely affect a light-sensitive land use*

In this analysis, modifications to the viewshed were considered less than significant if the modification is unnoticeable or visually subordinate to the overall viewshed. A modification that is visually dominant or one that adversely modifies the existing view adversely is considered a significant impact.

This analysis also considers consistency of the proposed project with City policies relating to aesthetics and views. These include provisions of the Community Design Element of the City General Plan and the Ridgeline Preservation and Hillside Development Ordinance.

**b. Project Impacts and Mitigation Measures.** The proposed project has the potential to alter viewsheds, introduce new sources of light and glare, accommodate structural development that would be inconsistent with the Community Design Element, and modify the aesthetic character of the project site such that the project would conflict with the *Ridgeline Preservation and Hillside Development Ordinance*. The following discussion reviews these conditions and identifies and describes impacts and mitigation measures.

**Impact AES-1** **The proposed project would alter scenic views from public viewing locations and alter City-designated Primary and Secondary ridgelines. This is considered a Class I, unavoidably significant impact.**

Figures 4.11-2 through 4.11-5 compare current visual conditions to those that would exist following project development from four prominent public view locations. Due to the hilly terrain of the project site, views of the proposed development from the public areas to the south and southwest would generally be obstructed. The public viewsheds that would be most affected would be from San Fernando Road, Sierra Highway and SR-14.

Viewsheds along the SR-14 corridor are of high sensitivity because they are seen by thousands of viewers daily and because the freeway corridor is a major gateway to the City. The photo simulations (Figures 4.11-2 through 4.11-5) illustrate how portions of the project site dominate foreground, middleground, and background views from both the freeway and Sierra Highway, while substantial open space areas are not affected. As depicted on Figure 4.11-2 (view looking west from SR-14), graded slopes and proposed internal roadways would alter the existing views of the site. Slopes in the foreground immediately adjacent to SR-14 would substantially block views of altered site features from passing motorists. Nevertheless, as depicted on Figure 4.11-3 (view looking north from SR-14), proposed graded slopes, roadways, and structures would be periodically visible from viewpoints along SR-14. In addition, as depicted on Figure 4.11-4 (view looking south from SR-14), although views of the site from the northeast would be largely obstructed by existing topography, vegetation, and structures, project implementation would alter the profile of on-site ridgelines. Off-ramps from SR-14, including Sierra Highway and San Fernando Road, are designated as secondary gateways in the City's General Plan Community Design Element.



Portions of the proposed development would also be visible from private viewing areas, particularly residences and businesses along Pine Street and the San Fernando Road Corridor, including higher elevation viewpoints north of San Fernando Road.

Figure 4.11-5 depicts existing and simulated post-project views of the site from Masters College north of the site, across San Fernando Road. As depicted, the presence of "A" Street and structures and graded slopes in the northern portion of the site would alter visual conditions on the site, including on-site ridgelines, as viewed from areas north of the site.

Although impacts to private viewing areas are not generally considered significant under CEQA criteria, the change in visual conditions from private residences may be considered adverse. Views of the project site from the Eternal Valley Cemetery would be limited by existing hillsides. Similarly, views of the project site from commercial and residential uses located along San Fernando Road would change from certain vantage points, but would be substantially blocked from other vantage points by existing topography, vegetation, and structures. Views of the site from some commercial uses located along Pine Street near San Fernando Road would be more substantially altered as a result of project implementation.

The proposed grading plan would involve alterations to one of the City-identified Primary ridgelines onsite and both of the Secondary ridgelines that traverse the site. The proposed grading plan would involve modifications to an approximately 6,230-foot segment of the Primary ridgeline that crosses through the central portion of the site in a north-south direction. This represents about 57% of the Primary ridgeline between San Fernando Road and the southern end of the project site. Of the 6,230 linear feet that would be graded, about 2,370 linear feet (38%) have been previously disturbed by grading. Table 4.11-1 summarizes the impacts to the Primary ridgeline. About 2,100 linear feet, or 75%, of the onsite portions of the two Secondary ridgelines would be disturbed. The Primary ridgeline that traverses the southern portion of the site in an east-west direction would be preserved as permanent open space.

The three on-site ridgelines that would be graded are visually prominent from public viewing areas, particularly SR-14 and Sierra Highway, and would be altered as a result of project implementation. The alteration of these ridgelines is considered an unavoidably significant impact of the proposed project. The geologic implications of altering these designated ridgelines are discussed in Section 4.2, *Earth*. Consistency with the provisions of the City's Ridgeline Preservation and Hillside Development Ordinance are discussed under Impact AES-4 and in Section 4.1, *Land Use*.

Mitigation Measures. Outside of redesigning the project to eliminate the grading of Primary and Secondary ridgelines, the changes to public viewing areas cannot be avoided. As discussed further under Impact AES-4, the Planning Commission would need to adopt various findings regarding the effect of the proposed grading plan with respect to ridgeline impacts in order to approve the project. (Note: several alternatives discussed in Section 6.0, *Alternatives*, would reduce impacts by limiting grading of the Primary and Secondary ridgelines on the site).

The following measure is recommended to minimize the impact of the proposed water tanks.





Current view of the southern portion of the site from above SR-14.



Post-project view from the same location. The roadway that can be seen is "C" Street.

Back of Figure 4.11-2



Current view looking northwest toward the southern portion of the site from SR-14.



Post-project view from the same location. The major roadway that is partially obscured is "C" Street. Development lots 36-38 and the water tank on lots 43-44 are partially visible.



View Looking Northwest  
From SR-14

Figure 4.11-3



Current view looking south from SR-14.



Post-project view from the same location. Much of the proposed development can not be seen from this vantage point, though the primary ridgeline on site would be altered in some locations.

View Looking South  
From SR-14

Figure 4.11-4

Current view from Masters College.



Post-project view from the same location. The roadway at center is "A" Street. Portions of Lots 1-4 and 10-13 are visible.





**Table 4.11-1 Summary of Primary Ridgeline Grading**

Section	Length of Section	Project Impacts		
		No Grading	To Be Graded, Not Currently Disturbed	To Be Graded, Previously Disturbed
A	1,550'			1,550'
B	90'	90'		
C	740'		740'	
D	2,420'	2,420'		
E	1,060'		1,060'	
F	820'			820'
G	560'	560'		
H	2,060'		2,060'	
I	1,630'	1,630'		
<b>Total</b>	<b>10,930'</b>	<b>4,700'</b>	<b>3,860'</b>	<b>2,370'</b>

Source: Sikand Engineering, March 2002. Section letters correspond to sections on Figure 4.11-1.

**AES-1** The proposed water tanks shall be fully screened from public view with landscape material.

Significance After Mitigation. The recommended mitigation measure would minimize the impact of the proposed water tanks. As no mitigation is available to reduce the overall change to public viewing areas associated with the proposed project, impacts to the SR-14, Sierra Highway, and San Fernando Road viewsheds are considered unavoidably significant.

**Impact AES-2** The proposed project would produce new sources of light and glare that would extend the area of daytime glare and night light across the currently vacant property, which would alter the nighttime sky. Light and glare impacts are considered Class II, significant but mitigable.

Site illumination provides safety for vehicular and pedestrian movement, and increases security. It can also emphasize focal points, gathering places, landscaping, and building entrances. Well-conceived lighting gives clarity and unity to the development. At the same time, the introduction of new lighting into a previously unlighted area would extend the light glow of the urban area further into currently rural areas on-site and to the south and west. This would incrementally increase the urban light glow in the nighttime sky.

The project site currently contains no nighttime lighting sources. Darkness is consistent with the rural nature of the property, and with its adjacency to the undeveloped lands to the south and west. Implementation of the proposed project would require additional building and street lighting that could be visible from off-site. Nighttime lighting on the site may be visible from the residences located to the west along Pine Street, and to the north across San Fernando Road. Open space/recreational reserves to the south could be affected by the proposed project if



lighting is overly bright and/or unshielded. Lighted commercial signs could also create nighttime glare that would be visible from nearby residences. Street lights, entry lights, interior lights, parking lot lights, and security lights have the potential to degrade the nighttime view of the area by altering the nighttime sky. Therefore, the proposed project may result in a significant lighting impact at night.

The proposed industrial commercial development could include exterior building materials and surface paving materials that could create glare impacts at off-site residences to the west along Pine Street, to the north on the Pardee site, and to the east along Sierra Highway and across SR-14. Any highly reflective facade materials would be of particular concern. Light and glare impacts are considered potentially significant.

Mitigation Measures. The following mitigation measures are recommended to reduce adverse aesthetic effects associated with excessive lighting and glare.

- AES-2(a)** Prior to development, proposed lighting shall be indicated on site plans that demonstrate that spill-over of lighting would not affect surrounding areas. The lighting plan shall incorporate lighting that directs light pools downward or otherwise shield adjacent areas from glare. Light fixtures that shield excessive brightness at night shall be included in the lighting plan. Non-glare lighting shall be used.
- AES-2(b)** All lighting of the landscaped areas shall be of an accent nature. Any security lighting shall be screened such that lighting globes are not visible from a distance of more than 20 feet.
- AES-2(c)** All on-site street lighting shall use cutoff luminaires. This would avoid creating high levels of glare and light pollution for motorists.
- AES-2(d)** Project design and architectural treatments shall incorporate additional techniques to reduce light and glare, such as use of low reflectivity glass, subdued colors for building materials in high visibility areas, and the use of plant material along the perimeter of the structures to soften views.

Significance After Mitigation. Implementation of the above measures on all specific building and lighting designs would be subject to the review and approval of the Director of Planning and Building Services. The recommended measures would reduce lighting and glare impacts to a level considered less than significant, although the proposed project would permanently increase overall nighttime lighting and daytime glare levels in the area.

**Impact AES-3 Project development may include structures and facilities that could be found to be inconsistent with the goals and policies of the City General Plan Community Design Element.**

The City of Santa Clarita has adopted numerous goals and policies as part of the Community Design Element of the General Plan to serve as tools for the improvement and maintenance of the visual and aesthetic quality of the City and planning area. The Community Design Element is intended to assist in guiding growth of future development in order to achieve the visual



integrity of the City and planning area. Goals that are relevant to the proposed project are identified below.

- Goal 1. *To protect and preserve the scale and character of existing neighborhoods while providing for new development which is consistent with the goals and policies of the General Plan*
- Goal 2. *To encourage design excellence in the development of all public and private projects in the City.*
- Goal 3. *To promote design and excellence in the development of business/commercial centers.*
- Goal 5. *To preserve and integrate the prominent and distinctive natural features of the community as open space for the use and visual enjoyment of all City residents.*
- Goal 6. *To protect and enhance open space areas that provide visual and aesthetic character and identity to the community.*
- Goal 7. *To develop a safe and efficient circulation system that protects and enhances the overall community character.*
- Goal 9. *To promote superior landscape design which emphasizes aesthetics, function, and water conservation.*
- Goal 10. *To achieve architectural themes and form which promote human scale and provide a comfortable human interaction with buildings.*
- Goal 11. *To achieve a coordinated and efficient infrastructure system which is visually unobtrusive while designed to meet the current and future needs of the planning area.*

The proposed development appears to be potentially consistent with some of the Community Design Element goals related to design concepts, natural resources preservation, and open space/landscape design. Project uses are designed in relatively close proximity to one another and are connected by an internal network of pathways. Also, about 54% of the site would remain undeveloped, thereby providing open space 220.6 acres of open space and associated passive recreational opportunities, about 95 acres of landscaped slopes, and an extensive on-site trail system that would provide hiking and biking opportunities. The proposed on-site circulation system and other infrastructure systems appear to be generally adequate to serve project needs. However, no specific designs are available at this time for the proposed industrial commercial structures or landscaping. Consequently, onsite development could be of styles and designs that are inconsistent with Community Design Element and could adversely affect the aesthetic character of the area.

Mitigation Measures. Mitigation measures recommended under Impact PU-1 in Section 4.10, *Public Utilities*, would be expected to achieve consistency with landscaping goals relating to water conservation and landscaping. The following measure is recommended to ensure consistency with applicable Community Design Element goals and policies.



- AES-3** Specific designs of future all on-site development shall adhere to all applicable standards and guidelines of the *Ridgeline Preservation and Hillside Development Ordinance* and the Community Design Element of the General Plan to the satisfaction of the Director of Planning and Building Services.

Significance After Mitigation. Because no design or landscaping plans are available, the proposed project could be inconsistent with some goals and policies of the Community Design Element. However, compliance with City-adopted standards, guidelines, goals, and policies would ensure that proposed landscaping and structures result in a high quality aesthetic environment that is generally compatible with the surrounding area.

- Impact AES-4** Because project development would entail grading on designated Primary and Secondary ridgelines, a finding that the proposed grading plan is consistent with the requirements of the City's Ridgeline Preservation and Hillside Development Ordinance would be required to approve the project.

*Hillside Plan Review/Permit Requirements.* The City's Ridgeline Preservation and Hillside Development Ordinance establishes eight objectives relating to hillside development. The applicable objectives are reviewed below.

- *Natural topographic features and appearances shall be conserved by means of landform grading so as to blend any manufactured slopes or required drainage benches into the natural topography.*

The proposed grading plan is extensive in scope, calling for the movement of an estimated 7.24 million cubic yards of earth. The proposed project would involve grading of an estimated 271.9 acres, or about 46.5% of the 584-acre site. This includes 170.1 acres for building pads, 75.4 acres for graded slopes, and 26.4 acres for on-site public streets. However, the grading plan incorporates a contouring method that would replicate a natural topographic pattern. Cut and fill slopes are designed to blend into adjacent undisturbed areas as well as graded areas to create a continuous pattern of undulating terrain. Although the natural topography of the site would be significantly altered in the eastern portion adjacent to Sierra Highway and SR-14, the proposed grading plan attempts to blend all cut and fill slopes into the natural topography (refer to Figures 4.11-2, 4.11-3, and 4.11-4).

- *Significant, natural, topographically prominent features shall be retained to the maximum extent possible.*

The dedication of open space in the southern approximately third of the site would retain the prominent topographical features of this portion of the site, including a Primary ridgeline that traverses the southeastern portion of the site in an east-west direction. It would also preserve about 220 acres of the site as permanent open space. However, grading for the proposed industrial commercial development and access roads would involve modification of an estimated 271.9 acres, or about 46.5% of the site. Proposed grading would involve modifications to a Primary Ridgeline that trends north/south across the site, and two Secondary Ridgelines that trend east/west across the site. Approximately one third of the site



would consist of graded landscaped slopes, water tanks, and public and private rights-of-way. Construction of industrial commercial uses in the northern portion of the site that would be partially visible from San Fernando Road and other off-site areas to the north, would require grading of 67 acres for building pads and grading of an additional 31.9 acres for landscaped slopes. Grading in the eastern portion of the site that would be partially visible from Sierra Highway and SR-14 would include 66.9 acres for building pads and 45.7 acres for landscaped slopes.

'A' Street has been designed as the main access road through the project site and construction of this road would involve alteration of both on-site Secondary Ridgelines. "A" Street would be oriented along a portion of the Primary Ridgeline that traverses the center of the site in a north/south direction (east of and adjacent to Lots 16-21). As mentioned above, grading for this street would involve modification of an approximately 1-<sup>1</sup>/<sub>4</sub> mile segment of this Primary ridgeline.

- *Clustered sites and buildings shall be utilized where such techniques can be demonstrated to substantially reduce grading alterations of the terrain and to contribute to the preservation of trees, other natural vegetation and prominent landmark features and are compatible with existing neighborhoods.*

The proposed project compresses the development into the northern and central portions of the site, while retaining about 220.6 acres in the southern and western portions of the site as permanent open space. Thus, about 38% of the site would not be altered and natural vegetation, including about 89% of on-site oaks, would be preserved in this portion of the site. An additional 95.3 acres of the site would consist of landscaped slopes and an on-site trail system. Nevertheless, nearly half (about 46.5%) of the site would be graded, including portions of a designated Primary ridgeline and two Secondary ridgelines. An estimated 1,154 oak trees on-site would be directly removed by the proposed project.

- *Plant materials shall be conserved and introduced so as to protect slopes from slippage and soil erosion and to minimize visual effects of grading and construction on hillside area, including the consideration of the preservation of prominent trees and, to the extent possible, reduce the maintenance cost to public and private owners.*

The proposed site plan would preserve the majority of the estimated 10,527 oaks present on-site. Nevertheless, 1,100 oaks (approximately 11% of the 10,680 oak trees onsite) would be removed. These trees would be replaced in accordance with the requirements of the City's Oak Tree Ordinance. Although specific landscaping is not proposed at this time, the project applicant has indicated that bare slopes would be hydroseeded upon completion of grading. This technique is an effort to blend the graded areas into the natural open space to soften visual effects of grading while stabilizing the soil to minimize erosion. To increase the likelihood of meeting this objective, additional erosion control measures for the slopes are required as recommended in Section 4.3, *Hydrology*.

The removal of trees and other vegetation would alter the aesthetic character of the site during an interim period prior to the establishment of replacement trees and vegetation. However, preservation of the southern third of the site as permanent public open space, in combination



with tree replacement and other site landscaping, would partially preserve and restore the visual quality of the site and would minimize the potential for slope failure.

- *Curvilinear street design and improvements that serve to minimize grading alterations and simulate the natural contours and character of the hillside shall be utilized.*

The proposed roadway system takes a curvilinear shape. The internal street system generally attempts to follow the contours of the site and blend in with the site's topography. However, "A" Street, the main thoroughfare through the site, would follow the Primary ridgeline that traverses the site in a north-south direction, requiring grading of an approximately 1-¼ mile segment of the ridgeline.

- *Grading designs that serve to avoid disruption to adjacent property shall be utilized.*

The proposed grading plan does not appear to directly affect adjacent properties other than altering views from some vantage points due to grading of portions of the hillsides and designated ridgelines on-site.

- *Site design and grading that provide the minimum disruption of view corridors and scenic vistas from and around any proposed development shall be utilized.*

The proposed project would involve substantial grading in order to create level pads for the proposed industrial commercial development. Construction of these uses in the northern portion of the site, adjacent to San Fernando Road, and the eastern portion of the site, adjacent to Sierra Highway, would alter views of City-identified Primary and Secondary ridgelines from some vantage points along these roads and SR-14. Changes in views from various vantage points adjacent to the project site are shown on Figures 4.11-2 through 4.11-5.

*Development Standards.* The City's Ridgeline Preservation and Hillside Development Ordinance contains development standards that outline a series of criteria for innovative applications that allow the Planning Commission to approve encroachment onto significant ridgelines. The relevant criteria are summarized below.

- 1.a. *The proposed use is proper in relation to adjacent uses, the development of the community, and the various goals and policies of the General Plan.*

The project site is designated for future industrial commercial, community commercial, and residential estate development. The proposed project would represent a logical continuation of commercial and industrial uses located along Pine Street, west of the site, and along San Fernando Road, north of the site. In addition, the southern third of the site proposed for dedication as permanent open space would represent a continuation of open space areas to the south. Nevertheless, the project represents a substantial change from the current condition of the site.

- 1.c *The appearance of the use or development will not be different than the appearance of adjoining ridgeline areas so as to cause depreciation of ridgeline appearance in the vicinity.*



The ridgelines that would be affected on the project site can be viewed in conjunction with undeveloped ridgelines on adjacent properties from some vantage points. On the other hand, development of the site is consistent with ongoing development patterns in the general area, which is undergoing a transformation from a semi-rural character to a more suburban character.

- 1.d. *The establishment of the proposed use or development will not impede the normal and orderly development and improvement of surrounding property, nor encourage inappropriate encroachments to the ridgeline area.*

The project site is bordered by open space lands to the west and south, existing residential, commercial and industrial development to the west and north, and a cemetery and vacant land to the east. Therefore, the proposed industrial commercial project would not be expected to significantly influence the surrounding development pattern.

- 1.e. *It has been demonstrated that the proposed use or development will not violate the visual integrity of the significant ridgeline through precise illustration and depiction [i.e., project simulation using computer-aided, three-dimensional modeling coordinated with photography showing before and after conditions].*

Although the proposed development is mostly situated below the ridgelines, one Primary and two Secondary ridgelines would be affected by construction of the industrial commercial development and associated site improvements. Figures 4.11-2 through 4.11-5 show how the proposed development would affect views from various vantage points adjacent to the project site. Portions of the ridgelines would be lowered while portions of the deep ravines that contrast the ridgelines would be filled. From some vantage points, these topographic changes would be barely detectable but from several locations the changes would be more dramatic.

Mitigation Measures. Measures BIO-4(a) and BIO-4(b) in Section 4.6, *Biological Resources*, would mitigate oak tree impacts to the degree feasible through development and implementation of an oak tree replacement program that As discussed in Section 4.1, *Land Use*, in order for the project to be approved, the City Planning Commission would need to make the following findings relative innovative design, per the City's Ridgeline Preservation and Hillside Development Ordinance and Guidelines:

- The proposed use is proper in relation to adjacent uses, the development of the community and the various goals and policies of the General Plan.
- The use or development will not be materially detrimental to the visual character of the neighborhood or community, nor will it endanger the public health, safety or general welfare.
- The appearance of the use or development will not be different than the appearance of adjoining ridgeline areas so as to cause depreciation of the ridgeline appearance in the vicinity.
- The establishment of the proposed use or development will not impede the normal and orderly development and improvement of surrounding property, nor encourage inappropriate encroachments to the ridgeline area.



- It has been demonstrated that the proposed use or development will not violate the visual integrity of the significant ridgeline area through precise illustration and depiction.

Outside of revising the project to eliminate grading of the Primary and Secondary ridgelines on the project site, the physical alteration of designated ridgelines cannot be avoided. Alternatives that would reduce the amount of grading on designated ridgelines are discussed in Section 6.0, *Alternatives*.

Significance After Mitigation. The project would involve grading on a Primary ridgeline and two Secondary ridgelines. Therefore, the City Planning Commission would need to make the findings discussed above in order to approve the project as proposed. If the Commission makes these findings, the project would be considered consistent with the provisions of the Ridgeline Preservation and Hillside Development Ordinance.

**c. Cumulative Impacts.** The proposed project, in combination with other development in and around the City, will continue to alter the aesthetic character of the Santa Clarita Valley from rural to more suburban. The project and other development in the City and unincorporated Los Angeles County would transform the character of the area by adding urban uses in currently undeveloped hillside areas. The aesthetic impacts of individual development projects can often be mitigated through careful site design, avoidance of significant visual features, and appropriate building and landscape standards. Nevertheless, the overall change in visual character associated with buildout under the City's General Plan is considered an unavoidably significant cumulative aesthetic impact.





## 4.12 CULTURAL RESOURCES

A cultural resources investigation was prepared for the project applicant by Louis James Tartaglia in 2000. As part of the EIR evaluation, Robert Wlodarski, of Historical, Environmental, Archaeological, Research Team (H.E.A.R.T.), performed a peer review of the applicant-prepared study that included a review of the records search prepared by the South Central Coastal Information Center, an inspection of previously recorded cultural resources, and a re-survey of potentially sensitive locations within the project area. The complete text of the peer review is included in Appendix F.

### 4.12.1 Setting

**a. Archaeological Overview.** The Early Period (1800 B.C. to 6000 B.C.) in Southern California is referred to as the Millingstone Horizon reflecting the prevalence of millingstones during that time period that were used for processing hard seeds. The next cultural period, the Middle Period (1500 B.C. to A.D. 500), is characterized by a marked increase in the exploitation of coastal resources although inland sites remained predominately a millingstone economy. Unlike the Early Period, this period is well represented in the Upper Santa Clara River Valley region, with major site complexes located along the Piru and Castaic drainage systems, Escondido Canyon and at Vasquez Rocks. The Late Period (A.D. 500 to historical contact) is characterized by a larger number of more specialized and diversified sites and substantial population increase. Also in this period, the millingstone economy was gradually replaced by the advancement of Shoshonean speaking peoples. The Tongva Indians were Shoshonean speaking people and occupied the project area just prior to Spanish contact. They inhabited the coastal plain from Aliso Creek in Orange County to an unclearly defined boundary between Malibu and Topanga.

**b. Historic Overview.** Recorded history of Southern California began in 1542 when Juan Rodriquez Cabrillo landed near Sisolop, a Chumash rancheria in the present day city of Ventura. However, substantial exploration and colonization efforts by the Spanish did not occur until 1769, when the threat of Russian and English intrusion on Spain's holding of Southern California materialized. In defense of Spanish lands, an expedition led by Gaspar de Portola set out to explore and establish the second mission at Monterey. De Portola traveled through the Santa Clarita Valley and entered the Newhall-Saugus area via the Fremont Pass and camped near the rancheria of Chaguayavit, near the Newhall ranch. The Mission San Fernando was founded in 1797 to recruit Indians from villages in the Saugus-Newhall area into the mission system for religious and economic purposes. By 1820, nearly all of the aboriginal villages in the Santa Clara Valley had been abandoned or severely reduced in size.

The Gold Rush and California's statehood in 1850 provided the impetus for roads and a stagecoach system to be established in the area adjacent to the project site. The Butterfield Stage Line passed through the area beginning in 1854 with Lyons Station as a primary stopover point. The Southern Pacific Railroad began digging a tunnel through the Needham Ranch in 1875. In 1876, Star Oil Company's well No. 4 became California's first successful commercial oil well. The well is a national landmark because it was the longest continually operating oil well in the world. The oil refinery in the area, which closed in 1884, was located on a portion of the Eternal Valley Cemetery, but no apparent surface evidence of the refinery remains. The refinery is known as The Pioneer Oil Refinery, California State Landmark No. 172. Oil wells continued to



be drilled in the area well into the 1890's. Charles Sizman began rebuilding the refinery in 1930 as a tribute to D.G. Scofield, the first president of the Standard Oil Company of California.

The early 1900s clearly marked the beginnings of urban development in the Santa Clarita Valley. The Needham Ranch was started at the beginning of the century and consisted of approximately 35 acres used for dairy cattle and water sold from a well. In 1957, the Gates family purchased approximately 900 acres near the unincorporated town of Newhall, part of which became the Eternal Valley Cemetery. Presently, the frontage area of the project site is heavily developed and associated with a variety of land uses. Major historic events associated with the project site are summarized below:

- 1850** Cyrus and Sanford Lyon opened Lyon's Station (today the site of the Eternal Valley Cemetery) as a stagecoach stop. The station grew from a small rest stop to a successful store, post office, stage depot, and tavern that was the mail and supply point of the Santa Clarita Valley for a quarter-century.
- 1863** Edward Beale excavated a 93-foot by 20-foot cut in the hill adjacent to Needham Ranch. Beale's toll road was the main trail to Los Angeles through the Santa Susana and San Gabriel Mountains. For a 30-year period from 1910, Beale's Cut served as a location for numerous western movie scenes.
- 1866** Two petroleum stills were erected at Lyon's Station.
- 1875** The Southern Pacific Railroad began constructing the San Fernando tunnel through the present Needham Ranch site, with a mail stop and hamlet for the construction workers called "The Tunnel." At 6,940 feet in length, the tunnel was at the time the third longest tunnel in the country and fourth longest in the world.
- 1875** Henry Mayo Newhall bought what is currently the Needham Ranch property and sold a right-of-way to Southern Pacific. The town of Newhall was founded the following year, situated in the narrow canyon that provided the most feasible route for transport, utility, and communications from the Central Valley to Los Angeles.
- 1876** The two petroleum stills were moved from Lyon's Station to Pine Street, operating as the Pioneer Oil Refinery until 1884. The refinery processed crude oil from the various fields in the Santa Clarita Valley, making lubricating oil, axle grease, fuel oil, kerosene, and asphalt.
- 1888** Kansas Governor John St. John purchased over 10,000 acres from the Newhall Land and Farming Company and sent Henry Clay Needham to establish the "St. John's Prohibition Colony." The dry colony failed, but H. Clay Needham remained in the area and engaged in many civic and political activities, opening a hardware-lumber store and establishing the water company. He also permitted burials on his 750-acre property.
- 1889** H. Clay Needham founded the Pearle and Zenith Oil companies for oil drilling on the Needham property.
- 1920** Numerous oil wells were drilled on the Needham Ranch. Production continued through 1953.
- 1957** Gates, Kingsley, and Gates purchased the Needham Ranch.
- 1958** Los Angeles County approved, on the basis of the existing cemetery, the use of approximately 200 acres of the Needham Ranch for the Eternal Valley



Cemetery, owned and operated by the Gates family (the cemetery was sold to Service Corporation International in 1972).

- 1965** Approximately 200 acres of the Needham Ranch were purchased by the State of California for construction of the Antelope Valley Freeway.
- 1977** A right-of-way for an underground tunnel to transport water was sold to the Metropolitan Water District in connection with the State Water Project.

**c. Records Search Results.** The records and literature search performed by the South Central Coastal Information Center (February 1, 2000) revealed that no prehistoric-aboriginal sites are recorded on the project site and that 23 previous archaeological surveys and/or excavations have been conducted within a 1.5-mile radius of the site. The records search revealed that 15 historic period sites have been identified within a 1.5-miles radius of the site. These include:

- The Pioneer Oil Refinery: National Register of Historic Places; California State Landmark No. 172; Los Angeles County Point of Historical Interest; and Los Angeles City Cultural Heritage Board. Located adjacent to the project site
- The St. Francis Dam site: California State Landmark No. 919
- Rancho San Francisco Adobe site: California State Landmark No. 556
- Andrada State Station Adobe: County List No. 148
- Ortiz Casa: County List No. 66s
- Major Gorman's Stage Post: County List No. 149; Historic American Buildings Survey, 1941
- Martin Ruiz Adobe: California State Landmark No. 158; County List No. 146
- Rancho San Francisco Adobe site: California State Landmark No. 556; Los Angeles City Cultural Heritage Board No. 124
- Lyons Station: California State Landmark No. 688; California Inventory of Historic Places
- Oak of the Golden Dream: National Register of Historic Places; California State Landmark No. 590; Los Angeles County Point of Historical Interest; Los Angeles City Cultural Heritage Board
- Beale's Cut Stagecoach Pass: California State Historic Landmark No. 1006
- Good Templars Hall: LAN-030
- William S. Hart Park Ranch and Museum: LAN-032
- Saugus Station: LAN-031

The Pioneer Oil Refinery site is located immediately adjacent to the project site near the intersection of San Fernando Road and Pine Street. Listed on the National Register of Historic Places and designated a California Landmark, the refinery operated from 1874 to 1884. The original refinery was located on a portion of the Eternal Valley Cemetery site, but was moved to its current location in the spring of 1876. The facility processed crude oil from the various fields in the Santa Clarita Valley, making lubricating oil, axle grease, fuel oil, kerosene, and asphalt.

Two sites near the project site, the Lyons Station Stagecoach Stop and Beale's Cut Stagecoach Pass, are listed as California Historic Landmarks. Their historic significance is described below.



Lyons Station Stagecoach Stop – Historic Landmark No. 688

This site, located adjacent to the project site on the Eternal Valley Cemetery property, was the location of a combination store, post office, telegraph office, tavern and stage depot accommodating travelers during the Kern River gold rush in the early 1850s. A regular stop for Butterfield and other early California stage lines, it was purchased by Sanford and Cyrus Lyons in 1855, and by 1868 at least 20 families lived there.

Beale’s Cut Stagecoach Pass

For almost half a century (1862-1910), Beale’s Cut was a stagecoach pass through the Transverse mountain range that served as the only viable means of non-coastal transit over the range and into/out of the region. Beale’s Cut represents the most lasting symbol of General Edward Fitzgerald Beale, one of the most colorful public figures of his time. Beale led numerous trailblazing, surveying, and construction efforts for many of the first major roadways in the American west during the mid and late 1800s. Beale’s Cut is approximately 250 yards southeast of the intersection of Sierra Highway and Clampit Road, near the southern edge of the project site.

Three properties within one-half mile of the project site have been designated as California Points of Historical Interest. These are described below.

Good Templars Hall (LAN-030)

The Good Templars Hall Golden State Lodge #21 was constructed and organized in 1890 by H. Clay Needham. The Pardee family acquired the hall in 1895 and moved to its present location at 25275 Walnut Street in Newhall, where it remained the family residence until sold to the Pacific Telephone Company during World War II.

Saugus Station (LAN-031)

Saugus Station was built circa 1887 on land obtained by the Southern Pacific Railroad from original developer Henry Mayo Newhall. Saugus Station was on the historic rail line that opened southern California to the east coast in 1876. It is currently located at 24107 San Fernando Road in Newhall.

William S. Hart Park Ranch and Museum (LAN-032)

Hart Park Ranch and Museum covers 254 acres, including 110 acres of wilderness, purchased by Hart in 1920 and named Horseshoe Ranch. The original ranch house was built in 1910 by former owner Babacock Smit. “La Loma de los Vientos” mansion was constructed between 1925 and 1928 and is considered one of the finest examples of Spanish-Mexican architecture in Southern California. William S. Hart was a pioneer in the film industry, setting many firsts in Western movies.

No previously recorded sites are located within the project site. However, the results of the records search indicate that the project site is in a sensitive archaeological zone. Therefore, there is a high probability that cultural resources may be buried within the site or on adjacent parcels where the Pioneer Oil Refinery is located.

Some local historians have indicated an interest in the historic significance of rock archway located in the southern portion of the project site along Sierra Highway. This arch is an



identifiable visual feature of the site, but has not been formally identified as a significant historic resource at the national, state, or local level.

**d. Field Investigation Results.** The initial archaeological survey was conducted by Louis James Tartaglia on October 16-21, 1999, and April 19, 2000. The entire project site was examined for surface evidence of cultural occupations, such as artifacts, features, and soil changes. Rock shelters and overhangs on the site were also inspected. Dr. Tartaglia used a transect sweep method at two meter intervals. Extant vegetation in a few areas partially obscured portions of the project site; however adjacent areas provided a clear view of the surface. When available, backdirt from rodent burrows was inspected and examined for any evidence of past human occupations. Since the Pioneer Oil Refinery (State Historic Landmark No. 172) is located on an adjacent parcel, any evidence of historic period pipelines was examined. In addition, Mr. Don Woelke, a local historian who has written articles about the Pioneer Oil Refinery for the Santa Clarita Valley Historical Society, accompanied Dr. Tartaglia on April 20, 2000 to survey the site for any surface evidence of oil pipelines.

The field inspection of the project area did not locate any surface evidence of a prehistoric aboriginal period site, or any past aboriginal occupation including isolated artifacts. The field inspection did locate the Pioneer Oil Refinery Site which is adjacent to the project property. The modern period sites located in the field study include a trash dump, assorted trash in disturbed and/or developed areas, and isolated water well pump encased in cement in a drainage channel.

#### 4.12.2 Impact Analysis

**a. Methodology and Significance Thresholds.** This assessment is based on the information gathered and analyzed in the cultural resources investigation of the project area prepared by James Tartaglia in April 2000, and the subsequent peer review of this report conducted by Robert Wlodarski of H.E.A.R.T. in January 2001.

The following criteria have been identified as the thresholds for significant archaeological resources impacts: destruction, degradation or adverse affects to a prehistoric or historic archaeological site or property of historic or cultural significance to a community, ethnic or social group. The resource is significant if the site or property (is):

- Associated with an event of recognized significance in California or American history, or recognized scientific importance in prehistory
- Provides information which is of both demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions
- Of special or particular quality such as oldest, best example, largest or last surviving example of its kind
- At least 100 years old and possesses stratigraphic integrity
- Involves important research questions that historical research has shown can be answered only with archaeological methods



**b. Project Impacts and Mitigation Measures.**

**Impact CR-1** The proposed project would not disturb any known archaeological resources; however, site development has the potential to disturb as-yet undetected areas of prehistoric archaeological significance. This is considered a Class II, *significant but mitigable, impact.*

As discussed in the Setting, neither previous archaeological investigations in the area or the surveys conducted as part of this study identified any significant or potentially significant surface remains of a prehistoric or historic archaeological nature were discovered within the project boundaries. Therefore, the proposed project would not affect any known archaeological resources of significance. However, by its nature, an archaeological reconnaissance can only confidently assess the potential for encountering surface cultural resource remains. As proposed grading activity would disturb an estimated 271.9 acres (46.5% of the site), the project would have the potential to disturb as-yet undetected areas of prehistoric archaeological significance. Therefore, archaeological resource impacts are considered potentially significant. It should also be noted that, although no evidence of burials on-site has been found, the Santa Clara Oak Conservancy (NOP response dated March 30, 2001) has suggested the possibility of burial sites for Chinese workers who died during construction of the San Fernando/Newhall Railroad Tunnel in 1876.

Mitigation Measures. The following measures are recommended to mitigate impacts relating to the possible discovery of intact cultural resources during site grading.

**CR-1(a)** Should unanticipated cultural resource remains be encountered during construction or land modification activities, the applicable procedures established by the Advisory Council on Historic Preservation concerning protection and preservation of Historic and Cultural Properties (36 CFR 8700) should be followed. In this event, work shall cease until the nature, extent, and possible significance of any cultural remains can be assessed and, if necessary, remediated. If remediation is needed, possible techniques include removal, documentation, or avoidance of the resource, depending upon the nature of the find.

**CR-1(b)** In the event that human remains are discovered during construction or land modification activities, the procedures in Section 7050.5 of the California Health and Safety Code shall be followed. These procedures require notification of the coroner and the Native American Heritage Commissions if the coroner determines the remains to be those of Native American ancestry.

Significance After Mitigation. With implementation of the above measures, impacts to archaeological resources would be less than significant.



**Impact CR-2**    **The proposed project would not directly affect any identified significant historic resources. However, possible indirect impacts to the Pioneer Oil Refinery are considered Class II, significant but mitigable.**

As discussed in the Setting, several historic properties are located in the vicinity of the project site. These include the Pioneer Oil Refinery, Lyon's Station, Beale's Cut, Good Templars Hall, Saugus Station, and William S. Hart Park. Proposed grading and construction activity would change the context for these resources to some degree, but would not directly affect any of the sites. Proposed grading may directly remove the rock archway located in the southern portion of the site along Sierra Highway. Some local historians have expressed concern about the loss of this feature; therefore, its removal may constitute an adverse effect. However, as the arch has not been designated as a historic feature at the national, state, or local level, its removal does not constitute a significant impact.

The proposed project would involve construction activity in the immediate vicinity of the Pioneer Oil Refinery, which is located directly adjacent to the project site. It would also increase access to this historic resource and may therefore provide individuals who have little concern for the protection and enhancement of cultural resource remains with the opportunity to vandalize or damage significant resources. The fencing currently restricting access to the Refinery is of chain link and composite fencing which does not prevent unobstructed access to the site. In addition, the acid tank associated with the Refinery, although not within the project area, is unstable and may collapse as a result of heavy earth movement in the project area. Lastly, deposition of fluvial materials and runoff from project construction could potentially exacerbate the current problem of erosional material being deposited on the Refinery site due to recent storms. In these ways, project development could have indirect effects to the Refinery.

Mitigation Measures. The following measures are recommended to mitigate potential indirect impacts to the Pioneer Oil Refinery.

- CR-2(a)**    As provided in the Development Agreement, the applicant shall make a payment to the City which the City, at its discretion, may apply towards the construction of a new fence that will be effective in preventing unauthorized individuals from entering the Pioneer Oil Refinery site.
- CR-2(b)**    Construction contractors shall take precautions to either avoid using heavy equipment in the vicinity of the acid tank on the Refinery property or stabilize the acid tank to prevent its collapse and potential destruction.
- CR-2(c)**    The drainage system for the areas surrounding the Refinery shall be designed to prevent any further deposition of materials onto the Refinery site.

Significance After Mitigation. After implementation of these mitigation measures, indirect impacts to the Pioneer Oil Refinery will be less than significant.

**c. Cumulative Impacts.** Cumulative development in the City would involve the addition of up to about 124,000 residences and 59 million square feet of non-residential development. Such development would continue to disturb areas with the potential to contain



as-yet undiscovered cultural resources. Therefore, impacts associated with cumulative development are considered potentially significant. However, because the proposed project's potential effects can be mitigated to a less than significant level, its contribution to cumulative impacts would be de minimus. In addition, it should be noted that studies to determine whether or not cultural resource remains are present on individual development sites would be undertaken at the time of individual development proposals. Assuming that appropriate mitigation is developed on a case-by-case basis, cumulative cultural resource impacts associated with future development in the City should be reduced to a less than significant level.





## 4.13 RECREATION

### 4.13.1 Setting

**a. City Parks.** The City of Santa Clarita currently operates 14 City parks, including five parks located within five miles of the project site. Three additional parks are currently under construction and another four parks are planned for construction. At buildout of the existing and planned parks, total City park acreage would be 381.65 acres. City parks are listed in Table 4.13-1, while the locations of City parks are shown on Figure 4.13-1.

**b. County Parks.** Two County-operated parks, Placerita Canyon State Park and William S. Hart Park, are also located in the site vicinity. Placerita Canyon State Park, located at 19152 Placerita Canyon Road, across SR 14, and approximately two miles east of the site, consists of 341 acres of mostly natural open space with equestrian/hiking trails, a nature center, and picnic areas. The seven-mile Los Pinetos Equestrian/Hiking Trail follows Placerita Creek within the park. William S. Hart Park is located at 24151 North San Fernando Road, about ¼-mile west of the site and also offers passive recreation opportunities, including a historical museum, campgrounds, trails, and picnic areas. The historical significance of William S. Hart Park is discussed in subsection 2.3.2 of Section 2.0, *Project Description*, and in Section 4.12, *Cultural Resources*.

**c. National Forest and State Parks.** The Angeles National Forest borders the southeastern portion of the City's planning area and encompasses Placerita Canyon State Park. The National Forest offers a wide range of camping and picnicking facilities. A segment of the Pacific Crest National Trail extends for 160 miles through the Angeles National Forest, providing views of the Antelope Valley, and the San Gabriel Mountains.

The Santa Monica Mountains Conservancy, a state agency created in 1979, administers more than 28,000 acres of parkland within a 450,000 acre zone that includes the Santa Monica Mountains and other mountain ranges. The Conservancy owns and manages parkland throughout the southern California region. A Conservancy-owned park called the Santa Clarita Woodlands is located in the southern portion of the Santa Clarita Valley, encompassing portions of Towsley, Pico, East, and Rice Canyons. The Conservancy began acquisitions in the Santa Clarita Woodlands in 1989, creating Ed Davis Park in Towsley Canyon in 1992. A 1995 sale and donation of over 3,035 acres by Chevron greatly expanded the Woodlands. Additional acquisitions are planned in the area to create a band of protected parkland.

**d. Project Site.** The project site is located in what is commonly referred to as the Newhall Wedge, a wedge of land between I-5 and SR-14 that is part of a belt of undeveloped land that separates the San Fernando and Santa Clarita Valleys and includes the Santa Clarita Woodlands. The site encompasses about 25% of the remaining undeveloped area within the Newhall Wedge.

Although the site is privately owned, it is informally used for a variety of recreational purposes. Residents from nearby neighborhoods regularly ride horses, hike, and bicycle on portions of the project site.

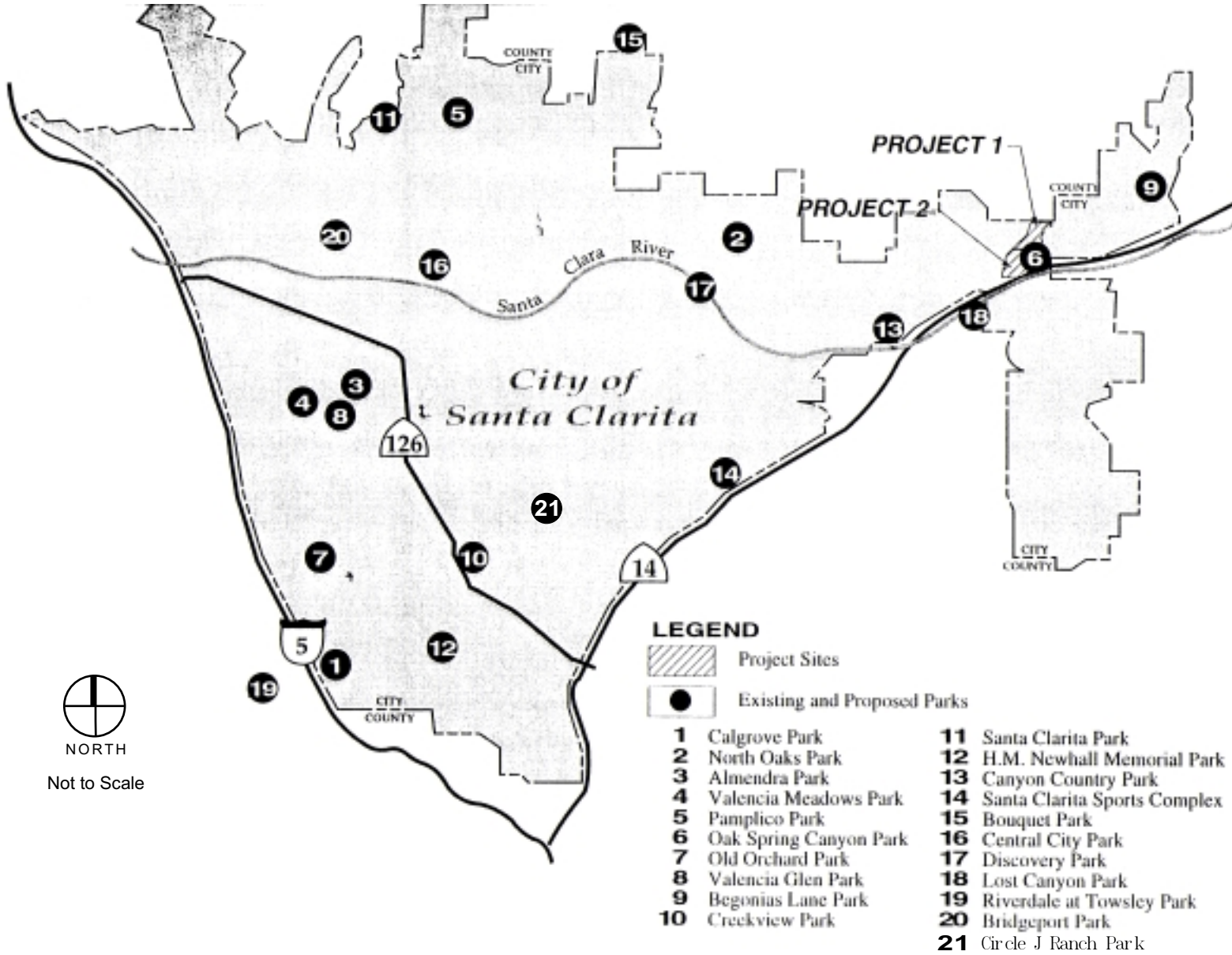


**Table 4.13-1 Existing and Planned City Parks**

<b>Parks</b>	<b>Acreage</b>	<b>Location</b>	<b>Condition</b>
1. Calgrove Park	0.25	24602 Little Oak Lane Newhall	Undeveloped
2. North Oaks Park	2.30	27824 N. Camp Plenty Road Canyon Country	Developed
3. Almendra Park	4.30	23420 Alta Madera Drive Valencia	Developed
4. Valencia Meadows Park	4.80	25671 Fedala Road Valencia	Developed
5. Pamplico Drive Park	5.00	22444 Pamplico Drive Saugus	Under construction – expected completion 2002
6. Oak Spring Canyon Park	5.00	28920 Oak Spring Canyon Road Canyon Country	Under construction – expected completion 2002
7. Old Orchard Park	5.40	25023 Avenida Rotella Valencia	Developed
8. Valencia Glen Park	5.50	23750 Via Gavola Valencia	Developed
9. Begonias Lane Park	5.00	14911 Begonias Lane Canyon Country	Developed
10. Creekview Park	8.00	22200 Park Street East Newhall	Developed
11. Santa Clarita Park	7.50	27285 Seco Canyon Road Saugus	Developed
12. H.M. Newhall Memorial Park	15.00	24923 Newhall Avenue Newhall	Developed
13. Canyon Country Park	17.20	17615 Soledad Canyon Road Canyon Country	Developed
14. Santa Clarita Sports Complex	20.00	26407 Golden Valley Road Canyon Country	Developed
15. Bouquet Canyon County Park	9.00	28127 Wellston Drive Saugus	Developed
16. Central City Park	130.00	27150 Bouquet Canyon Road Saugus	Phase 1 (40 acres) completed; 15 acres expected to be completed spring 2002
17. Discovery Park	20.00	27150 Canyon View Drive Canyon Country	Undeveloped
18. Lost Canyon Park	40.00	Lost Canyon Road/La Veda Avenue Canyon Country	Undeveloped
19. Rivendale at Towsley Park	60.00	24255 The Old Road Newhall	Undeveloped
20. Bridgeport Park	12.40	Bridgeport Development	Under construction; expected completion 2002
21. Circle J Ranch Park	5.0	Via Princessa	Developed
<b>Total Park Acreage</b>	<b>381.65</b>		

Source: City of Santa Clarita, 2001.





Parks in the Project Vicintiy

Figure 4.13-1  
 City of Santa Clarita

**e. Park Standards.** The City of Santa Clarita has adopted a minimum standard of three acres of parkland per 1,000 residents. The City has not adopted any specific standards for passive parkland. The distinction between active parkland and passive parkland is that active parkland is developed for playing fields, playgrounds, and other organized uses. Activities for passive recreation parks include walking, picnicking and other activities that do not require facilities with specific requirements.

The City General Plan Parks and Recreation Element also includes policies pertaining to the provision of a comprehensive trail system. Policies relevant to the proposed project include the following:

- 7.9 Provide equestrian, bicycle, and pedestrian trail development along routes which are viable to the health and safety of horse and rider.
- 7.10 Provide equestrian and pedestrian trails which are separate from vehicular traffic and provide maximum safety when the crossing of streets or highways is necessary.
- 7.11 Emphasize trail design in the Sand Canyon and Placerita Canyon areas, and other rural areas, which can accommodate both pedestrians and equestrians.
- 7.13 Pursue the development of a bike trail that connects with existing and planned trails in Ventura and Los Angeles counties.

The Santa Clarita Valley Trails Advisory Committee has developed recommendations for trail projects adopted by both the County of Los Angeles and the City of Santa Clarita. This system includes the proposed Placerita Canyon Trail, which would link Sand Canyon Road and the Los Piñetos Trail and continue to William S. Hart Regional Park.

#### 4.13.2 Impact Analysis

**a. Methodology and Significance Thresholds.** Recreational resource information was gathered from the Santa Clarita General Plan Parks and Recreation Element and City of Santa Clarita Parks and Recreation Department staff. The proposed project's impact to recreation is considered significant if recreational demand created by the project would not be met, or if the project were to adversely affect existing recreational opportunities.

##### **b. Project Impacts and Mitigation Measures.**

**Impact REC-1**     **The project would remove existing informal trails on portions of the project site. However, these trails and recreational use of the project site are on private property and do not constitute public recreational resources. Therefore, this impact is considered Class III, less than significant.**

Although few roadways currently access the site, the site is not fenced, and pedestrian access to the vacant site is generally not controlled. Over time, informal trails have developed on portions of the site. The site currently consists entirely of private property. Therefore, all existing trails and public recreational use of the site is currently prohibited.



The project includes dedication of 220.6 acres (37.8% of the site) that are to be preserved as permanent open space. The permanent open space area would encompass roughly the southern third of the site. The intent is to dedicate this portion of the site to the City or other designated agency for preservation as a permanent wilderness area that serves as a migratory corridor for wildlife as well as a passive recreational amenity for area residents. With the exception of about 22 acres that would be graded to provide an access easement for the water tank in Lot 42, the proposed open space area would be left in its natural condition.

Another 95.3 acres (16.3% of the site) would consist of landscaped slopes and trails. A network of trails would be provided throughout the site, as shown on Figure 2-8 in Section 2.0, *Project Description*. The proposed trail system would wind through the landscaped slope and open space areas of the site. All components of the system would be required to meet City trail specifications regarding grade, width, and fencing, and would need to be completed prior to issuance of occupancy permits. The proposed trail system would provide pedestrian links for the industrial component of the project and would also serve as a recreational trail system that would connect to the existing network of City trails. The on-site trail system would include connections at San Fernando Road and Sierra Highway through the industrial lots and the open space area and would include a trail at the north end of the site that passes by the historic Pioneer Oil Refinery.

Although the project would remove existing unauthorized trails, the dedication of open space and creation of a site trail system would more than offset this loss from a recreational standpoint. Therefore, the project would not adversely affect recreational opportunities on-site.

Mitigation Measures. None required.

Significance After Mitigation. Impacts related to existing trails would be less than significant and potentially beneficial.

**Impact REC-2**    **The proposed industrial park may create demand for daytime recreational facilities. However, it would not directly generate additional resident population and therefore would not conflict with City park standards. In addition, the project would provide additional recreational amenities on-site. The impact relating to demand for recreation is considered Class III, less than significant.**

The proposed project would not generate any resident population, but would create an estimated 6,527 jobs on-site. Site employees may create demand for daytime recreational opportunities, while the new jobs created may indirectly create demand for additional park space by inducing people to move to the Santa Clarita area to fill new jobs.

The project includes dedication of 220.6 acres (37.8% of the site) as public open space. The permanent open space area would encompass roughly the southern third of the site and would be dedicated for preservation as a permanent wilderness area that serves as a migratory corridor for wildlife as well as a passive recreational amenity for area residents. Passive recreational use could include low impact activities such as hiking, bicycling, and equestrian use, but would generally exclude organized sports play or playgrounds. In addition, the



project includes an extensive trail system (see Figure 2-8 in Section 2.0, *Project Description*, and discussion under Impact R-1) that would be available for use by site employees and the general public.

Since the project would not directly generate any population growth, it would not create any conflict with City park standards, which are based on a ratio of parks to residents. Although the project may indirectly increase demand for recreational facilities, it would provide a range of recreational opportunities for site occupants and the general public that would. As such, no significant impacts related to park demand are expected.

Mitigation Measures. None required.

Significance After Mitigation. Impacts related to demand for recreational facilities would be less than significant without mitigation.

**Impact REC-3     The proposed project would provide a trail system that appears to generally meet City standards. This is considered a Class III, less than significant impact.**

The proposed project includes an extensive trail system (see Figure 2-6). Specific trail components include a system of sidewalks on all streets, multi-purpose trails throughout the southwestern portion of the site, as well as in a generally northeast/southwest direction through the center portion of the site, and a series of equestrian/hiking trails throughout the areas of the site that are proposed to remain as open space. The trail system would be required to meet City trail specifications regarding grade, width, and fencing. It would provide pedestrian links for the industrial component of the project and a recreational trail system in the open space area to provide on-site recreational opportunities. The system would include connections at San Fernando Road and Sierra Highway through the industrial lots and the open space area and would include a trail at the north end of the site that passes by the historic Pioneer Oil Refinery site.

By including the trail and open space system as a recreational amenity to project, the project generally meets the intent of General Plan policies relating to the provision of trails (Policies 7.9 and 7.10). The proposed on-site trail system would also connect with existing and planned trails in adjacent areas of the City, thereby conforming to Policy 7.13. In addition, the equestrian and pedestrian trails are generally separated from traffic and meet safety standards. Trail crossings of proposed internal roadways would occur at an emergency/fire access road in the northern portion of the site, and at the access road to the water tanks proposed in the southern portion of the site. Since these roadways would serve only sporadic maintenance and/or emergency trips, these trail crossings would not present significant safety conflicts.

Mitigation Measures. Although the proposed trail system appears to generally meet the intent of City policies relating to provision of trails, the following measures are recommended to maximize the utility of the system and minimize the potential for safety conflicts.

**REC-3(a)**     The on-site trail system should provide a direct connection to William S. Hart Park. The applicant shall coordinate with the County of Los Angeles to determine the most appropriate location for such a connection.



- REC-3(b) All trail crossings of internal roadways shall be appropriately signed and/or striped to alert drivers to the presence of a crossing.
- REC-3(c) Trail easements for areas going through or across manufactured slopes or outside of road rights-of-way shall be included in the trail plan.
- REC-3(d) A water meter for City use shall be included onsite.
- REC-3(e) Onsite trails shall include safety fencing as required by the City Parks Department.

Significance After Mitigation. Impacts relating to City trail requirements would be less than significant without mitigation. The recommended measures would maximize the benefits of the system and further reduce the potential for safety conflicts.

**c. Cumulative Impacts.** Cumulative development throughout Santa Clarita will continue to increase demand for recreational facilities in the City. However, the proposed project does not involve residential uses that would increase the ratio of residents to park acreage in the City. In addition, the project would provide such recreational amenities as 220.6 acres of public open space and an on-site trail system. Therefore, the contribution of the project to any cumulative impacts to recreational facilities would be de minimis and less than significant. With respect to increased demand for parks associated with cumulative growth in the City, it is assumed that the City will continue to require the development of park facilities in conjunction with new residential development. This would be expected to allow the City to maintain the established ratio of park space relative to population (i.e., three acres per 1,000 residents).



## 5.0 OTHER CEQA-REQUIRED DISCUSSIONS

### 5.1 GROWTH INDUCING IMPACTS

Section 15126.2(d) of the *CEQA Guidelines* requires that EIRs discuss the potential for projects to induce population or economic growth, either directly or indirectly. CEQA also requires a discussion of ways in which a project may remove obstacles to growth, as well as ways in which a project may set a precedent for future growth.

#### 5.1.1 Population and Economic Growth

The proposed industrial park project would not directly generate any population growth. However, the 4.45 million square feet of industrial park development proposed would generate an estimated 6,527 jobs. Although some jobs would likely be filled by current residents of the Santa Clarita Valley, many of the new job opportunities would likely be filled by people relocating to the area. In this way, the project may indirectly generate population growth in the area.

The number of relocatees and the location in which they would reside cannot be predicted with any certainty, but it is likely that the project would contribute to housing demand in Santa Clarita. This could increase pressure for additional housing development and/or tend to drive up housing prices. On the other hand, as discussed in Section 4.1, *Land Use and Planning*, the jobs associated with the project would actually help to offset a projected reduction in jobs relative to housing in Santa Clarita. SCAG projects that the ratio of jobs to housing in the City will fall from 1.04:1 in 2000 to 0.89:1 in 2020 due to rapid housing growth. Given that housing growth in Santa Clarita is expected to more than keep pace with job growth, the effect of project-generated jobs on housing demand would likely be nominal.

#### 5.1.2 Removal of Obstacles to Growth

The proposed project would involve the introduction of 4.45 million square feet of industrial park development on a largely undeveloped 584-acre site. The project would require the extension of water, sewer, telephone, cable TV, natural gas, and electrical infrastructure into an area that is not currently served by such infrastructure. In addition, a roadway network would be developed on-site to provide access to the new development.

The infrastructure extensions necessary to serve the site development could potentially remove an obstacle to the development of remaining undeveloped lands on and adjacent to the project site. However, the areas of the site not planned for development (220.6 acres) are to be dedicated as permanent open space in conjunction with the project. Meanwhile, offsite areas adjacent to the project site area already planned for development under the Santa Clarita General Plan or consist of steeply sloped terrain and ridgelines that would limit development potential. These factors tend to limit the impact of the project with respect to removal of obstacles to growth.





### 5.1.3 Precedent Setting Potential

The Gate-King Industrial Park project involves the development of a largely undeveloped, 584-acre site. Similar development is already occurring throughout the Newhall area and the area is planned for further development as it builds out under the Santa Clarita General Plan. Therefore, the project would not so much set a precedent for development as continue a precedent that has already been established by both the General Plan and ongoing development. The environmental impacts of further development in the area would likely be similar to those of the proposed project, although specific impacts would depend upon the type, size, and location of development.

## 5.2 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL EFFECTS

The CEQA *Guidelines* require EIRs that analyze projects involving amendments to public plans, ordinances, or policies contain a discussion of significant irreversible environmental changes. CEQA also requires decision-makers to balance the benefits of a proposed project against its unavoidable environmental risks in determining whether to approve a project. This section addresses non-renewable resources, the commitment of future generations to the proposed uses, and irreversible damage of proposed development.

The construction of new buildings and roadways would involve the use of building materials and energy, some of which are non-renewable resources. Consumption of these resources would occur with any development in the region and are not unique to the Gate-King project.

Alteration of the area to urban uses, although technically reversible, would likely result in a long-term commitment of the site to such uses. Development of the project site would involve alteration of existing landforms on-site, which would be irreversible. The grading and development of the site would also irreversibly alter the aesthetic character of the site and would remove portions of the native biological habitat on-site. As discussed in Sections 4.6, *Biological Resources*, and 4.11, *Aesthetics/Light and Glare*, the project's biological and aesthetic impacts are considered unavoidably significant.

The addition of 4.45 million square feet of industrial park development would irretrievably increase the local demand for non-renewable energy resources such as petroleum and natural gas. It should be noted that increasingly efficient building fixtures and automobile engines are expected to offset energy demand to some degree and that project buildout would not be expected to significantly affect local or regional energy supplies.

The estimated 6,527 jobs to be created and associated vehicle trips generated would result in increased traffic and additional air emissions that would incrementally further the degradation of local air quality. The project's impact to regional air quality has been identified as unavoidably significant based upon South Coast AQMD significance thresholds. On the other hand, as discussed above under "Growth Inducing Impacts," the jobs associated with the project could potentially help improve the balance of jobs and housing in Santa Clarita based on SCAG projections. This would tend to offset the project's impact to traffic levels and air quality.

The proposed project would result in certain impacts that are considered unavoidably



significant and would therefore require a Statement of Overriding Considerations setting forth reasons that the project's benefits outweigh the impacts if the project is approved. These unavoidably significant impacts include the following:

- Air Quality (short-term impacts during construction, long-term impacts associated with project operation)
- Biological Resources (loss of oak woodland habitat, removal of wildlife movement connections)
- Aesthetics (alteration of designated Primary and Secondary ridgelines)
- Public Utilities (cumulative impacts to solid waste landfills)



## 6.0 ALTERNATIVES

As required by Section 15126(d) of the *State CEQA Guidelines*, this section of the EIR examines a range of reasonable alternatives to the proposed project that could feasibly achieve similar objectives. The discussion focuses on alternatives that may be able to reduce many of the adverse impacts associated with the proposed project, including the CEQA-required “no project” alternative. Studied alternatives include:

- Alternative 1: No Project
- Alternative 2: Buildout Under the Santa Clarita General Plan
- Alternative 3: Ridgeline Preservation
- Alternative 4: Oak Tree Preservation
- Alternative 5: Reconfigured ‘C’ Street

Table 6-1 provides a summary comparison of the alternatives. Each of these alternatives is described in greater detail and analyzed below.

### 6.1 ALTERNATIVE 1: No Project

This alternative assumes that the project is not constructed, and that the site remains in its current condition. The site would remain primarily undeveloped, though existing industrial and residential uses along Pine Street and facilities at the Eternal Valley Cemetery would remain. It should be noted, however, that the current City of Santa Clarita General Plan land use designations and zoning classifications would continue to allow development on-site (Section 6.2 discusses the potential impacts associated with buildout under the current General Plan land use designations). Consequently, development of the site could potentially occur at some future date, even if the no project scenario is implemented at this time.

#### 6.1.1 Land Use and Planning

The No Project Alternative does not involve any annexation or development proposals that would introduce additional population into the City of Santa Clarita. As with the proposed project, this alternative would not contribute to an exceedance of projected population projections. This alternative would not create any potential inconsistencies with City and SCAG land use policies, nor would it create any new land use compatibility conflicts. Although land use conflicts associated with the proposed project can be reduced to a level considered less than significant, the No Project Alternative’s impact would be less.

#### 6.1.2 Geology

No land alteration would take place in the near term under this alternative, and no persons or structures would be exposed to geological hazards. Because no grading would occur, there would be no increase in or additional exposure to site landslide hazards. Although the proposed project’s impacts are considered mitigable, this alternative would have less impact with respect to geologic and seismic issues.



**Table 6-1 Comparison of Project Alternatives**

Land Use	Alternatives					
	Proposed Project	Alt 1 (No Project)	Alt 2 (Santa Clarita GP)	Alt 3 (Ridgeline Preservation)	Alt 4 (Oak Tree Preservation)	Alt 5 (Reconfigured 'C' Street)
Residential	---	----	124.1 ac (31 du)	---	---	---
Industrial Commercial <sup>a</sup>	328.3 ac (4,445,734 sf)	24 ac	337.5 ac (4,410,450 sf)	193.8 ac (2,041,223 sf)	198.1 ac (2,260,766 sf)	309.6 ac (4,246,327 sf)
Community Commercial	---	---	29.2 ac (524,299 sf)	---	---	---
Natural Open Space	220.6 ac	560 ac	93.2 ac	355.5 ac	351.2 ac	239.7 ac
Rights-of-Way <sup>b</sup>	35.1 ac	---	---	34.7 ac	34.7 ac	34.7 ac
<b>Total</b>	<b>584 ac</b>	<b>584 ac</b>	<b>584 ac</b>	<b>584 ac</b>	<b>584 ac</b>	<b>584 ac</b>

<sup>a</sup> Acreage for industrial commercial areas includes landscaped slope/trail areas and public streets.

<sup>b</sup> Includes SCE and MTA rights-of-way as well as water tank lots (it is assumed that alternatives 3-5 would need a single 1.4-acre water tank lot). Please note that in reality a portion of site under Alternative 2 would also be dedicated to rights-of-way; therefore, the actual acreage dedicated to each of the other uses may be incrementally less than shown in this table.



### 6.1.3 Hydrology and Water Quality

No changes to the existing hydrologic environment would occur under this alternative. Storm water runoff would not change from current conditions and no increase in exposure to flood hazards would occur. The proposed project would not expose people or property to significant flood hazards, but would alter site hydrology and increase the overall volume of runoff from the site. Although the storm drain system proposed for the site would reduce hydrologic impacts to a less than significant level, the No Project alternative would have less overall impact upon area hydrology.

With respect to water quality, the No Project alternative would have no impact. The proposed project would increase sedimentation in the short-term during construction and would increase concentrations of urban pollutants in area surface waters in the long-term. Although compliance with National Pollution Discharge Elimination System (NPDES) requirements would reduce the project's impact to a less than significant level, the No Project alternative would have less impact.

### 6.1.4 Air Quality

This alternative would not introduce any new air pollutant sources in the short term or the long term. The proposed project would generate air pollutant emissions exceeding South Coast Air Quality Management District significance thresholds both during construction and over the life of the project. This alternative's impact to air quality would be less than that of the proposed project.

### 6.1.5 Transportation and Circulation

This alternative would generate no traffic and would therefore have no impact upon the local circulation system. The proposed project would generate about 26,700 daily vehicle trips. The project's transportation impacts can be reduced to a less than significant level under City thresholds. Nevertheless, this alternative would have less impact upon transportation and circulation.

### 6.1.6 Biological Resources

Wildlife and plant populations would remain at their existing levels under this alternative. No impacts to wetlands, riparian areas, oak trees, or wildlife corridors would occur. The proposed project, by comparison, would result in significant impacts to riparian and oak woodland habitats (including the direct removal of up to 1,100 live oak trees), as well as to wildlife movement corridors. Therefore, the No Project Alternative's impact would be lower than expected under the proposed project.

### 6.1.7 Noise

No new noise sources would be introduced to the site under this alternative and no additional sources of noise would be created, either in the short term or the long term. The proposed project's impact upon the local noise environment would not be significant; nevertheless, the project would generate an incremental increase in noise in the area through the introduction of



on-site noise sources and increased vehicle traffic on area roads. This alternative would therefore have less noise impact than the proposed project.

### **6.1.8 Human Health and Safety**

The No Project Alternative would not expose persons to significant human health and safety hazards. The proposed project would create potential conflicts with several abandoned oil wells on the property. Although the project's impacts are mitigable, this alternative would have less potential for safety conflicts. On the other hand, it should be noted that under the No Project alternative, remediation of existing hazardous conditions onsite would not occur.

### **6.1.9 Public Services**

No demand for public services would be created with implementation of the No Project Alternative. Therefore, although the proposed project's impacts can be mitigated to a less than significant level, impacts to public services would be lower under this alternative.

### **6.1.10 Utilities**

The No Project Alternative would not create demand for additional public utilities. Thus, although the proposed project would not create significant or unmitigable impacts related to public utilities, this alternative would have less overall impact.

### **6.1.11 Aesthetics**

This alternative would not result in changes to any existing aesthetic condition and would not alter site topography or views of any City-identified primary ridgelines. Additionally, no nighttime lighting impacts would occur, as the site would remain unlit. Aesthetic and light/glare impacts under this alternative would be less than those of the proposed project, particularly with respect to alteration of viewsheds and alteration of major ridgelines.

### **6.1.12 Cultural Resources**

No cultural resources would be affected under the No Project Alternative. Although the proposed project would not disturb any known cultural resources, on-site grading has the potential to disturb as yet unidentified resources. Potential project impacts can be mitigated to a level considered less than significant. Nevertheless, the overall potential for impacts to cultural resources would be lower under this alternative.

### **6.1.13 Recreation**

This alternative would not result in changes to current recreational opportunities on the site. Although the site is currently used for equestrian and hiking purposes, it is privately owned. On the other hand, the proposed project would involve the dedication of over 220 acres of the site as permanent public open space and creation of an onsite trail system. As such, this alternative would not have the proposed project's benefits with respect to recreation.



## 6.2 ALTERNATIVE 2: General Plan Buildout

This alternative considers the impact of buildout of the project site in accordance with the land uses allowed under current City of Santa Clarita General Plan. Under the current General Plan the site contains the following designations: Industrial Commercial (337.5 acres), Community Commercial (29.2 acres), Residential Estate (124.1 acres), and Open Space (93.2 acres). Figure 6-1 shows the current General Plan designations for the site.

Table 6-2 estimates the buildout characteristics of the site under this alternative. As indicated, total buildout potential is estimated at just over 4.9 million square feet of non-residential development and 31 residences.

**Table 6-2 Buildout under the Santa Clarita General Plan**

Land Use Category	Area	Density/ Intensity	Development Potential
Industrial Commercial	337.5	0.6	4,410,450 sf <sup>a</sup>
Community Commercial	29.2	0.6	524,299 sf <sup>b</sup>
Residential Estate	124.1*	0.5	31 units <sup>a</sup>
Open Space	93.2	---	---
<b>Total</b>	<b>584.0</b>		<b>4,934,749 sf non residential 31 residences</b>

<sup>a</sup> Assumes that 50% of the areas designated Industrial Commercial and Residential Estate are buildable (similar to the proportion of buildable Industrial Commercial designated land for the proposed project).

<sup>b</sup> Assumes that 68.7% of the area designated Community Commercial is buildable (equivalent to buildable area of lots 28-30 and 39-41 of the proposed project).

### 6.2.1 Land Use and Planning

This alternative involves development of the site in accordance with the current General Plan land use designations for the site; therefore, no land use designation amendments or zone changes would be required. This alternative would introduce a mix of residential, commercial, and industrial park uses to the site. This may provide a more balanced land use as compared to the proposed project. On the other hand, the mix of uses would likely have more potential to create compatibility conflicts, particularly with respect to the residential component of the project.

This alternative would allow a greater overall level of development on-site, including residential development. Onsite development would not exceed that envisioned in regional growth projections since it would be consistent with the General Plan; however, the increased level of development may create more overall impacts to on-site biological, aesthetic, and recreational resources as this alternative would provide only 93.2 acres of open space as compared to the 220.6 acres of open space to be provided by the proposed project.

This alternative would have less impact with respect to land use regulatory controls, but may have impacts with respect to land use compatibility. Overall land use impacts would therefore be similar to those of the proposed project.



## 6.2.2 Geology

Like the proposed project, this alternative would greatly alter the site's topography. It is presumed that development under this alternative would comply with the City's Hillside Development Standards, although it is possible that a proposal consistent with the General Plan land use designation would involve grading on designated Primary and Secondary ridgelines. This alternative would be subject to the same types of geologic hazards as the proposed project, but would involve a greater overall amount of grading since about 84% of the site could be graded as compared to the 62% of the site that would be graded under the proposed project.

Overall, this alternative's geologic impact would be similar to that of the proposed project. All mitigation measures prescribed for the proposed project impacts would also apply to this alternative in a general sense, although a new geotechnical investigation would need to be prepared to determine specific grading parameters. As with the proposed project, seismic issues could likely be mitigated to a less than significant level.

## 6.2.3 Hydrology and Water Quality

As with the proposed project, this alternative would introduce impervious surfaces and involve substantial grading. Both factors would contribute to potential degradation of surface water quality in the Santa Clara River and storm water runoff from this area discharges into the headwaters of Newhall Creek, which is a tributary to the Santa Clara River. The magnitude of construction-related water impacts may be slightly greater under this alternative, as grading and site disturbance would likely occur over a larger area.

Long-term erosion and potential downstream flooding impacts could be slightly greater under this alternative than under the proposed project. Again, this would be a function of the greater site disturbance and increased grading anticipated under this development option. However, as with the proposed project, a storm drain system that complies with City and County requirements could be implemented under this alternative, reducing impacts to area hydrology to a level considered less than significant.

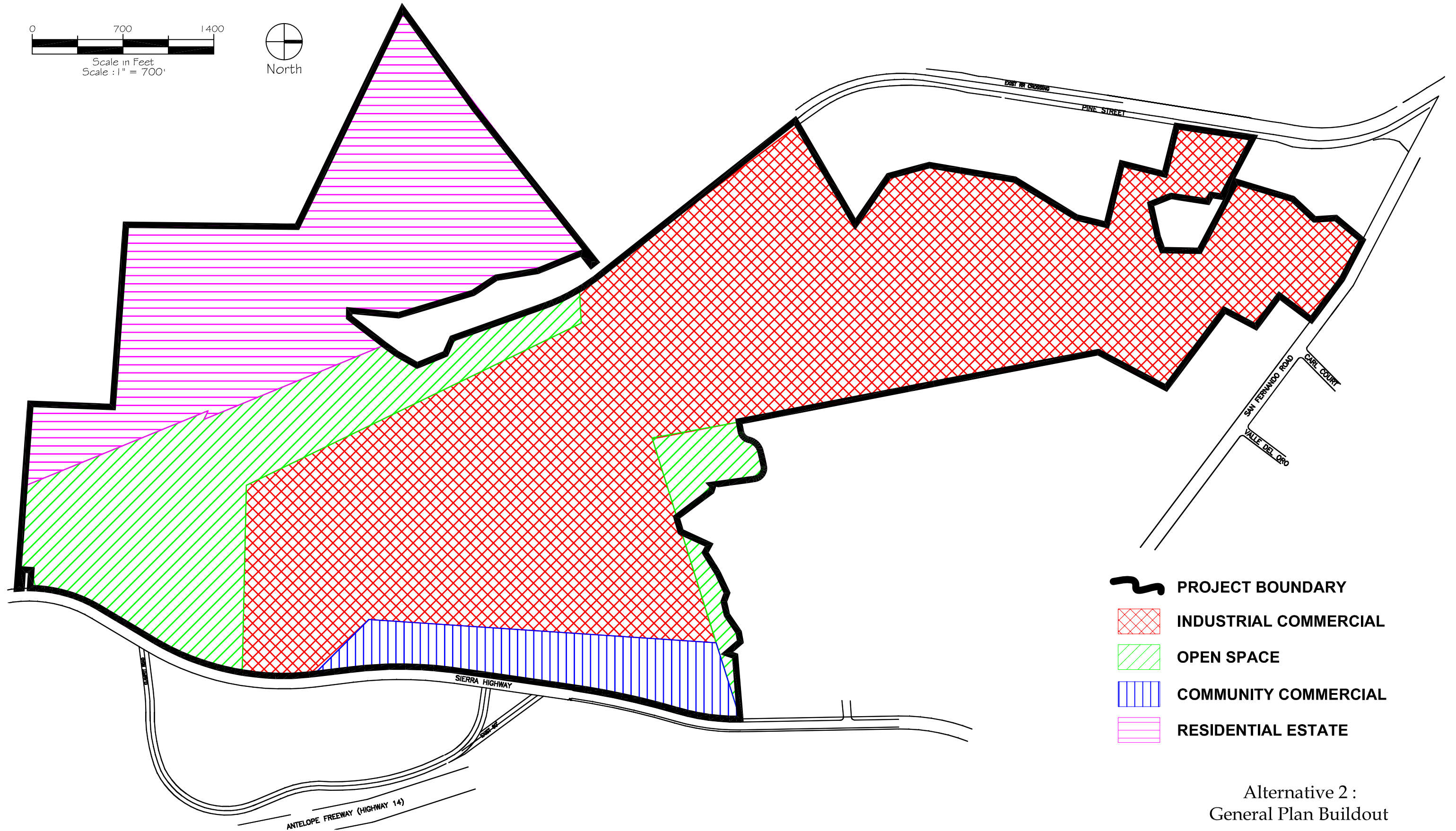
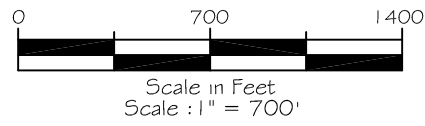
Recommended mitigation measures relating to NPDES requirements and a Storm Water Management Plan incorporating Best Management Practices would also apply under this alternative, and would reduce potential water quality impacts to a level considered less than significant. Mitigation measures recommended to achieve compliance with City and County storm drainage requirements would also apply. Following mitigation, impacts would be similar to but slightly greater than those of the proposed project because of the increase in overall developed area on-site.

## 6.2.4 Air Quality

Alternative 2 would likely involve more overall grading than the proposed project since only 93.2 acres would be preserved as open space as compared to the 220.6 acres of open space provided by the proposed project. As such, although worst-case daily emissions during construction would be about the same as those of the proposed project, the overall duration of grading and construction would likely be somewhat longer.







-  PROJECT BOUNDARY
-  INDUSTRIAL COMMERCIAL
-  OPEN SPACE
-  COMMUNITY COMMERCIAL
-  RESIDENTIAL ESTATE

Alternative 2 :  
General Plan Buildout

This alternative would accommodate up to an estimated 31 homes and 4.9 million square feet of non-residential development, as compared to the 4.45 million square feet of development associated with the proposed project. Development associated with this alternative would generate an estimated 49,266 daily vehicle trips,<sup>1</sup> or about 85% more trips than would be generated by the proposed project. Consequently, air pollutant emissions associated with project operation would be correspondingly higher.

Overall air quality impacts would be greater under this alternative than under the proposed project and emissions would exceed SCAQMD construction and operational significance thresholds. All mitigation measures recommended for the proposed project would also apply to this alternative. Although emissions could be mitigated to some degree, the operational impact of this alternative would be unavoidably significant.

### 6.2.5 Transportation and Circulation

This alternative would generate about 85% more traffic than would the proposed project. Consequently, impacts to the local circulation system, including intersections that would be significantly affected by the proposed project, would be greater under this alternative. Mitigation measures recommended for the proposed project would also apply to this alternative. These and other measures may reduce impacts to below City significance thresholds; however, a traffic study would be required to make a final determination as to whether impacts could be mitigated; therefore, it is assumed that this alternative's traffic impacts could be unavoidably significant.

### 6.2.6 Biological Resources

Similar to the proposed project, this alternative would potentially affect a variety of habitats on-site, including chaparral, Riversidean sage scrub, annual grasslands, oak woodlands, and riparian areas. Removal of these habitats would also significantly affect special status plants such as the Mariposa Lily, Peirson's Morning Glory, and San Fernando Valley Spineflower.

Because the alternative would involve more overall development and a potentially larger overall development envelope, impacts to biological habitats would generally be greater. As with the proposed project, impacts to grassland and riparian habitats would likely be mitigable, but impacts to oak woodlands would be considered unavoidably significant. Although the number of oak trees that would be affected would depend upon the actual site layout of this alternative, it is likely that this alternative would remove more oaks than would be removed by the proposed project because of the potentially larger grading envelope.

As with the proposed project, impacts to wildlife movement corridors would be significant under this alternative. The increased level of development and reduced amount of open space provided on-site (93.2 acres vs. the 220.6 acres provided by the project) would increase impacts to wildlife movement and, depending upon the site layout, may result in an unavoidably significant impact.

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<sup>1</sup> Estimated daily trips are based upon rates of 6 trips/1,000 square feet of industrial park development, 42.92 trips per 1,000 square feet of commercial development, and 9.57 trips per residential unit. The daily trip rate for industrial uses is equivalent to that used for the proposed project; the rates for commercial and residential uses are from the Institute of Transportation Engineers, *Trip Generation*, 6<sup>th</sup> Edition, 1997.



Overall biological resource impacts would be greater under this alternative. All mitigation measures recommended for the proposed project would also apply to this alternative. Nevertheless, impacts to oak tree habitats and wildlife movement would be expected to remain unavoidably significant.

### **6.2.7 Noise**

Temporary construction noise levels would be similar to what is expected under the proposed project, as construction activity would take place throughout the site. The overall duration of construction would be somewhat greater, however, because of the increased level of development.

This alternative would generate about 85% more traffic than the proposed project. As such, it would have a corresponding increase in traffic noise. Similar to the proposed project, significant impacts to roadway noise are not anticipated, although impacts would be greater than under the proposed project. This alternative would introduce noise-sensitive residential uses to the site; however, the southwestern portion of the site in which residences would be located is not subject to high noise levels.

This alternative's short- and long-term noise impacts would slightly higher than those of the proposed project, due to the increased level of development on-site. Mitigation recommended for the project would apply and would reduce impacts to a less than significant level.

### **6.2.8 Human Health and Safety**

Similar to the proposed project, this alternative would potentially expose persons to human health and safety hazards at currently exist on-site. The overall hazard exposure would be somewhat greater than under the proposed project because of the overall increase in site development and the introduction of a residential component. However, implementation of the mitigation measures recommended for the project would reduce health and safety impacts to a level considered less than significant.

### **6.2.9 Public Services**

This alternative would add up to 31 new residential units and over 4.9 million square feet of industrial/commercial uses, whereas the proposed project would add about 4.4 million square feet of industrial/commercial development. Consequently, future demands on public services, including fire protection, police protection, and schools would be somewhat higher under this alternative.

Impacts to fire and police protection would be potentially significant. Mitigation measures recommended for the proposed project would apply and would reduce impacts to a less than significant level.

This alternative would directly generate additional students at the Newhall Elementary School District and the William S. Hart Union High School District. As with the proposed project, statutory school impact fees would apply; however, the introduction of a residential component would increase impacts and may necessitate an additional funding agreement with local school



districts. Impacts are considered mitigable, but would be greater than those of the proposed project.

### **6.2.10 Utilities**

On-site water demand would be about 445 AFY under this alternative (assumes 0.51 AFY per dwelling and 2.27 AFY per acre of industrial and commercial development). This is about 15% higher than the estimated water demand for the proposed project. Wastewater generation would also be about 15% higher than for the proposed project. Overall water and wastewater impacts would be slightly higher than for the proposed project. Wastewater impacts would be less than significant. Water supply impacts could be reduced to less than significant with the mitigation measures recommended for the proposed project.

This alternative would demand an estimated 119 million kilowatt-hours per year of electricity and 327 million cubic feet per month of natural gas. Projected electricity demand is about 11% higher than for the proposed project, while natural gas demand is about 12% higher. As with the proposed project, no significant impact to electricity or natural gas service is anticipated.

This alternative would generate an estimated 34 tons of solid waste per day, compared to 29.5 tons per day that would be generated by the proposed project. As with the proposed project, impacts to solid waste disposal service would not be significant and could be further reduced through implementation of recommended mitigation measures.

### **6.2.11 Aesthetics**

As with the proposed project, this alternative has the potential to alter viewsheds, introduce new sources of light and glare, accommodate structural development, and modify the aesthetic character of the project site.

This alternative includes about 124 acres less open space than the proposed project. Under this alternative, development of the industrial commercial area would be located in the same general area as with the proposed project, primarily the northern and central portion of the site. Low density residential development would be in the southwestern portion of the site. Both industrial commercial development and homes would be visible on hillsides, but it is presumed development would stay off of designated Primary and Secondary ridgelines. The scenic character of the site may be altered to a greater overall extent than under the proposed project since the overall amount of development would be greater. On the other hand, it is presumed that there would be less overall impact to ridgelines on the project site.

As with the proposed project, this alternative would introduce new sources of light and glare into a semi-rural area. The overall amount of lighting would be somewhat greater than expected under the proposed project, though the amount of lighting near major ridgelines may be lower. As with the proposed project, impacts would be potentially significant but mitigable.

Overall, aesthetic impacts would similar to those expected under the proposed project. All project mitigation measures would apply. Nevertheless, as with the proposed project, the



visual impact of developing the primarily undeveloped site is considered unavoidably significant.

### 6.2.12 Cultural Resources

As discussed in the Section 4.14, *Cultural Resources*, neither previous archaeological investigations in the area or the surveys conducted for the proposed project have identified any significant or potentially significant surface remains of a prehistoric or historic archaeological nature were discovered within the project boundaries.

As with the proposed project, this alternative would involve construction activity in the vicinity of the Pioneer Oil Refinery, which is located directly adjacent to the project site. It would also increase access to this historic resource and may therefore provide individuals who have little concern for the protection and enhancement of cultural resource remains with the opportunity to vandalize or damage significant resources.

Overall, impacts would be about the same as under the proposed project and are considered potentially significant. The mitigation measures recommended for the project would apply and would reduce cultural resource impacts to a less than significant level.

### 6.2.13 Recreation

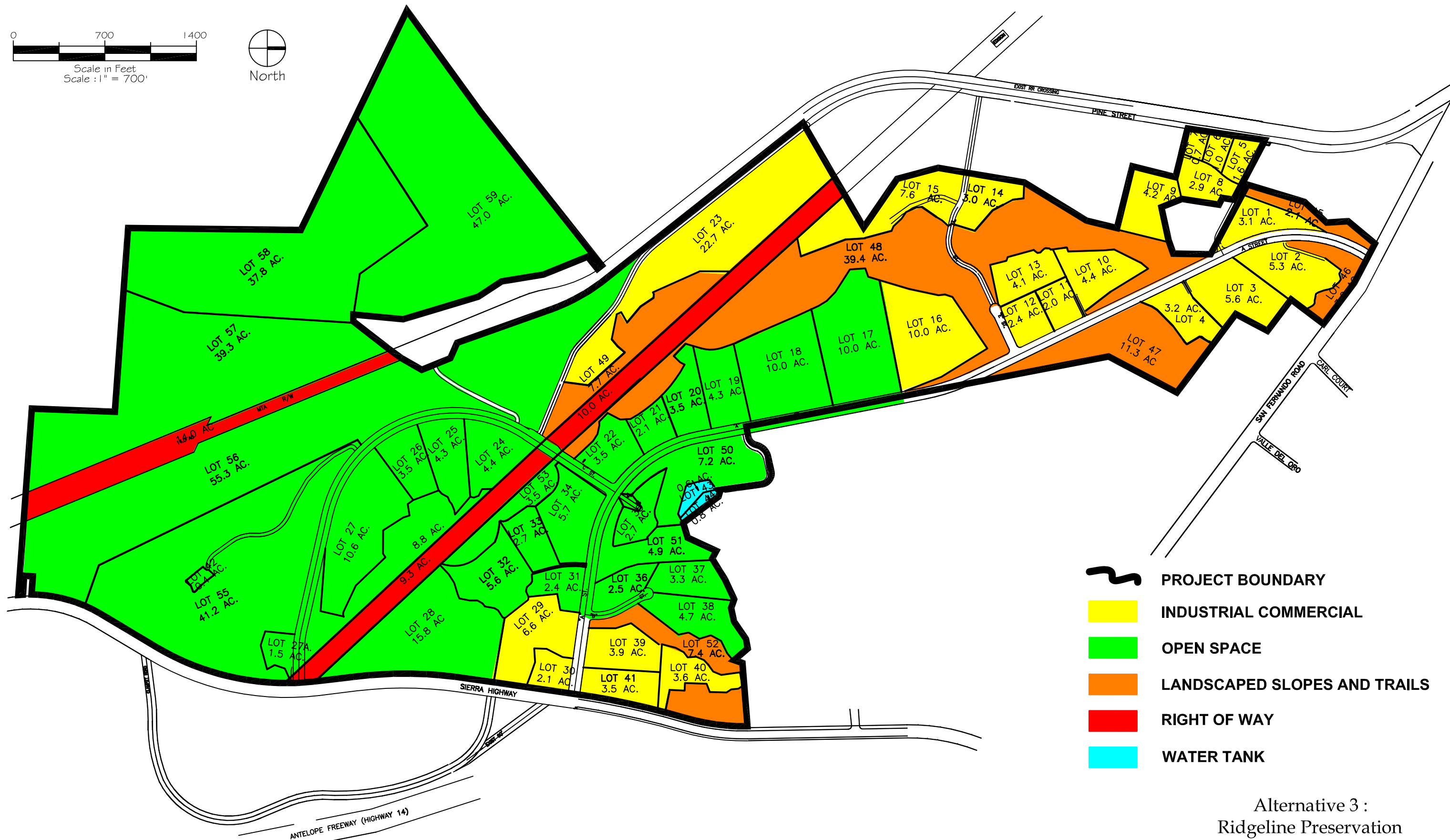
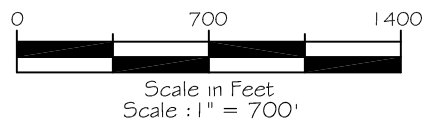
This alternative would add up to 31 new residential units, whereas the proposed project does not include residential uses. Consequently, future demands on recreation would be slightly greater under this alternative. Under this alternative, the recreational needs of anticipated residents could be met by the payment of appropriate park fees and provision of recreational amenities similar to those proposed. Overall, this alternative would have fewer recreational benefits than the proposed project because of the reduction in public open space from 220.6 acres to 93.2 acres. Nevertheless, this alternative's impact could be mitigated to a level considered less than significant through implementation of standard City requirements.







## 6.3 ALTERNATIVE 3: Ridgeline Preservation

Under this alternative, proposed industrial commercial lots 17-22, 24-28, and 31-38 would instead be designated as open space. Also, 'C' Street, 'B' Street, and the segment of 'A' Street between lots 29 and 16 would be eliminated. Thus, 'A' Street would not serve as a throughway connecting San Fernando Road and Sierra Highway. This alternative is illustrated on Figure 6-2. The primary purpose of this alternative is to minimize grading and associated impacts to the Primary ridgeline that crosses through the central portion of the site. This alternative is similar to an alternative design suggested by the Santa Monica Mountains Conservancy in its response to the Notice of Preparation of an EIR (see Appendix A).

Buildout of this alternative would include an estimated 2,041,223 square feet of industrial commercial development on about 67 buildable acres. The overall buildout potential is about 46% of that proposed by the project applicant. The area dedicated as permanent open space would be about 355.5 acres under this alternative, which is about 134.9 acres more open space than proposed by the applicant.





-  PROJECT BOUNDARY
-  INDUSTRIAL COMMERCIAL
-  OPEN SPACE
-  LANDSCAPED SLOPES AND TRAILS
-  RIGHT OF WAY
-  WATER TANK

Alternative 3 :  
Ridgeline Preservation

### 6.3.1 Land Use and Planning

This alternative would result in somewhat fewer overall compatibility conflicts relating to noise, light and glare, and traffic than the proposed project, as there would be 54% less industrial commercial development. As with the proposed project, this alternative would not directly generate any resident population, although the reduction in overall employment onsite would have less potential to indirectly induce population growth in the area.

Like the proposed project, this alternative is considered generally consistent with City Land Use Element goals and policies. Similar to the proposed project, however, it would create impacts to designated Primary and Secondary ridgelines, oak trees, and wildlife migration corridors. Impacts to these resources, particularly to designated ridgelines, would be substantially less than for the proposed project. Nevertheless, any development that affects these resources could potentially be considered in conflict with General Plan policies relating to preservation of biological resources. The City would need to make a finding of consistency with applicable policies in order to approve any alternative.

Overall, land use and population impacts would be similar to but somewhat lower than those associated with the proposed project. Mitigation measures contained in Sections 4.4, *Biology*, 4.6, *Aesthetics/Light and Glare*, 4.9, *Public Services*, 4.10, *Utilities*, and 4.12, *Cultural Resources* would attain consistency with City goals and policies to the degree feasible.

### 6.3.2 Geology

This alternative would allow industrial commercial development on about 67 acres, or about 60% less area than would be developed with industrial commercial uses under the proposed project. Consequently, this alternative would involve less overall grading and fewer changes to site topography. Unlike the proposed project, this alternative would preserve the majority of the Primary and Secondary ridgelines on the project site.

Geologic and seismic hazards would be similar to, but somewhat less than, those associated with the proposed project due to the 54% reduction in overall building area. The substantial reduction in grading on steeply sloped portions of onsite ridgelines would also reduce the potential for grading-induced landsliding.

All mitigation measures prescribed for the proposed project impacts would also apply to this alternative in a general sense. As with the proposed project, geologic impacts could likely be mitigated to less than significant. Residual impacts would be substantially lower under this alternative, particularly with respect to ridgeline grading.

### 6.3.3 Hydrology and Water Quality

As with the proposed project, this alternative would introduce impervious surfaces and involve substantial grading activity. Both factors would contribute to the potential degradation of surface water quality in the Santa Clara River and storm water runoff from this area discharge into the headwaters of Newhall Creek, which is a tributary to the Santa Clara River. The



magnitude of construction-related water impacts would be considerably less under this alternative, as industrial commercial development would be limited to about 67 acres of the site, as compared to the 170.1 acres of commercial industrial development proposed by the project applicant.

Long-term erosion and potential downstream flooding impacts would be less under this alternative than under the proposed project. Again, this would be a function of the lesser site disturbance and reduced grading anticipated under this development option. The lower density of development under this alternative would likely allow greater percolation and infiltration of surface water, with associated benefits to water quality.

Recommended mitigation measures relating to NPDES requirements and a Storm Water Management Plan incorporating Best Management Practices would also apply to under this alternative, and would reduce potential water quality impacts to a level considered less than significant. Proposed drainage mitigation measures, including the use of on-site catch basins and other detention/retention devices, would generally apply and would reduce potential flood impacts to a less than significant level.

#### **6.3.4 Air Quality**

This alternative involves 54% less industrial commercial development as compared to the proposed project and an approximately 135-acre increase in open space area that would not be disturbed. Consequently, overall construction-related emissions would be less than those of the proposed project, yet would still exceed SCAQMD thresholds. As with the proposed project, construction impacts are considered unavoidably significant. All construction-related mitigation measures for the proposed project would also apply to this alternative.

Because of the 54% reduction in overall onsite building area, overall employment and operational air pollutant emissions would be proportionally lower under this alternative. Nevertheless, as with the proposed project, long-term emissions associated with vehicle operations would be expected to exceed SCAQMD significance thresholds. All mitigation measures recommended for the proposed project would also apply to this alternative and would reduce emissions to the degree feasible. Nevertheless, this alternative's air quality impact, though lower than that of the proposed project, would remain unavoidably significant.

#### **6.3.5 Transportation and Circulation**

This alternative would generate fewer automobile trips as compared to the proposed project, as it includes 54% less development. Overall, this alternative would generate about 12,259 daily vehicle trips, or about 46% of the 26,700 daily trips that would be generated by the proposed project. Consequently, general impacts to the neighboring street system would be commensurately less. Although this alternative would have less impact than the project at virtually all study area intersections, most of the significant impacts associated with the project would likely also occur under this alternative. It should also be noted that this alternative would not provide the by-pass for the San Fernando Road/Sierra Highway intersection that would be provided by 'A' Street through the project site; therefore, future through traffic at that intersection could potentially be higher than if this alternative were implemented.





Mitigation measures recommended for the proposed project, including installation of traffic signals, would apply to this alternative as well. Installation of onsite transit stops would also be required under this alternative, although transit routes and transit stop locations would be different than for the proposed project since 'A' Street would not be a throughway.

### 6.3.6 Biological Resources

Similar to the proposed project, Alternative 3 would potentially affect a variety of habitats onsite, including chaparral, Riversidean sage scrub, annual grasslands, oak woodlands, and riparian areas. Removal of these habitats would also significantly affect special status plants such as the Mariposa Lily, Peirson's Morning Glory, and San Fernando Valley Spineflower.

This alternative would involve about 54% less overall industrial commercial development and would increase permanent open space onsite by about 135 acres. Consequently, there would be less overall impact to biological habitats onsite. As with the proposed project, impacts to grassland and riparian habitats would be mitigable. The overall number of live oak trees directly removed by site development would be substantially reduced as compared to the 1,100 live trees that would be directly removed by the proposed project. Nevertheless, although individual trees can be replaced, the loss of oak woodland habitat would remain significant.

As with the proposed project, impacts to wildlife movement corridors would be potentially significant under this alternative. However, the reduced level of development and increased amount of open space provided onsite would reduce impacts to wildlife movement. The proposed project's unavoidably significant impact to the Los Piñetos Road corridor would be reduced to a less than significant level under this alternative due to the elimination of 'C' Street and adjacent development lots.

Overall biological resource impacts associated with this alternative would be substantially lower than those of the proposed project. All mitigation measures recommended for the proposed project would also apply to this alternative and would reduce most biological resource impacts to a less than significant level. However, impacts to oak tree habitats, though less than for the proposed project, would remain unavoidably significant.

### 6.3.7 Noise

Under this alternative, noise would be generated from similar sources as with the proposed project. However, the 54% reduction in industrial commercial development would reduce overall noise generation commensurately. Although maximum noise levels during construction would be similar to those of the proposed project, the overall duration of construction noise would be less. In addition, overall traffic and project-related noise on area roadways would be reduced by about 54%. Although these impacts are not considered significant for the proposed project, this alternative's impact would be lower. Onsite activity would create somewhat less noise than under the proposed project due to the overall reduction in development; however, the areas of potential impact in the northern portion of the site near residential areas along San Fernando Road would remain. As with the proposed project, impacts associated with onsite activity would therefore be potentially significant. All of the mitigation measures

recommended for the proposed project would apply to this alternative and would reduce noise impacts to a less than significant level.

### **6.3.8 Human Health and Safety**

Similar to the proposed project, this alternative would potentially expose persons to health and safety hazards associated with onsite soil and groundwater contamination, oil and gas pipelines, overhead transmission lines, and train activity on the adjacent rail line. The overall potential for exposure to such hazards would be lower due to the 54% reduction in onsite development and corresponding reduction in area to be graded and site employment. As with the proposed project, impacts relating to overhead transmission lines and train activity are not considered significant. Though somewhat less than for the proposed project, impacts associated with soil/groundwater contamination and oil and gas pipelines are considered potentially significant. All of the mitigation measures recommended for the proposed project would apply in a general sense and would reduce health and safety impacts to a level considered less than significant.

### **6.3.9 Public Services**

This alternative would reduce the amount of industrial commercial development by about 54%. Consequently, future demands on public services, including fire and police protection, schools, and libraries, would be reduced proportionately. Impacts to schools and libraries would be considered less than significant. As with the proposed project, impacts to police and fire services would be potentially significant. Mitigation measures recommended for the project would apply and would reduce police and fire service impacts to a less than significant level. It should be noted, however, that the elimination of 'A' Street as a through street may incrementally worsen police and fire response times to certain portions of the project site.

As with the proposed project, this alternative would be located in a very high fire hazard area; therefore, although the reduction in development under this alternative would create less overall fire hazard, compliance with applicable LACFD requirements pertaining to wildfire hazards, including development of a Fuel Modification Plan, would be required. Implementation of the mitigation measures recommended for the proposed project would reduce this alternative's impact to a less than significant level.

### **6.3.10 Utilities**

Like public services, impacts to public utilities are generally a function of projected population increase, and the amount of commercial development expected. Under this alternative, 2.04 million square feet of industrial commercial land uses could be developed, as compared to 4.45 million square feet proposed by the applicant.

Onsite water demand would be about 152 AFY under this alternative, which is about 60% less than the demand of the proposed project. This alternative would also generate less wastewater than the proposed project (about 109,000 gpd as compared to 276,000 gpd for the proposed project). Overall water and wastewater impacts would therefore be lower under this alternative than for the proposed project. The mitigation measures recommended for the project would reduce water supply impacts to a less than significant level.



This alternative would demand an estimated 49 million kilowatt-hours electricity per year, and 134 million cubic feet of natural gas per year. This is about 46% of the electricity and the natural gas that would be used by the proposed project. As with the proposed project, no significant impact to electricity or natural gas service is anticipated.

This alternative would generate about 13.4 tons of solid waste per day, about 46% of what would be generated by the proposed project. As with the proposed project, it is presumed that at least 50% of solid waste generated would be diverted from area landfills. Impacts to solid waste disposal service could be reduced to less than significant through implementation of the mitigation measures recommended for the project.

### **6.3.11 Aesthetics**

As with the proposed project, this alternative has the potential to alter viewsheds, introduce new sources of light and glare, and accommodate structural development that could be inconsistent with the Community Design Element, and modify the aesthetic character of the project site.

Unlike the proposed project, this alternative would largely leave intact much of the Primary ridgeline that crosses through the central portion of the site. The northernmost portion of the Primary ridgeline would be graded under this alternative, but the majority of the ridgeline would be preserved. Therefore, the major visual feature of the site would be retained to a greater degree under this alternative. In addition, the site would retain a more rural character in that more of the site would be dedicated to open space than under the proposed project with larger contiguous areas of open space. The scenic character of the site would be altered to a lesser extent than under the proposed project.

This alternative would introduce light and glare into a currently rural area. However, the impact would be less than expected under the proposed project, due to the reduction in industrial commercial development under this alternative. The lighted signs and extensive parking lot lighting associated with such development would be less under this alternative. Impacts would be potentially significant but mitigable.

Overall, aesthetic impacts would be substantially less than expected under the proposed project, primarily because of the retention of the most of the Primary ridgeline that crosses through the central portion of the site. All mitigation measures recommended for the proposed project would apply. Unlike the proposed project, this alternative's viewshed impact could be reduced to a level considered less than significant, although the Planning Commission would still need to make findings with respect to an innovative grading design since this alternative would alter portions of a Primary ridgeline.

### **6.3.12 Cultural Resources**

Neither previous archaeological investigations in the area or the surveys conducted for the proposed project identified any significant or potentially significant surface remains of a prehistoric or historic archaeological nature within the project boundaries. Therefore, development under this alternative would not affect any known archaeological resources of significance. Nevertheless, as with the proposed project, grading associated with this

alternative would have the potential to disturb previously undiscovered cultural remains that may exist onsite. As the overall area to be graded would be reduced by about 135 acres under this alternative, the potential to encounter undiscovered resources would be incrementally less.

As with the proposed project, this alternative would involve construction activity in the immediate vicinity of the Pioneer Oil Refinery, which is located directly adjacent to the project site. It would also increase access to this historic resource and may therefore provide individuals who have little concern for the protection and enhancement of cultural resource remains with the opportunity to vandalize or damage significant resources.

Overall, the potential for cultural resource impacts is somewhat less than under the proposed project because of the overall reduction in the area to be graded. The mitigation measures recommended for the project would apply and, as with the proposed project, would reduce impacts to a level considered less than significant.

### **6.3.13 Recreation**

This alternative would reduce the amount of industrial commercial development and associated employment onsite by about 54% and increase the amount of open space as compared to the proposed project by about 135 acres. The reduction in onsite employment would reduce future demands on local recreational facilities as compared to the proposed project. In addition, the increase in public open space onsite would provide additional recreational opportunities as compared to the proposed project. The mitigation measures recommended for the proposed project would apply. With these measures, this alternative would increase the potential to provide additional recreational opportunities to the community as compared to the proposed project.

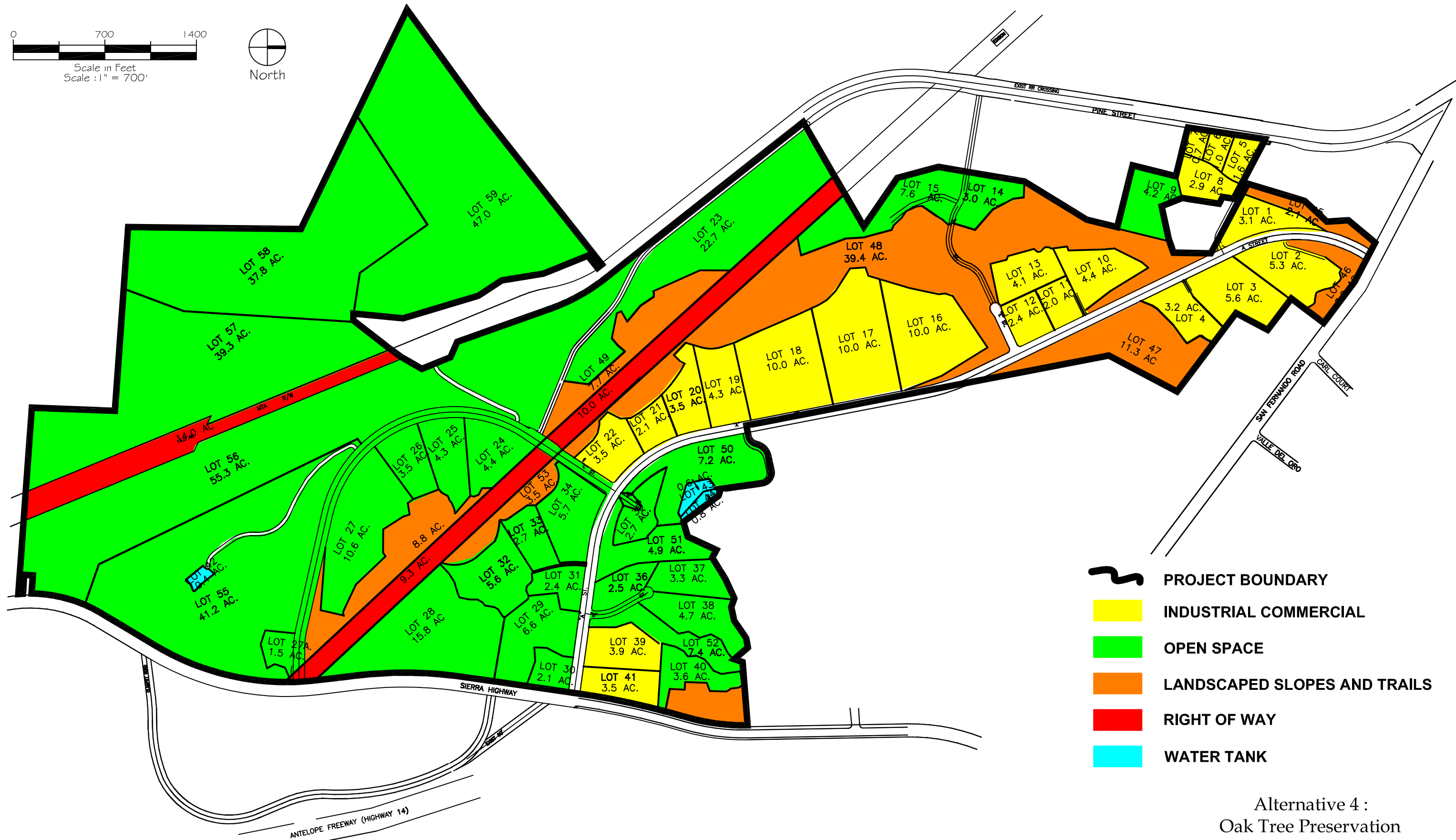
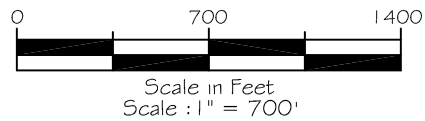
## **6.4 ALTERNATIVE 4: Oak Tree Preservation**







Under this alternative, industrial commercial lots 9, 14, 15, 23, and 26- 38 would instead be dedicated as permanent open space. Landscape lots 50-53 would also be left as undeveloped open space. In addition, neither 'B' Street nor 'C' Street would be constructed and the extension of 'E' Street to connect to Pine Street would be eliminated. This alternative is illustrated on Figure 6-3. The primary purpose of the alternative is to avoid areas with substantial numbers of oak trees in order to minimize impacts to oaks and oak woodland habitat.

Buildout under this alternative would involve an estimated 2,260,766 square feet of industrial commercial development on about 71.3 acres. The total building area under this alternative represents a 49.1% reduction as compared to the proposed project. About 351.2 acres (60.1% of the site) would be dedicated as permanent open space, which represents a 130.6-acre increase as compared to the proposed project.

### **6.4.1 Land Use and Planning**

This alternative would reduce overall industrial commercial development onsite by about 49% as compared to the proposed project. As such, it would result in fewer overall compatibility conflicts than the proposed project. Implementation of the measures recommended for the



-  PROJECT BOUNDARY
-  INDUSTRIAL COMMERCIAL
-  OPEN SPACE
-  LANDSCAPED SLOPES AND TRAILS
-  RIGHT OF WAY
-  WATER TANK

Alternative 4 :  
Oak Tree Preservation

proposed project would reduce such impacts to a less than significant level. As with the proposed project, this alternative would not directly generate population growth; indirect growth relating to employment increases would be lower since this alternative would generate approximately 49% fewer employees than the proposed project.

Similar to the proposed project, this alternative is considered generally consistent with City Land Use Element goals and policies. Like the proposed project, however, it would involve grading on Primary and Secondary ridgelines and would also involve impacts to oak trees and wildlife migration corridors. Although the impacts to these resources would be substantially less than for the proposed project, any development that affects these resources could potentially be found to be in conflict with General Plan policies relating to the preservation of biological resources. The City would need to make findings of consistency with applicable General Plan policies to approve any alternative.

Overall, land use and population impacts would be similar to, but slightly less than, those expected under the proposed project. Mitigation measures contained in Sections 4.4, *Biology*, 4.6, *Aesthetics/Light and Glare*, 4.9, *Public Services*, 4.10, *Utilities*, and 4.12, *Cultural Resources* would attain consistency with City goals and policies to the degree feasible.

#### **6.4.2 Geology**

This alternative would allow industrial commercial development on about 71.3 acres, or roughly 98.8 fewer acres than would be developed with such uses under the proposed project. Several steeply sloped areas in the southern portion of the site that would be graded under the proposed project would be left intact under this alternative. Consequently, impacts relating to grading would be less than expected under the proposed project.

This alternative would greatly alter the site's topography, though to a lesser degree than the proposed project. Although the overall amount of grading on designated ridgelines would be reduced as compared to the proposed project, this alternative would involve grading on both Primary and Secondary ridgelines.

All mitigation measures prescribed for the proposed project impacts would also apply to this alternative. Similar to the proposed project, seismic issues could be mitigated to a less than significant level. As with the proposed project, grading on hillside areas could be found to be inconsistent with City hillside grading requirements. The City would need to make a finding of consistency in order to approve any alternative.

#### **6.4.3 Hydrology and Water Quality**

As with the proposed project, this alternative would introduce impervious surfaces and involve substantial grading. Both factors would contribute to potential degradation of surface water quality in the Santa Clara River and storm water runoff from this area discharge into the headwaters of Newhall Creek, which is a tributary to the Santa Clara River. The magnitude of construction-related water impacts would be less under this alternative, as about 98.8 fewer acres would be developed with industrial commercial uses.

Long-term erosion and potential downstream flooding impacts would be somewhat less under this alternative than under the proposed project due to the lesser amount of site disturbance and reduction in overall site grading. The lower density of development under this alternative would also allow somewhat greater rates of percolation and infiltration of surface water, with associated benefits to water quality.

Recommended mitigation measures relating to NPDES requirements and a Storm Water Management Plan incorporating Best Management Practices would also apply to this alternative, and would reduce potential water quality impacts to a level considered less than significant. Proposed drainage mitigation measures, including the use of on-site catch basins and other detention/retention devices, would reduce potential flood impacts to a less than significant level. Since City policies prohibit an increase in peak runoff volume from the site, residual flooding impacts associated with this alternative would be similar to those of the proposed project.

#### **6.4.4 Air Quality**

This alternative would involve about 49% less industrial commercial development than the proposed project and would avoid grading of about 131 acres that would be graded for industrial commercial development under the proposed project. Consequently, although worst-case daily construction emissions would be about the same as for the proposed project, the overall duration of construction would be shorter. Nevertheless, as with the proposed project, construction impacts are considered unavoidably significant. All construction-related mitigation measures recommended for the proposed project would also apply to this alternative.

Overall operational air pollutant emissions would be lower under this alternative due to the 49% reduction in industrial commercial development and associated vehicle trips and energy consumption. Nevertheless, as with the proposed project, long-term emissions associated with vehicle operations would be expected to exceed SCAQMD significance thresholds. All mitigation measures recommended for the proposed project would also apply to this alternative. Although residual emissions would be less than for the proposed project, they would exceed SCAQMD thresholds; therefore, this alternative's operational air quality impact is considered unavoidably significant.

#### **6.4.5 Transportation and Circulation**

This alternative would generate an estimated 13,578 daily vehicle trips, about 51% of what would be generated by the proposed project. General impacts to the neighboring street system would therefore be commensurately less. Although this alternative would have less impact than the project at virtually all study area intersections, most of the significant impacts associated with the project would likely also occur under this alternative. As such, mitigation measures recommended for the project, including installation of traffic signals, would apply to this alternative as well. Installation of onsite transit stops would also be required under this alternative, although transit stop locations may be somewhat different than for the proposed project.

### 6.4.6 Biological Resources

Like the proposed project, implementation of this alternative would affect a variety of habitats onsite, including chaparral, Riversidean sage scrub, annual grasslands, oak woodlands, and riparian areas. Removal of these habitats would also significantly affect special status plants such as the Mariposa Lily, Peirson's Morning Glory, and San Fernando Valley Spineflower.

This alternative would involve about 49% less overall industrial commercial development as compared to the proposed project and would increase permanent open space onsite by about 131 acres. As such, overall impacts to onsite biological habitats would be somewhat less. As with the proposed project, impacts to grassland and riparian habitats would be mitigable through implementation of the measures recommended for the project. The reduced grading envelope associated with this alternative would substantially reduce the overall number of live oak trees directly removed by eliminating development on the oak grove lots (14, 28, 29, 30, and 31) as well as on several other lots with large stands of oaks. Nevertheless, although the loss of individual oaks could be mitigated, impacts to oak woodland habitat would remain significant.

This alternative's impacts to wildlife movement corridors would be potentially significant. However, the reduced level of development and increased amount of open space provided onsite would reduce impacts to wildlife movement. The unavoidably significant impact to the Los Piñetos Road corridor associated with the proposed project would be reduced to a less than significant level under this alternative due to the elimination of 'C' Street and adjacent development lots.

Overall biological resource impacts associated with this alternative would be substantially lower than those of the proposed project. All mitigation measures recommended for the proposed project would also apply to this alternative and would reduce most biological resource impacts to a less than significant level. Impacts to oak trees and oak woodland habitats would be greatly reduced as compared to the proposed project; however, such impacts would remain unavoidably significant due to the loss of habitat.

### 6.4.7 Noise

Maximum noise levels during construction would be similar to those associated with the proposed project. However, the 49% overall reduction in industrial commercial development onsite would reduce the overall duration of construction noise. The long-term generation of traffic noise would also be lower due to the overall reduction in development. Although these impacts are not considered significant for the proposed project, this alternative's impact would be lower. Onsite activity would create somewhat less noise than under the proposed project due to the overall reduction in development; however, the areas of potential impact in the northern portion of the site near residential areas along San Fernando Road would remain. As with the proposed project, impacts associated with onsite activity would therefore be potentially significant. All of the mitigation measures recommended for the proposed project would apply to this alternative and would reduce noise impacts to a less than significant level.



### 6.4.8 Human Health and Safety

As with the proposed project, buildout of this alternative would potentially expose persons to health and safety hazards associated with onsite soil and groundwater contamination, oil and gas pipelines, overhead transmission lines, and train activity on the adjacent rail line. The overall potential for exposure to such hazards would be lower due to the 49% reduction in onsite development. As with the proposed project, impacts relating to overhead transmission lines and train activity are not considered significant. Though somewhat less than for the proposed project, impacts associated with soil/groundwater contamination and oil and gas pipelines are considered potentially significant. All of the mitigation measures recommended for the proposed project would apply in a general sense and would reduce this alternative's health and safety impacts to a level considered less than significant.

### 6.4.9 Public Services

Alternative 4 would reduce the amount of industrial commercial development by about 49% as compared to the proposed project. Consequently, future demands on public services, including fire and police protection, schools, and libraries, would be reduced in proportionately. As with the proposed project, impacts to schools and libraries would be considered less than significant. Impacts to police and fire services would be substantially less than under the proposed project, but would still be potentially significant. Mitigation measures recommended for the project would apply in a general sense and would reduce police and fire service impacts to a less than significant level. It should be noted, however, that the elimination of 'A' Street as a throughway connecting San Fernando Road and Sierra Highway may incrementally worsen police and fire response times to certain portions of the project site.

This alternative would be located in a very high fire hazard area. The reduction in development under this alternative would generate less overall fire hazard. Nevertheless, compliance with applicable LACFD requirements pertaining to wildfire hazards, including development of a Fuel Modification Plan, would be required. Implementation of the mitigation measures recommended for the proposed project would reduce also this alternative's impact to a less than significant level.

### 6.4.10 Utilities

Under this alternative, about 2.26 million square feet of industrial commercial land uses could be developed, which is about 51% of the 4.45 million square feet proposed by the applicant. Consequently, demand for utilities would be commensurately less.

Onsite water demand would be about 162 AFY under this alternative, or about 49% lower than under the proposed project. This alternative would also generate less wastewater than the proposed project (about 116,000 gpd as compared to 276,000 gpd for the proposed project). Overall water and wastewater impacts would therefore be lower under this alternative. The mitigation measures recommended for the project would reduce water supply impacts to a less than significant level.

This alternative would demand an estimated 54 million kilowatt-hours electricity per year, and 149 million cubic feet of natural gas per year. This is about 51% of the electricity and natural



gas that would be used by the proposed project. As with the proposed project, no significant impact to electricity or natural gas service is anticipated.

Alternative 4 would generate an estimated 14.8 tons of solid waste per day, about 51% of what would be generated by the proposed project. As with the proposed project, it is presumed that at least 50% of solid waste generated would be diverted from area landfills. Impacts to solid waste disposal service could be reduced to a less than significant level through implementation of the mitigation measures recommended for the project.

#### **6.4.11 Aesthetics**

As with the proposed project, this alternative has the potential to alter viewsheds, introduce new sources of light and glare, accommodate structural development that could be inconsistent with the Community Design Element, and modify the aesthetic character of the project site. The overall change to the visual character of the project site would be less because of the overall reduction in area to be developed. In particular, impacts to the Sierra Highway and SR 14 corridors would be reduced due to the removal of a number of development lots in the southeastern portion of the site.

The removal of 'C' Street and associated grading would reduce overall impacts to onsite ridgelines. However, impacts to the Primary ridgeline that crosses through the central portion of the site would be similar to those of the proposed project since 'A' Street would remain as a through street. Impacts relating to ridgeline grading would therefore be unavoidably significant.

Although this alternative would introduce light and glare into a currently undeveloped area, the impact would be less than expected under the proposed project due to the reduction in industrial commercial development under this alternative. Lighting impacts would be potentially significant but mitigable.

Overall, aesthetic impacts would be less than expected under the proposed project. All project mitigation measures would apply. Impacts relating to lighting could be reduced to a less than significant level. The impact associated with ridgeline grading, though less than for the proposed project, would remain unavoidably significant.

#### **6.4.12 Cultural Resources**

Potentially significant prehistoric or historic resources have not been identified onsite in either previous archaeological investigations in the area or the surveys conducted for the proposed project. Therefore, development under this alternative would not affect any known resources. Nevertheless, as with the proposed project, grading associated with this alternative would have the potential to disturb previously undiscovered cultural remains that may exist onsite. As the overall area to be graded would be reduced by about 131 acres under this alternative, the potential to encounter undiscovered resources would be incrementally less.

As with the proposed project, this alternative would involve construction activity in the immediate vicinity of the Pioneer Oil Refinery, which is located directly adjacent to the project site. It would also increase access to this historic resource and may therefore provide



individuals who have little concern for the protection and enhancement of cultural resource remains with the opportunity to vandalize or damage significant resources.

Overall, the potential for cultural resource impacts is somewhat less than under the proposed project because of the overall reduction in area to be graded and reduced magnitude of development overall. The mitigation measures recommended for the project would apply and, as with the proposed project, would reduce impacts to a level considered less than significant.

### **6.4.13 Recreation**

Alternative 4 would reduce the amount of industrial commercial development and associated employment onsite as compared to the proposed project by about 49% and would increase the amount of open space by about 131 acres. The reduction in onsite employment would reduce future demands on local recreational facilities commensurately. The increase in public open space onsite would provide additional recreational opportunities as compared to the proposed project. Impacts would generally be beneficial, but mitigation measures recommended for the proposed project and relating to specific design of recreational features would apply. With these measures, this alternative would increase the potential to provide additional recreational opportunities to the community as compared to the proposed project.

## **6.5 ALTERNATIVE 5: Reconfigured 'C' Street**

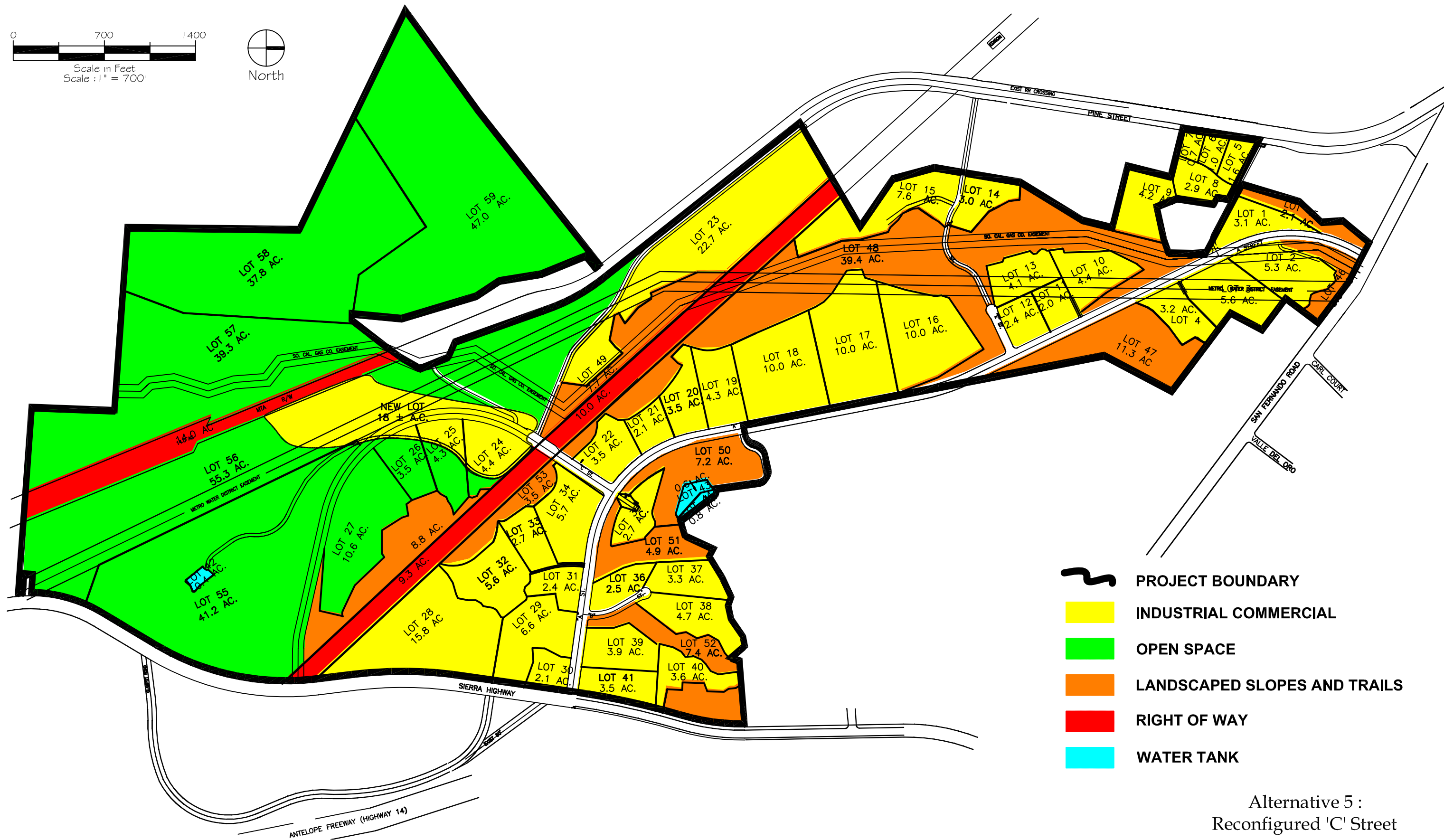
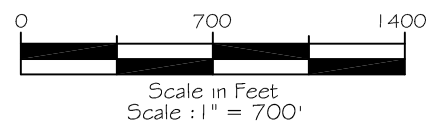
The alternative would eliminate all but about the 900 northernmost feet of 'C' Street and would eliminate most of the planned development along 'C' Street. Specifically, proposed industrial commercial lots 24-27, and 27A, and the adjacent 8.8-acre landscape slope area would be left as permanent open space. One new industrial commercial lot would be added at the end of the reconfigured 'C' Street. This approximately 18-acre lot would accommodate an estimated 470,448 square feet of industrial commercial building area. This alternative is illustrated on Figure 6-4.







In all, this alternative would include an estimated 4,356,872 square feet of industrial commercial development on about 163.8 acres. The overall building area is about 2% less than proposed by the project applicant. Natural open space onsite would increase to about 235.7 acres, which represents about 40% of the site and a 7% increase over the amount of public open space provided under the proposed project.

### **6.5.1 Land Use and Planning**

Alternative 5 would reduce overall industrial commercial development onsite by about 2% as compared to the proposed project. The elimination of development lots in the southeastern portion of the site would not substantively change the potential for land use conflicts; therefore, compatibility impacts would be about the same as those of the proposed project. Implementation of the measures recommended for the proposed project would reduce such impacts to a less than significant level. As with the proposed project, this alternative would not directly generate population growth; indirect growth relating to employment increases would be incrementally lower since this alternative would generate approximately 2% fewer employees than the proposed project.





-  PROJECT BOUNDARY
-  INDUSTRIAL COMMERCIAL
-  OPEN SPACE
-  LANDSCAPED SLOPES AND TRAILS
-  RIGHT OF WAY
-  WATER TANK

Alternative 5 :  
Reconfigured 'C' Street

As with the proposed project, this alternative is considered generally consistent with City Land Use Element goals and policies. Like the proposed project, however, it would involve grading on Primary and Secondary ridgelines and would also involve impacts to oak trees and wildlife movement corridors. Impacts to these resources would be incrementally less than for the proposed project since most of 'C' Street and associated development lots would be removed. However, any development that affects these resources could potentially be considered in conflict with General Plan policies relating to the preservation of biological resources. The City would need to make findings of consistency with applicable General Plan policies to approve any alternative.

Overall, land use and population impacts would be essentially similar to those expected under the proposed project. Mitigation measures contained in Sections 4.4, *Biology*, 4.6, *Aesthetics/Light and Glare*, 4.9, *Public Services*, 4.10, *Utilities*, and 4.12, *Cultural Resources* would attain consistency with City goals and policies to the degree feasible.

### 6.5.2 Geology

This alternative would allow industrial commercial development on about 163.8 acres, or roughly 6.3 fewer acres than would be developed with such uses under the proposed project. For most of the site, grading and seismic hazards would be identical to that associated with the proposed project. However, steeply sloped areas in the southeastern portion of the site that would be graded under the proposed project would not be graded under this alternative. Consequently, overall grading and associated impacts would be somewhat less than expected under the proposed project.

This alternative would greatly alter the site's topography, though to a lesser degree than the proposed project. The overall amount of grading on designated ridgelines would be incrementally reduced through the elimination of most of 'C' Street and adjacent development lots. Nevertheless, this alternative would involve grading on both Primary and Secondary ridgelines.

All mitigation measures recommended for the proposed project would apply to Alternative 5. As with the proposed project, seismic issues could be mitigated to a less than significant level. Grading of Primary and Secondary ridgelines could be found to be inconsistent with City hillside grading requirements. The City would need to make a finding of consistency in order to approve any alternative.

### 6.5.3 Hydrology and Water Quality

This alternative would introduce impervious surfaces and involve substantial grading, similar to the proposed project. Both factors would contribute to the potential degradation of surface water quality in the Santa Clara River and Newhall Creek, which is a tributary to the Santa Clara River. The magnitude of construction-related water impacts would be incrementally less under this alternative, as about 6.3 fewer acres would be developed with industrial commercial uses.

Long-term erosion and potential downstream flooding impacts would be similar to that associated with the proposed project since the overall level of site disturbance would be similar.



The reduction in overall development as compared to the proposed project would incrementally reduce impacts to surface water quality.

Mitigation measures relating to NPDES requirements and implementation of a Storm Water Management Plan incorporating Best Management Practices would apply to this alternative. These measures would reduce potential water quality impacts to a level considered less than significant. Proposed drainage mitigation measures, including the use of on-site catch basins and other detention/retention devices, would reduce potential flood impacts to a less than significant level. As City policy prohibits an increase in peak runoff volume from the site, residual flooding impacts associated with this alternative would be similar to those of the proposed project.

#### **6.5.4 Air Quality**

Alternative 5 would involve about 2% less industrial commercial development than the proposed project and would reduce the overall area to be developed with industrial commercial uses by about 6.3 acres. Worst-case daily construction emissions would be about the same as for the proposed project, but the overall duration of construction would be shorter. All construction-related mitigation measures recommended for the proposed project would also apply to this alternative. Nevertheless, as with the proposed project, construction impacts would be unavoidably significant under SCAQMD thresholds.

Operational air pollutant emissions would be incrementally lower under this alternative due to the 2% reduction in industrial commercial development. Nevertheless, as with the proposed project, long-term emissions associated with vehicle operations would be expected to exceed SCAQMD significance thresholds. All mitigation measures recommended for the proposed project would apply. Although residual emissions would be less than for the proposed project, they would exceed SCAQMD thresholds. This alternative's operational air quality impact is considered unavoidably significant.

#### **6.5.5 Transportation and Circulation**

Alternative 5 would generate about 98% of what would be generated by the proposed project. General impacts to the neighboring street system would therefore be slightly less than, but essentially the same as, those of the proposed project. All of the significant study area intersection impacts associated with the project would also be expected to occur under this alternative, although to a slightly lesser degree. As such, mitigation measures recommended for the project, including installation of traffic signals, would also apply to this alternative. Installation of onsite transit stops would also be required under this alternative, although the number and locations of transit stops may be somewhat different than for the proposed project.

#### **6.5.6 Biological Resources**

As with the proposed project, Alternative 5 would potentially affect a variety of habitats on-site, including chaparral, Riversidean sage scrub, annual grasslands, oak woodlands, and riparian areas. Removal of these habitats would also significantly affect special status plants such as the Mariposa Lily, Peirson's Morning Glory, and San Fernando Valley Spineflower.

This alternative would involve about 2% less overall industrial commercial development and would increase permanent open space in the southeastern portion of the site by about 15.1 acres. Consequently, there would be slightly less overall impact to biological habitats onsite. Impacts to grasslands and riparian habitats would be about the same as for the proposed project and would be mitigable. Impacts to oak woodlands in the southeastern portion of the site would be reduced due to the elimination of most of 'C' Street and adjacent development lots. The loss of individual oaks could be mitigated, but impacts to oak woodland habitat would remain significant.

Impacts to wildlife crossings would be potentially significant but mitigable under this alternative. The elimination of much of the development in the southeastern portion of the site would eliminate the proposed project's unavoidably significant impact to the Los Piñetos Road corridor.

Overall biological resource impacts associated with this alternative would be lower than those of the proposed project. All mitigation measures recommended for the proposed project would also apply to this alternative and would reduce most biological resource impacts to a less than significant level. Impacts to oak trees and associated habitat would be less than for the proposed project, but would remain unavoidably significant.

### **6.5.7 Noise**

Maximum noise levels during construction would be similar to those associated with the proposed project. The 2% overall reduction in industrial commercial development onsite would incrementally reduce the overall duration of construction noise, although there are no noise sensitive receptors near the southeastern portion of the site where the reduction in development would occur.

The long-term generation of traffic noise would also be slightly lower due to the overall reduction in development. Traffic-related noise impacts are not considered significant for the proposed project. This alternative's impact would be incrementally lower. Onsite activity would create slightly less noise than under the proposed project due to the reduction in overall development; however, the areas of potential impact in the northern portion of the site near residential areas along San Fernando Road would remain. Impacts associated with onsite activity would be about the same as for the project and are considered potentially significant.

All of the mitigation measures recommended for the proposed project would apply to this alternative. As with proposed project, implementation of these measures would reduce noise impacts to a less than significant level.

### **6.5.8 Human Health and Safety**

This alternative would potentially expose persons to health and safety hazards associated with onsite soil and groundwater contamination, oil and gas pipelines, overhead transmission lines, and train activity on the adjacent rail line. The overall potential for exposure to such hazards would be generally similar to that of the proposed project, although the elimination of development lots in the southeastern portion of the site may incrementally reduce potential conflicts with abandoned oil well sites. As with the proposed project, impacts associated with

overhead transmission lines and train activity are not considered significant. Though incrementally lower than under the proposed project, impacts associated with soil/groundwater contamination and oil and gas pipelines are considered potentially significant. All of the mitigation measures recommended for the proposed project would apply in a general sense and would reduce this alternative's health and safety impacts to a level considered less than significant. Residual impacts would be similar to, but slightly less than, those of the proposed project.

### **6.5.9 Public Services**

This alternative would reduce onsite industrial commercial development by about 2% as compared to the proposed project. As such, future demands on public services, including fire and police protection, schools, and libraries, would be reduced commensurately. As with the proposed project, impacts to schools and libraries would be considered less than significant. Impacts to police and fire services would be about the same as those of the proposed project and would be potentially significant. Mitigation measures recommended for the project would apply in a general sense and would reduce police and fire service impacts to a less than significant level.

As with the proposed project, this alternative would be located in a very high fire hazard area. The slight reduction in overall development under this alternative would incrementally reduce the overall fire hazard. Nevertheless, compliance with applicable LACFD requirements pertaining to wildfire hazards, including development of a Fuel Modification Plan, would be required. Implementation of the mitigation measures recommended for the proposed project would reduce this alternative's impact to a less than significant level.

### **6.5.10 Utilities**

About 4.36 million square feet of industrial commercial development would be developed under Alternative 5, which is about 2% less than the 4.45 million square feet proposed by the applicant. Consequently, demand for utilities would be commensurately less.

Onsite water demand would be about 372 AFY under this alternative, or about 4% lower than under the proposed project. This alternative would also generate less wastewater than the proposed project (about 266,000 gpd as compared to 276,000 gpd for the proposed project). Overall water and wastewater impacts would therefore be lower under this alternative than for the proposed project. Implementation of measures recommended for the project would reduce water supply impacts to a less than significant level.

This alternative would generate demand for an estimated 105 million kilowatt-hours electricity per year, and 286 million cubic feet of natural gas per year. This is about 2% less electricity and natural gas that would be used by the proposed project. As with the proposed project, no significant impact to electricity or natural gas service is anticipated.

Alternative 5 would generate an estimated 28.5 tons of solid waste per day, about 98% of what would be generated by the proposed project. As with the proposed project, it is presumed that at least 50% of solid waste generated would be diverted from area landfills. Impacts to solid



waste disposal service could be reduced to a less than significant level through implementation of the mitigation measures recommended for the project.

### 6.5.11 Aesthetics

As with the proposed project, buildout of Alternative 5 would alter viewsheds, introduce new sources of light and glare, accommodate structural development that could be inconsistent with the Community Design Element, and modify the aesthetic character of the project site. The overall change to the visual character of the project site would be slightly less due to the elimination of several development lots and a 'C' Street in the southeastern portion of the site. In particular, this change would reduce impacts to the Sierra Highway and SR 14 corridors.

The removal of most of 'C' Street and the associated reduction in grading would reduce overall impacts to onsite ridgelines. Nevertheless, grading and associated impacts to the Primary ridgeline that crosses through the central portion of the site would be similar to those of the proposed project. As with the proposed project, impacts relating to ridgeline grading would be unavoidably significant.

Like the proposed project, this alternative would introduce light and glare into a currently undeveloped area. The impact would be similar to, but slightly less than, expected under the proposed project due to the 4.4% reduction in industrial commercial development. Lighting impacts would be potentially significant but mitigable.

Overall, aesthetic impacts would be similar to, but slightly less than, those associated with the proposed project. All mitigation measures recommended for the project would apply and would reduce impacts relating to lighting could be reduced to a less than significant level. However, as with the proposed project, the impact associated with ridgeline grading would remain unavoidably significant.

### 6.5.12 Cultural Resources

Neither the previous archaeological investigations in the area or the surveys conducted for the proposed project identified significant historic or archaeological resources that would be affected by planned site development. Therefore, development under this alternative would not affect any known resources. Nevertheless, as with the proposed project, grading associated with this alternative would have the potential to disturb previously undiscovered cultural remains that may exist onsite. As the overall area to be graded would be reduced by about 10 acres under this alternative, the potential to encounter undiscovered resources would be incrementally less.

Like the proposed project, Alternative 5 would involve construction activity in the immediate vicinity of the Pioneer Oil Refinery, which is located directly adjacent to the project site. It would also increase access to this historic resource and may therefore provide individuals who have little concern for the protection and enhancement of cultural resource remains with the opportunity to vandalize or damage significant resources.

Overall, the potential for cultural resource impacts is similar to, but incrementally less than under the proposed project because of the reduction in area to be graded and reduced

magnitude of development overall. The mitigation measures recommended for the project would apply and, as with the proposed project, would reduce impacts to a level considered less than significant.

### 6.5.13 Recreation

This alternative would reduce overall industrial commercial development and associated employment onsite as compared to the proposed project by about 2% and would increase the amount of open space by over 15 acres. The reduction in onsite employment would reduce future demands on local recreational facilities commensurately. The increase in public open space onsite would improve onsite recreational opportunities in the southeastern portion of the site. As with the proposed project, recreational impacts would generally be beneficial, but mitigation measures recommended for the proposed project and relating to specific design of recreational features would apply. With these measures, this alternative would incrementally improve recreational opportunities as compared to the proposed project.

## 6.6 DISCUSSION OF ALTERNATIVE SITES

The evaluation of alternative sites is subject to special consideration under CEQA. The California Supreme Court, in *Citizens of Goleta Valley v. Board of Supervisors* (1990), indicates that a discussion of alternative sites is needed if the project “may be feasibly accomplished in a successful manner considering the economic, environmental, social, and technological factors involved” at another site.

As suggested in *Goleta*, several criteria form the basis of whether alternative sites need to be considered in detail. These criteria take the form of the following questions:

1. *Could the size and other characteristics of another site physically accommodate the project?*
2. *Is another site reasonably available for acquisition?*
3. *Is the timing of carrying out development on an alternative site reasonable for the applicant?*
4. *Is the project economically feasible on another site?*
5. *What are the land use designation(s) of alternative sites?*
6. *Does the lead agency have jurisdiction over alternative sites? and*
7. *Are there any social, technological, or other factors that may make the consideration of alternative sites infeasible?*

Based on discussions between the applicant and City staff, no alternate sites were identified meeting the majority of the general criteria outlined above. The applicant does not have access to other sites that would allow the project objectives to be met, and other sites of sufficient size that would reduce or avoid the project’s environmental impacts are not present in the City. The pursuit of other sites outside the jurisdiction of the City is not considered feasible, either from an economic or timing standpoint. Consequently, alternative sites are not discussed further in this EIR.

## 6.7 ALTERNATIVES CONSIDERED BUT REJECTED

An alternative that completely avoids grading on the Primary ridgeline onsite was specifically considered for inclusion in the EIR. Such a scenario would be similar to Alternative 3



(Ridgeline Preservation), but would also entail removing development lots 1-4, 10-13, and 16, as well as the northernmost portion of 'A' Street. This alternative would have a range of environmental benefits, particularly with respect to viewsheds and compliance with applicable hillside grading restrictions. However, it was ultimately rejected from further analysis for two reasons: (1) the reduction in allowable development necessary for the alternative would likely make development of the alternative financially infeasible for the applicant; and (2) the Ridgeline Preservation alternative studied in this section achieves the basic objective of reducing impacts to important ridgelines on the site.

## 6.8 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Table 6-3 provides a summary comparison of the proposed project and various alternatives. The table indicates both the magnitude of each impact for each alternative (Class I, II, III, or IV) and how the impact for each alternative compares to the proposed project (superior [+], similar [=], or inferior [-]).

Each of the alternatives except for the General Plan build out alternative would be environmentally superior to the proposed project in at least one issue area. The No Project Alternative is considered environmentally superior for most issue areas, as it would have no impact. However, that alternative would not fulfill the basic objective of the project, which is to construct an industrial commercial-oriented development. Further, the No Project alternative would not preclude the site from eventual development in accordance with the existing General Plan designation for the site.

Among the development scenarios, Alternatives 3 and 4 would involve similar levels of onsite development and would have the least impact with respect to such issues as traffic, air quality, services, and utilities. Alternative 3 would have the least overall impact to onsite topography and viewsheds as it would involve the least amount of grading on designated ridgelines. On the other hand, Alternative 4 would involve the least overall disturbance to oak trees and associated habitat as it avoids grading and development of several areas with substantial stands of oaks. Either Alternative 3 or Alternative 4 could be considered environmentally superior overall among the development scenarios, depending upon whether preservation of ridgelines or oak trees is deemed more important.

**Table 6-3 Comparison of Alternatives' Environmental Impacts**

<b>Issue</b>	<b>Proposed Project</b>	<b>Alt 1 (No Project)</b>	<b>Alt 2 (General Plan Buildout)</b>	<b>Alt 3 (Ridgeline Preservation)</b>	<b>Alt 4 (Oak Tree Preservation)</b>	<b>Alt 5 (Reconfigured 'C' Street)</b>
<b>Land Use</b>						
<b>Compatibility</b>	II	IV / +	II / -	II / +	II / +	II / +
<b>Policy Consistency</b>	II	IV / +	II / =	II / +	II / +	II / +
<b>Geology</b>						
Seismic Issues	II	IV / +	II / =	II / +	II / +	II / +
Grading/ Landslides	II	IV / +	I / =	II / +	II / +	II / +
<b>Hydrology/Water Quality</b>						
Water Quality	II	IV / +	II / -	II / +	II / +	II / +
Flooding/Drainage	II	IV / +	II / =	II / =	II / =	II / =
<b>Air Quality</b>						
Construction	I	IV / +	I / -	I / +	I / +	I / +
Operation	I	IV / +	I / -	I / +	I / +	I / +
<b>Transportation/Circulation</b>						
Traffic	II	IV / +	I / -	II / +	II / +	II / +
Transit	II	IV / +	II / =	II / =	II / =	II / =
Parking	III	IV / +	III / =	III / =	III / =	III / =
<b>Biological Resources</b>						
Important Habitats	I	IV / +	I / -	I / +	I / +	I / +
Wildlife Crossings	I	IV / +	I / =	II / +	II / +	II / +
Sensitive Species	II	IV / +	II / -	II / +	II / +	II / +
<b>Noise</b>						
Construction	II	IV / +	II / -	II / +	II / +	II / +
Operation	II	IV / +	II / -	II / +	II / +	II / +
<b>Human Health and Safety</b>						
Soil/water contamination	II	IV / =	II / =	II / =	II / =	II / =
Pipelines	II	IV / +	II / =	II / =	II / =	II / =



**Table 6-3 Comparison of Alternatives' Environmental Impacts**

<b>Issue</b>	<b>Proposed Project</b>	<b>Alt 1 (No Project)</b>	<b>Alt 2 (General Plan Buildout)</b>	<b>Alt 3 (Ridgeline Preservation)</b>	<b>Alt 4 (Oak Tree Preservation)</b>	<b>Alt 5 (Reconfigured 'C' Street)</b>
Overhead Transmission Lines	III	IV / +	III / =	III / =	III / =	III / =
<b>Public Services</b>						
Police	II	IV / +	II / -	II / +	II / +	II / +
Fire	II	IV / +	II / -	II / +	II / +	II / +
Schools	III	IV / +	III / -	III / +	III / +	III / +
Libraries	III	IV / +	III / -	III / +	III / +	III / +
<b>Public Utilities</b>						
Water	II	IV / +	II / +	II / +	II / +	II / +
Sewer	III	IV / +	III / +	III / +	III / +	III / +
Electricity	III	IV / +	III / +	III / +	III / +	III / +
Natural Gas	III	IV / +	III / +	III / +	III / +	III / +
Solid Waste	III	IV / +	III / +	III / +	III / +	III / +
<b>Aesthetics</b>						
Viewsheds/Ridgelines	I	IV / +	I / =	II / +	I / +	I / +
Light and Glare	II	IV / +	II / -	II / +	II / +	II / +
<b>Cultural Resources</b>						
Historic Resources	II	IV / +	II / =	II / =	II / =	II / =
Pre-historic Resources	II	IV / +	II / -	II / +	II / +	II / +
Recreation	III	IV / =	IV / -	IV / +	IV / +	IV / +
<p>I = Unavoidably significant impact                      II = Significant but mitigable impact                      III = Adverse, but less than significant impact                      IV = No impact</p> <p>+ Superior to the proposed project                      - Inferior to the proposed project                      = Similar impact to the proposed project</p>						



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### 7.1 REFERENCES

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### **7.1.2 Persons Contacted**

Baca, Leroy, County of Los Angeles Sheriff's Department Headquarters  
Frazen, Ruth, Engineering Technician, County Sanitation Districts of Los Angeles County  
Hammel, Jim, Technical Services, The Gas Company  
Kraus, Mike, SCAQMD Environmental Review Division  
LaPlante, Dave, Southern California Edison  
Leininger, David R, Forestry Division of Prevention Bureau, County of Los Angeles Fire Department  
Montoya, Joe, Southern California Edison  
Pearce, Tim, Project Manager, The Gas Company  
Shollenberger, Tom, Newhall Water Company  
Stevenson, Nancy, William S. Hart Union High School District.  
Terrell, Matt, General Manager, Chiquita Canyon Landfill  
Utsitti, Felicia, Project Engineer, Solid Waste Management Department, County Sanitation Districts of Los Angeles County  
Winger, Marc, Superintendent, Newhall School District.

## **7.2 REPORT PREPARERS**

This EIR was prepared by Rincon Consultants, Inc., under contract to the City of Santa Clarita Department of Community Development. Consultant staff involved in the preparation of the EIR are listed below.

### Rincon Consultants, Inc.

Joe Power, AICP, Planning Manager  
Tom Matteucci, Principal  
David Wolff, Biological Resources Manager  
Jamie King, Associate Biologist  
Jason Kirschenstein, Associate Biologist  
Richard Daulton, Associate  
Sarah Larese, Associate  
Devin Witters, Graphic Designer  
Amara Bessa, Graphic Technician

### Allan E. Seward Engineering Geology, Inc. (geology issues)

Allan E. Seward, CEG  
Edward Castellanos, PE

### Hawks & Associates (hydrology issues)

Chris Cooper, Senior Engineer



Historical Environmental Archaeological Research Team (archaeological issues)

Robert Wlodarski, Principal

ArchFX (photosimulations)

Scott Stankey  
Brad Norton



# **Appendix A**

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Responses to Notice of Preparation

# BOWIE, ARNESON, WILES & GIANNONE

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS  
ATTORNEYS AT LAW

ALEXANDER BOWIE\*  
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WENDY H. WILES\*  
PATRICIA B. GIANNONE  
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4920 CAMPUS DRIVE  
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FAX (949) 851-2014

RESPOND TO NEWPORT BEACH  
REF. OUR FILE

8028.B 01

\*A PROFESSIONAL CORPORATION

March 6, 2001

VIA FACSIMILE: (661) 259-8125  
AND U.S. MAIL

Ms. Lisa Hardy, Associate Planner  
Department of Planning and Building Services  
City of Santa Clarita  
23920 Valencia Bl., Suite 300  
Santa Clarita, CA 91355

RECEIVED  
PLANNING DIVISION

MAR 07 2001

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

Re: *Notice of Preparation of Draft EIR for Tract 50283*

Dear Ms. Hardy:

We appreciate the opportunity, on behalf of the William S. Hart Union High School District ("District") to comment on the Notice of Preparation of a Draft Environmental Report that you provided for tentative tract map number 50283 ("Tract 50283"). We understand that Tract 50283, which consists of approximately 584 acres, will be developed by Gate King Properties, LLC, ("Developer") as an industrial subdivision including industrial/business park lots, lots dedicated to accommodate a water tank, and open space and wilderness lots. We further understand that Tract 50283 will not include any residential development. Because Tract 50283 includes only industrial/business park development, its direct impact on the school facilities of the District will be substantially less than if Tract 50283 included residential development that directly generated students. Therefore, the Developer will be required to pay to the District the commercial/industrial fees, on a per-square-foot basis, as required pursuant to Education Code Section 17620 and Government Code Section 65995 *et seq.*

# BOWIE, ARNESON, WILES & GIANNONE

Ms. Lisa Hardy, Associate Planner

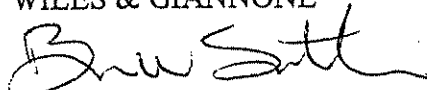
March 6, 2001

Page 2

Again, thank you for the opportunity to comment on Tract 50283. Please contact me at (949) 851-1300 if you have any questions or comments regarding this matter.

Sincerely,

BOWIE, ARNESON,  
WILES & GIANNONE



By: Brian W. Smith

BWS:ad

cc: Robert C. Lee  
Lorna Baril  
Alex Bowie





**GENERAL REQUIREMENTS:**

Size, complexity, and projected use of the proposed development may necessitate multiple ingress/egress access for the circulation of traffic, and emergency response issues. The development of this project must comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows and hydrants.

This property is located within the area described by the Forester and Fire Warden as a Fire Zone 4, Very High Fire Hazard Severity Zone (VHFHSZ). All applicable fire code and ordinance requirements for construction, access, water mains, fire hydrants, fire flows, brush clearance and fuel modification plans, must be met.

Specific fire and life safety requirements for the construction phase will be addressed at the building fire plan check. There may be additional fire and life safety requirements during this time.

Every building constructed shall be accessible to Fire Department apparatus by way of access roadways, with an all weather surface of not less than the prescribed width, unobstructed, clear-to-sky. The roadway shall be extended to within 150 feet of all portions of the exterior walls when measured by an unobstructed route around the exterior of the building.

When a bridge is required, to be used as part of a fire access road, it shall be constructed and maintained in accordance with nationally recognized standards and designed for a live load sufficient to carry a minimum of 75,000 pounds.

The maximum allowable grade shall not exceed 15% except where the topography makes it impractical to keep within such grade, and then an absolute maximum of 20% will be allowed for up to 150 feet in distance. The average maximum allowed grade, including topography difficulties, shall be no more than 17%. Grade breaks shall not exceed 10% in 10 feet.

When involved with subdivision, Fire Department requirements for access, fire flows and hydrants are addressed during the subdivision tentative map stage.

Fire sprinkler systems are required in some residential and most commercial occupancies. For those occupancies not requiring fire sprinkler systems, it is strongly suggested that fire sprinkler systems be installed. This will reduce potential fire and life losses. Systems are now technically and economically feasible for residential use.

**COMMERCIAL OR INDUSTRIAL:**

Development may require fire flows up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to a five-hour duration. Final fire flows will be based on the size of the buildings, their relationship to other structures, property lines, and types of construction used. Fire hydrant spacing shall be 300 feet and shall meet the following requirements:

1. No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant.

2. No portion of a building shall exceed 400 feet via vehicular access from a properly spaced public fire hydrant.
3. When cul-de-sac depth exceeds 200 feet on a commercial street, hydrants shall be required at the corner and mid-block. Additional hydrants will be required if hydrant spacing exceeds specified distances.
4. A cul-de-sac shall not be more than 500 feet in length, when serving land zoned for commercial use.
5. A Fire Department approved turning area shall be provided at the end of a cul-de-sac.

Turning radii shall not be less than 42 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for all driveways exceeding 150 feet in length and at the end of all cul-de-sacs. All on-site driveways shall provide a minimum unobstructed width of 26 feet, clear-to-sky. The on-site driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. Driveway width for commercial or industrial developments shall be increased when any of the following conditions will exist:

1. Provide 28 feet in width, when a building has three or more stories, or is more than 35 feet in height, above access level. Also, for using fire truck ladders, the centerline of the access roadway shall be located parallel to, and within 30 feet of the exterior wall on one side of the proposed structure.
2. Provide 34 feet in width, when parallel parking is allowed on one side of the access roadway/driveway. Preference is that such parking is not adjacent to the structure.
3. Provide 42 feet in width, when parallel parking is allowed on each side of the access roadway/driveway.
4. All "Fire Lanes" will be depicted on the final map, and will be designated with the appropriate signage. "Fire Lanes" are any ingress/egress, roadway/driveway with paving less than 34 feet in width, and will be clear-to-sky.

**LIMITED ACCESS DEVICES (GATES ETC.):**

1. Any single gate used for ingress and egress shall be a minimum of 26 feet in width, clear-to-sky.
2. Any gate used for a single direction of travel, used in conjunction with another gate, used for travel in the opposite direction, (split gates) shall have a minimum width of 20 feet each, clear-to-sky.
3. Gates and/or control devices shall be positioned a minimum of 50 feet from a public right-of-way, and shall be provided with a turnaround having a minimum of 32 feet of turning radius. If an intercom system is used, the 50 feet shall be measured from the right-of-way to the intercom control device.
4. All limited access devices shall be of a type approved by the Fire Department.

Lisa Hardy, AICP  
March 29, 2001  
Page 4

5. Gate plans shall be submitted to the Fire Department, prior to installation. These plans shall show all locations, widths and details of the proposed gates.

**TRAFFIC CALMING MEASURES:**

All proposals for traffic calming measures (speed humps/bumps, traffic circles, roundabouts, etc.) shall be submitted to the Fire Department for review, prior to implementation.

Should any questions arise regarding design and construction, and/or water and access, please contact Inspector Mike McHargue at (323) 890-4243.

**OTHER ENVIRONMENTAL CONCERNS:**

The statutory responsibilities of the County of Los Angeles Fire Department Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed in the Draft Environmental Impact Report.

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,



DAVID R. LEININGER, ACTING CHIEF, FORESTRY DIVISION  
PREVENTION BUREAU

DRL:lc

**DEPARTMENT OF FISH AND GAME**

South Coast Region  
4949 Viewridge Avenue  
San Diego, California 92123  
(858) 467-4201  
FAX (858) 467-4239

**R E C E I V E D**  
PLANNING DIVISION

March 21, 2001

MAR 22 2001

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

Ms. Lisa Hardy  
City of Santa Clarita  
Department of Planning and Building Services  
23920 Valencia Boulevard, Suite 300  
Santa Clarita, CA 91355

Dear Ms. Hardy:

**Notice of Preparation of an Environmental Impact Report for  
Needham Ranch Development, MC 99-264/Tentative Tract Map 50283  
Los Angeles County**

The Department of Fish and Game (Department) appreciates this opportunity to comment on the above-referenced project, relative to impacts to biological resources. The proposed project consists of the development of an industrial and business park on a 584 acre site. Approximately 6.9 million cubic yards of grading on approximately 366 acres is proposed along with the removal of 1,154 oak trees. The dedication of 220 acres of natural open space to the City of Santa Clarita and oak tree mitigation is also proposed. The proposed project is bounded by Sierra Highway and Eternal Valley Cemetery to the east; San Fernando Road, developed commercial properties and Eternal Valley Cemetery to the north; Pine Street and commercial and residential properties to the west; and undeveloped property to the south.

To enable Department staff to adequately review and comment on the proposed environmental document, we recommend the following information, be evaluated and included in the document:

1. A complete, recent assessment of flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, and locally unique species.
  - a. A thorough recent assessment of rare plants and rare natural communities, following the Department's May 1984 Guidelines for Assessing Impacts to Rare Plants and Rare Natural Communities (Attachment 1).
  - b. A complete recent assessment of sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use of the project area should also be addressed. Recent, focused, species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active

or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and U.S. Fish and Wildlife Service.

- c. Rare, threatened, and endangered species to be addressed should include all those which meet the California Environmental Quality Act (CEQA) definition (see CEQA Guidelines, § 15380). The EIR should address avoidance and mitigation measures to reduce significant direct and indirect adverse project impacts to sensitive species.
  - d. The Department's California Natural Diversity Data Base in Sacramento should be contacted at (916) 324-3812 to obtain current information on any previously reported sensitive species and habitats, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code. Also, any Significant Ecological Areas (SEAs) or environmentally Sensitive Habitat Area (ESHAs) that have been identified by the County of Los Angeles or any areas that are considered sensitive by the local jurisdiction that are located in or adjacent to the project area must be addressed.
2. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts.
- a. CEQA Guidelines, § 15125(a), direct that knowledge of the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.
  - b. Project impacts should also be analyzed relative to their effects on off-site habitats and populations. Specifically, this should include nearby public lands, open space, adjacent natural habitats, and riparian ecosystems.
  - c. A cumulative effects analysis should be developed as described under CEQA Guidelines, § 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.
  - d. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R. Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). Take means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill (Fish and Game Code Section 86).

1. Proposed project activities (including disturbances to native and non-native vegetation) should take place outside of the breeding bird season which generally runs from March 1- September 1 (as early as February 1 for raptors) to avoid take (including disturbances which would cause abandonment of active nests containing eggs and/or young).
2. If project activities cannot feasibly avoid the breeding bird season, the Department recommends that beginning thirty days prior to the disturbance of suitable nesting habitat the project proponent should arrange for weekly bird surveys to detect any protected native birds in the habitat to be disturbed and any other such habitat within 300 feet of the construction work area (within 500 feet for raptors). The surveys should be conducted by a qualified biologist with experience in conducting breeding bird surveys. The surveys should continue on a weekly basis with the last survey being conducted no more than 3 days prior to the initiation of clearance/construction work. If a protected native bird is found, the project proponent should delay all clearance/construction disturbance activities in suitable nesting habitat or within 300 feet of nesting habitat (within 500 feet for raptor nesting habitat) until September 1 or continue the surveys in order to locate any nests. If an active nest is located, clearing and construction within 300 feet of the nest (within 500 feet for raptor nests) shall be postponed until the nest is vacated and juveniles have fledged and when there is no evidence of a second attempt at nesting. Limits of construction to avoid a nest should be established in the field with flagging and stakes or construction fencing. Construction personnel should be instructed on the sensitivity of the area. The project proponent should record the results of the recommended protective measures described above to document compliance with applicable State and Federal laws pertaining to the protection of native birds. Department recommends a minimum 500 foot buffer for all active raptor nests.)
3. A range of alternatives should be analyzed to ensure that alternatives to the proposed project are fully considered and evaluated. A range of alternatives which avoid or otherwise minimize impacts to sensitive biological resources. Specific alternative locations should also be evaluated in areas with lower resource sensitivity where appropriate.
  - a. Mitigation measures for project impacts to sensitive plants, animals, and habitats should emphasize evaluation and selection of alternatives which avoid or otherwise minimize project impacts. Compensation for unavoidable impacts

- through acquisition and protection of high quality habitat elsewhere should be addressed.
- b. The Department considers Rare Natural Communities as threatened habitats having both regional and local significance. Thus, these communities should be fully avoided and otherwise protected from project-related impacts (Attachment 2).
  - c. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Department studies have shown that these efforts are experimental in nature and largely unsuccessful. Please contact Ms. Mary Meyer, Plant Ecologist at (805) 640-8019 to discuss project related impacts to sensitive plant species and communities.
  - d. The Department requires all mitigation areas to be excluded from County or City required Fuel Modification Zones (FMZ). Acreage intended to satisfy either habitat buffer or mitigation requirements will not be considered to have value if included in a FMZ or planted with species consistent with FMZ requirements, rather than habitat restoration requirements.
4. A California Endangered Species Act (CESA) Permit must be obtained, if the project has the potential to result in "take" of species of plants or animals listed under CESA, either during construction or over the life of the project. CESA Permits are issued to conserve, protect, enhance, and restore State-listed threatened or endangered species and their habitats. Early consultation is encouraged, as significant modification to the proposed project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, require that the Department issue a separate CEQA document for the issuance of a CESA permit unless the project CEQA document addresses all project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA permit. For these reasons, the following information is requested:
- a. Biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA Permit.
  - b. A Department-approved Mitigation Agreement and Mitigation Plan are required for plants listed as rare under the Native Plant Protection Act.
5. The Department opposes the elimination of watercourses and/or their channelization or conversion to subsurface drains. All wetlands and watercourses, whether intermittent or perennial, must be retained and provided with substantial setbacks which preserve the riparian and aquatic habitat values and maintain their value to on-site and off-site wildlife

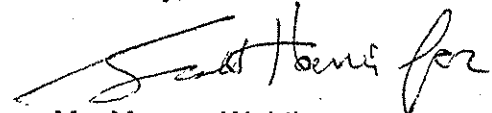


populations.

- a. The Department requires a streambed agreement, pursuant to Section 1600 et seq. of the Fish and Game Code, with the applicant prior to any direct or indirect impact (including preliminary geotechnical activities) of a lake or stream bed, bank or channel or associated riparian resources. The Department's issuance of a stream bed alteration agreement is considered a project that is subject to CEQA. To facilitate our issuance of the agreement, the Department as a responsible agency under CEQA may consider the local jurisdiction's (lead agency) document for the project. To minimize additional requirements by the Department under CEQA the document should fully identify the potential impacts to any lake, stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the agreement. Early consultation is recommended, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources. Please contact Ms. Betty Courtney, Environmental Specialists III, at (661) 263-8306 to discuss this further.

Thank you for this opportunity to provide comment. Questions regarding this letter and further coordination on these issues should be directed to Mr. Scott Harris, Associate Wildlife Biologist at (818) 360-8140.

Sincerely,



Ms. Morgan Wehtje  
Environmental Scientist IV

Attachments

cc: Mr. Scott Harris  
Ms. Mary Meyer  
Ms. Ms. Betty Courtney  
Department of Fish and Game

State Clearinghouse  
Sacramento, California

## ATTACHMENT 2

### Sensitivity of Top Priority Rare Natural Communities in Southern California\*

\*Sensitivity rankings are determined by the Department of Fish and Game, California Natural Diversity Data Base and based on either number of known occurrences (locations) and/or amount of habitat remaining (acreage). The three rankings used for these top priority rare natural communities are as follows:

- 1.- Less than 6 known locations and/or on less than 2,000 acres of habitat remaining
- 2.- Occurs in 6-20 known locations and/or 2,000-10,000 acres of habitat remaining
- 3.- Occurs in 21-100 known locations and/or 10,000-50,000 acres of habitat remaining

The number to the right of the decimal point after the ranking refers to the degree of threat posed to that natural community regardless of the ranking. For example:

S1.1 = very threatened  
S2.2 = threatened  
S3.3 = no current threats known

### Sensitivity Rankings (February 1992)

<u>Rank</u>	<u>Community Name</u>
S1.1	Mojave Riparian Forest
	Southern Dune Scrub
	Southern Coastal Bluff Scrub
	Sonoran Cottonwood Willow Riparian
	Maritime Succulent Scrub
	Mesquite Bosque
	Riversidean Alluvial Fan Sage Scrub
	Elephant Tree Woodland
	Southern Maritime Chaparral
	Crucifixion Thorn Woodland
	Valley Needlegrass Grassland
	Allthorn Woodland
	Great Basin Grassland
	Arizonan Woodland
	Mojave Desert Grassland
	Southern California Walnut Forest
	Pebble Plains
	Mainland Cherry Forest
	Southern Sedge Bog
	Southern Bishop Pine Forest
	Cismontane Alkali Marsh
	Torrey Pine Forest
	Desert Mountain White Fir Forest

Sensitivity Rankings (Cont.)

Community Name

- S1.2 Southern Foredunes  
Mono Pumice Flat  
Southern Interior Basalt Fl. Vernal Pool
- S .1 Venturan Coastal Sage Scrub  
Diegan Coastal Sage Scrub  
Riversidean Upland Coastal Sage  
Scrub  
Riversidean Desert Sage Scrub  
Sagebrush Steppe  
Desert Sink Scrub  
Mafic Southern Mixed Chaparral  
San Diego Mesa Hardpan Vernal P.  
San Diego Mesa Claypan Vernal P.  
Alkali Meadow  
Southern Coastal Salt Marsh  
Coastal Brackish Marsh  
Transmontane Alkali Marsh
- Coastal and Valley Freshwater Marsh  
S. Arroya Willow Riparian Forest  
Southern Willow Scrub
- Modoc-G.Bas. Cottonwood Willow Rip.  
Modoc-Great Basin Riparian Scrub  
Mojave Desert Wash Scrub  
Engelmann Oak Woodland  
Open Engelmann Oak Woodland  
Closed Engelmann Oak Woodland  
Island Oak Woodland  
California Walnut Woodland  
Island Ironwood Forest  
Island Cherry Forest  
S. Interior Cypress Forest  
Bigcone Spruce-Canyon Oak Forest
- 2.2 Active Coastal Dunes  
Active Desert Dunes  
Stab. and Part. Stab. Desert Dunes  
Stab. and Part. Stab. Desert Sandfield  
Mojave Mixed Steppe  
Transmontane Freshwater Marsh  
Coulter Pine Forest  
S. California Fellfield  
White Mountains Fellfield
- 2.3 Bristlecone Pine Forest  
Limber Pine Forest

## ATTACHMENT 1

State of California  
THE RESOURCES AGENCY  
Department of Fish and Game  
May 4, 1984

### GUIDELINES FOR ASSESSING THE EFFECTS OF PROPOSED DEVELOPMENTS ON RARE AND ENDANGERED PLANTS AND PLANT COMMUNITIES

The following recommendations are intended to help those who prepare and review environmental documents determine when a botanical survey is needed, who should be considered qualified to conduct such surveys, how field surveys should be conducted and what information should be contained in the survey report.

1. Botanical surveys that are conducted to determine the environmental effects of a proposed development should be directed to all rare and endangered plants and plant communities. Rare and endangered plants are not necessarily limited to those species which have been "listed" by state and federal agencies but should include any species that, based on all available data, can be shown to be rare and/or endangered under the following definitions.

A species, subspecies or variety of plant is "endangered" when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition or disease. A plant is "rare" when, although not presently threatened with extinction, the species, subspecies or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens.

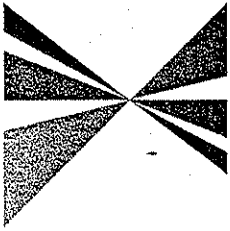
Rare plant communities are those communities that are of highly limited distribution. These communities may or may not contain rare or endangered species. The most current version of the California Natural Diversity Data Base's Outline of Terrestrial Communities in California may be used as a guide to the names of communities.

2. It is appropriate to conduct a botanical field survey to determine if, or the extent that, rare plants will be affected by a proposed project when:
  - a. Based on an initial biological assessment, it appears that the project may damage potential rare plant habitat;
  - b. Rare plants have historically been identified on the project site, but adequate information of impact assessment is lacking; or
  - c. No initial biological assessment has been conducted and it is unknown whether or not rare plants or their habitat exist on the site.
3. Botanical consultants should be selected on the basis of possession of the following qualifications (in order of importance):
  - a. Experience as a botanical field investigator with experience in field sampling design and field methods;
  - b. Taxonomic experience and a knowledge of plant ecology;
  - c. Familiarity with the plants of the area, including rare species; and
  - d. Familiarity with the appropriate state and federal statutes related to rare plants and plant collecting.
4. Field surveys should be conducted in a manner that will locate any rare or endangered species that may be present. Specifically, rare or endangered plant surveys should be:
  - a. Conducted at the proper time of year when rare or endangered species are both "evident" and identifiable. Field surveys should be scheduled (1) to coincide with known flowering periods, and/or (2) during periods of

phenological development that are necessary to identify the plant species of concern.

- b. Floristic in nature. "Predictive surveys" (which predict the occurrence of rare species based on the occurrence of habitat or other physical features rather than actual field inspection) should be reserved for ecological studies, not for impact assessment. Every species noted in the field should be identified to the extent necessary to determine whether it is rare or endangered.
  - c. Conducted in a manner that is consistent with conservation ethics. Collection of rare or suspected rare species (voucher specimens) should be made only when such actions would not jeopardize the continued existence of the population and in accordance with applicable state and federal permit regulations. Voucher specimens should be deposited at recognized public herbaria for future reference. Photography should be used to document plant identification and habitat whenever possible, but especially when the population cannot withstand collection of voucher specimens.
  - d. Conducted using systematic field techniques in all habitats of the site to ensure a reasonably thorough coverage of potential impact areas.
  - e. Well documented. When a rare or endangered plant (or rare plant community) is located, a California Native Species (or Community) Field Survey Form or equivalent written form should be completed and submitted to the Natural Diversity Data Base.
5. Reports of botanical field surveys should be included in or with environmental assessments, negative declarations, EIR's and EIS's, should contain the following information:
- a. Project description, including a detailed map of the project location and study area.
  - b. A written description of biological setting referencing the community nomenclature used and a vegetation map.
  - c. Detailed description of survey methodology.
  - d. Dates of field surveys.
  - e. Results of survey (including detailed maps).
  - f. An assessment of potential impacts.
  - g. Discussion of the importance of rare plant populations with consideration of nearby populations and total species distribution.
  - h. Recommended mitigation measures to reduce or avoid impacts.
  - i. List of all species identified.
  - j. Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms.
  - k. Name of field investigator(s).
  - l. References cited, persons contacted, herbaria visited, and disposition of voucher specimens.

SOUTHERN CALIFORNIA



**ASSOCIATION OF  
GOVERNMENTS**

**Main Office**

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Ventura County: Judy Mikels, Ventura County • Donna De Prola, San Buenaventura • Glen Becerra, Simi Valley • Toni Young, Port Huenerne

Riverside County Transportation Commission: Robin Lowe, Hemet

Ventura County Transportation Commission: Bill Davis, Simi Valley

March 22, 2001

Ms. Lisa Hardy, AICP  
Associate Planner  
City of Santa Clarita  
Department of Planning and Building Services  
23920 Valencia Boulevard  
Santa Clarita, CA 91355

**RECEIVED  
PLANNING DIVISION**

**MAR 23 2001**

**PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA**

**RE: Comments on the Notice of Preparation for a Draft Environmental Impact Report for MC 99-264 / Tentative Tract Map 50283 - SCAG No. 1 20010129**

Dear Ms. Hardy:

Thank you for submitting the Notice of Preparation for a Draft Environmental Impact Report for MC 99-264 / Tentative Tract Map 50283 to SCAG for review and comment. As areawide clearinghouse for regionally significant projects, SCAG assists cities, counties and other agencies in reviewing projects and plans for consistency with regional plans.

In addition, The California Environmental Quality Act requires that EIRs discuss any inconsistencies between the proposed project and the applicable general plans and regional plans (Section 15125 [d]). If there are inconsistencies, an explanation and rationalization for such inconsistencies should be provided.

Policies of SCAG's Regional Comprehensive Plan and Guide and Regional Transportation Plan, which may be applicable to your project, are outlined in the attachment. We expect the DEIR to specifically cite the appropriate SCAG policies and address the manner in which the Project is consistent with applicable core policies or supportive of applicable ancillary policies. Please use our policy numbers to refer to them in your DEIR. Also, we would encourage you to use a side-by-side comparison of SCAG policies with a discussion of the consistency or support of the policy with the Proposed Project.

Please provide a minimum of 45 days for SCAG to review the DEIR when this document is available. If you have any questions regarding the attached comments, please contact me at (213) 236-1867. Thank you.

Sincerely,

**JEFFREY M. SMITH, AICP**  
Senior Planner  
Intergovernmental Review

**COMMENTS ON THE PROPOSAL TO DEVELOP A  
DRAFT ENVIRONMENTAL IMPACT REPORT  
FOR  
MC 99-264 / TENTATIVE TRACT MAP 50283  
SCAG NO. I 20010129**

**PROJECT DESCRIPTION**

The proposed Project considers a Tentative Tract Map, General Plan Amendment, Zone Change, Oak Tree Permit, Conditional Use Permit, Hillside Review and Development Agreement for a proposed industrial subdivision consisting of 60 lots on 584 gross acres. The proposed Project site is located in the southern portion of the City of Santa Clarita, in Los Angeles County.

**CONSISTENCY WITH REGIONAL COMPREHENSIVE PLAN AND GUIDE POLICIES**

The Growth Management Chapter (GMC) of the Regional Comprehensive Plan and Guide (RCPG) contains the following policies that are particularly applicable and should be addressed in the Draft EIR for the proposed Project.

*3.01 The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies, shall be used by SCAG in all phases of implementation and review.*

**Regional Growth Forecasts**

The Draft EIR should reflect the most current SCAG forecasts which are the 1998 RTP (April 1998) Population, Household and Employment forecasts for the North Los Angeles County subregion and the City of Santa Clarita. These forecasts follow:

**North LA County**

**Subregion**

<b>Forecasts</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
Population	590,200	728,500	873,600	1,031,700	1,213,400
Households	163,500	199,300	255,300	323,900	380,900
Employment	190,800	233,300	284,400	351,100	416,900

**City of  
 Santa Clarita**

<u>Forecasts</u>	<u>2000</u>	<u>2005</u>	<u>2010</u>	<u>2015</u>	<u>2020</u>
Population	136,500	152,500	168,600	186,100	206,800
Households	43,100	47,200	53,800	61,700	68,700
Employment	44,800	47,900	51,700	56,600	61,400

3.03 *The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.*

The **Regional Transportation Plan (RTP)** also has goals, objectives, policies and actions pertinent to this proposed project. This RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic and commercial limitations. Among the relevant goals, objectives, policies and actions of the RTP are the following:

Core Regional Transportation Plan Policies

4.01 *Transportation investments shall be based on SCAG's adopted Regional Performance Indicators:*

Mobility - *Transportation Systems should meet the public need for improved access, and for safe, comfortable, convenient and economical movements of people and goods.*

- *Average Work Trip Travel Time in Minutes – 22 minutes*
- *PM Peak Highway Speed – 33 mph*
- *Percent of PM Peak Travel in Delay (All Trips) – 33%*

Accessibility - *Transportation Systems should ensure the ease with which opportunities are reached. Transportation and land use measures should be employed to ensure minimal time and cost.*

- *Work Opportunities within 25 Minutes – 88%*

Environment - *Transportation Systems should sustain development and preservation of the existing system and the environment. (All Trips)*

- *Meeting Federal and State Standards – Meet Air Plan Emission Budgets*

Reliability - *Reasonable and dependable levels of service by mode. (All Trips)*



- *Transit – 63%*
- *Highway – 76%*

*Safety - Transportation Systems should provide minimal, risk, accident, death and injury. (All Trips)*

- *Fatalities Per Million Passenger Miles – 0.008*
- *Injury Accidents – 0.929*

*Livable Communities - Transportation Systems should facilitate Livable Communities in which all residents have access to all opportunities with minimal travel time. (All Trips)*

- *Vehicle Trip Reduction – 1.5%*
- *Vehicle Miles Traveled Reduction – 10.0%*

*Equity - The benefits of transportation investments should be equitably distributed among all ethnic, age and income groups. (All trips)*

- *Low-Income (Household Income \$12,000) Share of Net Benefits – Equitable Distribution of Benefits*

*Cost-Effectiveness - Maximize return on transportation investment. (All Trips)*

- *Net Present Value – Maximum Return on Transportation Investment*
- *Value of a Dollar Invested – Maximum Return on Transportation Investment*

4.02 *Transportation investments shall mitigate environmental impacts to an acceptable level.*

4.04 *Transportation Control Measures shall be a priority.*

4.16 *Maintaining and operating the existing transportation system will be a priority over expanding capacity.*

#### **GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL STANDARD OF LIVING**

The Growth Management goals to develop urban forms that enable individuals to spend less income on housing cost, that minimize public and private development costs, and that enable firms to be more competitive, strengthen the regional strategic goal to stimulate the regional economy. The evaluation of the proposed project in relation to the following policies would be intended to guide efforts toward achievement of such goals and does not infer regional interference with local land use powers.

- 3.05 *Encourage patterns of urban development and land use, which reduce costs on infrastructure construction and make better use of existing facilities.*
- 3.09 *Support local jurisdictions' efforts to minimize the cost of infrastructure and public service delivery, and efforts to seek new sources of funding for development and the provision of services.*
- 3.10 *Support local jurisdictions' actions to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.*

**GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL QUALITY OF LIFE**

The Growth Management goals to attain mobility and clean air goals and to develop urban forms that enhance quality of life, that accommodate a diversity of life styles, that preserve open space and natural resources, and that are aesthetically pleasing and preserve the character of communities, enhance the regional strategic goal of maintaining the regional quality of life. The evaluation of the proposed project in relation to the following policies would be intended to provide direction for plan implementation, and does not allude to regional mandates.

- 3.12 *Encourage existing or proposed local jurisdictions' programs aimed at designing land uses which encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bike.*
- 3.14 *Support local plans to increase density of future development located at strategic points along the regional commuter rail, transit systems, and activity centers.*
- 3.15 *Support local jurisdiction's strategies to establish mixed-use clusters and other transit-oriented developments around transit stations and along transit corridors.*
- 3.16 *Encourage developments in and around activity centers, transportation corridors, underutilized infrastructure systems, and areas needing recycling and redevelopment.*
- 3.18 *Encourage planned development in locations least likely to cause environmental impact.*
- 3.20 *Support the protection of vital resources such as wetlands, groundwater recharge*

*areas, woodlands, production lands, and land containing unique and endangered plants and animals.*

- 3.21 Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites.*
- 3.22 Discourage development, or encourage the use of special design requirements, in areas with steep slopes, high fire, flood, and seismic hazards.*
- 3.23 Encourage mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that would reduce exposure to seismic hazards, minimize earthquake damage, and to develop emergency response and recovery plans.*

#### **GMC POLICIES RELATED TO THE RCPG GOAL TO PROVIDE SOCIAL, POLITICAL, AND CULTURAL EQUITY**

The Growth Management Goal to develop urban forms that avoid economic and social polarization promotes the regional strategic goal of minimizing social and geographic disparities and of reaching equity among all segments of society. The evaluation of the proposed project in relation to the policy stated below is intended guide direction for the accomplishment of this goal, and does not infer regional mandates and interference with local land use powers.

- 3.27 Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.*

#### **AIR QUALITY CHAPTER CORE ACTIONS**

The Air Quality Chapter core actions related to the proposed project includes:

- 5.07 Determine specific programs and associated actions needed (e.g., indirect source rules, enhanced use of telecommunications, provision of community based shuttle services, provision of demand management based programs, or vehicle-miles-traveled/emission fees) so that options to command and control regulations can be assessed.*
- 5.11 Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional and local) consider*

*air quality, land use, transportation and economic relationships to ensure consistency and minimize conflicts.*

## **WATER QUALITY CHAPTER RECOMMENDATIONS AND POLICY OPTIONS**

The **Water Quality Chapter** core recommendations and policy options relate to the two water quality goals: to restore and maintain the chemical, physical and biological integrity of the nation's water; and, to achieve and maintain water quality objectives that are necessary to protect all beneficial uses of all waters.

- 11.02 *Encourage "watershed management" programs and strategies, recognizing the primary role of local government in such efforts.*
- 11.03 *Coordinate watershed management planning at the subregional level by (1) providing consistent regional data; (2) serving as a liaison between affected local, state, and federal watershed management agencies; and (3) ensuring that watershed planning is consistent with other planning objectives (e.g., transportation, air quality, water supply).*
- 11.05 *Support regional efforts to identify and cooperatively plan for wetlands to facilitate both sustaining the amount and quality of wetlands in the region and expediting the process for obtaining wetlands permits.*
- 11.06 *Clean up the contamination in the region's major groundwater aquifers since its water supply is critical to the long-term economic and environmental health of the region. The financing of such clean-ups should leverage state and federal resources and minimize significant impacts on the local economy.*
- 11.07 *Encourage water reclamation throughout the region where it is cost-effective, feasible, and appropriate to reduce reliance on imported water and wastewater discharges. Current administrative impediments to increased use of wastewater should be addressed.*
- 11.08 *Ensure wastewater treatment agency facility planning and facility development be consistent with population projection contained in the RCPG, while taking into account the need to build wastewater treatment facilities in cost-effective increments of capacity, the need to build well enough in advance to reliably meet unanticipated service and storm water demands, and the need to provide standby capacity for public safety and environmental protection objectives.*

**CONCLUSIONS**

All feasible measures needed to mitigate any potentially negative regional impacts associated with the proposed project should be implemented and monitored, as required by CEQA.

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ENDNOTE

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

*Roles and Authorities*

SCAG is a **Joint Powers Agency** established under California Government Code Section 6502 et seq. Under federal and state law, SCAG is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO). SCAG's mandated roles and responsibilities include the following:

SCAG is designated by the federal government as the Region's **Metropolitan Planning Organization** and mandated to maintain a continuing, cooperative, and comprehensive transportation planning process resulting in a Regional Transportation Plan and a Regional Transportation Improvement Program pursuant to 23 U.S.C. §134(g)-(h), 49 U.S.C. §1607(f)-(g) et seq., 23 C.F.R. §450, and 49 C.F.R. §613. SCAG is also the designated **Regional Transportation Planning Agency**, and as such is responsible for both preparation of the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) under California Government Code Section 65080.

SCAG is responsible for developing the demographic projections and the integrated land use, housing, employment, and transportation programs, measures, and strategies portions of the **South Coast Air Quality Management Plan**, pursuant to California Health and Safety Code Section 40460(b)-(c). SCAG is also designated under 42 U.S.C. §7504(a) as a **Co-Lead Agency** for air quality planning for the Central Coast and Southeast Desert Air Basin District.

SCAG is responsible under the Federal Clean Air Act for determining **Conformity** of Projects, Plans and Programs to the Air Plan, pursuant to 42 U.S.C. §7506.

Pursuant to California Government Code Section 65089.2, SCAG is responsible for **reviewing all Congestion Management Plans (CMPs) for consistency with regional transportation plans** required by Section 65080 of the Government Code. SCAG must also evaluate the consistency and compatibility of such programs within the region.

SCAG is the authorized regional agency for **Inter-Governmental Review** of Programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12,372 (replacing A-95 Review).

SCAG reviews, pursuant to Public Resources Code Sections 21083 and 21087, **Environmental Impact Reports** of projects of regional significance for consistency with regional plans [California Environmental Quality Act Guidelines Sections 15206 and 15125(b)].

Pursuant to 33 U.S.C. §1288(a)(2) (Section 208 of the Federal Water Pollution Control Act), SCAG is the authorized **Areawide Waste Treatment Management Planning Agency**.

SCAG is responsible for preparation of the **Regional Housing Needs Assessment**, pursuant to California Government Code Section 65584(a).

SCAG is responsible (with the San Diego Association of Governments and the Santa Barbara County/Cities Area Planning Council) for preparing the **Southern California Hazardous Waste Management Plan** pursuant to California Health and Safety Code Section 25135.3.

MAR 19 2001

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA



March 15, 2001

Metropolitan  
Transportation  
Authority

One Gateway Plaza  
Los Angeles, CA  
90012-2952

Ms. Lisa Hardy  
Department of Planning & Building Services  
City of Santa Clarita  
23920 Valencia Blvd., Suite 300  
Santa Clarita, CA 91355

Dear Ms. Hardy:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) for the Needham Ranch project. This letter conveys recommendations from the Los Angeles County Metropolitan Transportation Authority (LACMTA) concerning issues that are germane to our agency's statutory responsibilities in relation to the proposed project.

A Traffic Impact Analysis (TIA), with both highway and freeway, and transit components, is required under the State of California Congestion Management Program (CMP) statute. The CMP TIA Guidelines are published in the "1997 Congestion Management Program for Los Angeles County", Appendix D. Among the required steps for the analysis of development-related impacts to transit are:

1. evidence that the affected transit operators received the NOP for the Draft EIR;
2. a summary of the existing transit services in the area;
3. estimated project trip generation and mode assignment for both morning and evening peak periods;
4. documentation on the assumptions/analyses used to determine the number of percentage of trips assigned to transit;
5. information on facilities and/or programs that will be incorporated in to the development plan that will encourage public transit usage and transportation demand management (TDM) policies and programs; and
6. an analysis of the expected project impacts on current and future transit services along with proposed project mitigation.

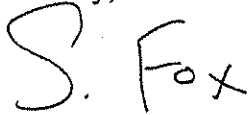
The geographic area examined in the TIA must include the following, at a minimum:

1. all CMP arterial monitoring intersections, including monitored freeway on/off-ramp intersections, where the proposed project will add 50 or more trips during either the a.m. or p.m. weekday peak hour (of adjacent street traffic); and
2. mainline freeway-monitoring locations where the project will add 150 or more trips, in either direction, during either the a.m. or p.m. weekday peak hour.

The MTA looks forward to reviewing the Draft EIR. If you have any questions regarding this response, please call me at 213-922-2238 or email at [foxs@mta.net](mailto:foxs@mta.net). Please send the Draft EIR to the following address:

LACMTA  
One Gateway Plaza  
Attn: Steve Fox  
Regional Planning, 99-23-2  
Los Angeles, CA 90012-2952

Sincerely,

A handwritten signature in black ink that reads "S. Fox". The "S" is large and loops around, and "Fox" is written in a cursive style.

Stephen G. Fox  
Program Manager, Regional Planning





*Santa Clarita Oak Conservancy*

P.O. Box 800520  
Santa Clarita, CA. 91380

March 30, 2001

Lisa Hardy, AICP  
Associate Planner  
City of Santa Clarita  
23920 Valencia Blvd.  
Santa Clarita, CA 91355  
Fax # 661 259-8125

Re: Notice of Preparation  
Project # MC99-264  
Tentative Tract # 50283 / Gates King Properties, LLC

Dear Ms. Hardy:

History:

The Santa Clarita Oak Conservancy has been involved with this property since before the last 64 oak trees were cut illegally. We have walked most of the property with Kay Greeley, Fred Folstad, and Mark Gates. We viewed the location where oak trees were burned that became part of a lawsuit filed by the Gates/King properties against Cal Trans. We hiked to the Newhall railroad tunnel created to connect Los Angeles in 1876 with the rest of the Nation. We stepped over and around open oil well casings and dropped stones in to try listening for the bottom. We saw old cut oak stumps around the hills and near the site of the 64 oak tree removals. When this property was under the jurisdiction of Los Angeles County, there were two or more times brought to their attention of oak trees removed. Just last week (March 20, 2001) our group received a call from a Pine Street neighbor voicing yet another concern that more oak trees were being cut and removed.

More

*Dedicated to the Preservation of Our Native Oaks*

NOP Project # Mc99-264

Fire, Fines, and Cumulative Effect:

Our organization has attended many meetings concerning the 64 oak tree removals. We witnessed the City Council levy a \$500,000.00 fine for the ISA value of the 64 oak trees. What happened to that money? Was it paid? Did Cal Trans pay for the full ISA value of the oak trees destroyed in the fire? How many total trees were destroyed? How many have come back? Are these trees part of the oak removal or they additional removals? Aerial maps from before the fire and before the 64 oak trees were cut should be provided for comparison. The overall oak destruction in the City of Santa Clarita since incorporation should be analyzed.

Oil Well Restoration:

Will the oil well clean-up and removal completed with heavy equipment damage the near-by oak trees? Will not the clean-up require that the oak trees be fenced at the drip line plus 5 feet? The fate of the remaining oak trees during clean-up operations needs to be discussed.

Access:

One of our Oak Conservancy members suggested and drew for Mr. Gates a meandering highway plan connecting San Fernando Road and Sierra Highway with a large separated oak tree medians. Is that kind of road still in the plan?

Oak Tree Disease:

Janet Cobb, President of the California Oak Foundation request that no additional oak trees be destroyed until the deadly "Oak Tree Plague" has been ratcheted. Thousands of California Oak trees have died in this rapidly spreading disease. The overall destruction of California native oak trees from this disease and the remaining trees must be analyzed.

Ridge and Fault Lines :

Oak trees growing in fault plains on the northern slopes of hills and mountains depend on those hills for protection. The ridgelines protect the

NOP Project # MC99-264

oak trees from additional solar radiation and create a cool environment important for healthy growth and propagation. Ridgeline removal must be analyzed for the health of the remaining oak trees.

San Fernando/Newhall Railroad Tunnel:

When the Chinese workers blasted the 6,697 feet tunnel through the mountain in 1876 they cut thousands of oak trees to help do the job. The workers experienced many gas explosions and untimely shots digging the world's third largest tunnel. Many died blasting through the gas, oil, and rock. Most of the bodies were returned to China however some are believed still buried near the tunnel portals. The possibilities of a burial site for the Chinese workers under the Heritage oak trees must be addressed.

Oak Tree Report:

The Santa Clarita Oak Conservancy requests that an Oak Tree Report and Location Map be provided to us at your earliest convenience. The OTR should include the following: The health, ISA value, location, proposed disposition of each tree, a mitigation plan for the 64 oak trees if the money has not been paid, a mitigation plan for proposed removals, detailed "in perpetuity" proposal of "saved" oak trees.

We look forward to continuing to work with the applicant to be part of creating an oak tree studded project welcoming home our residents and guests to the Santa Clarita Valley.

Sincerely,



Cynthia Neal-Harris  
Vice President  
(661) 252-7808



Winston H. Hickox  
Secretary for  
Environmental  
Protection

# California Regional Water Quality Control Board

## Los Angeles Region

320 W. 4th Street, Suite 200, Los Angeles, California 90013  
Phone (213) 576-6600 FAX (213) 576-6640  
Internet Address: <http://www.swrcb.ca.gov/~rwqcb4>

Gray Davis  
Governor

RECEIVED  
PLANNING DIVISION

MAY 01 2001

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

April 30, 2001

City of Santa Clarita  
Attn: Lisa Hardy, AICP, Associate Planner  
Department of Planning and Building Services  
23920 Valencia Blvd., Ste. 300  
Santa Clarita, CA 91355

Dear Sir or Madam,

Re: CEQA Documentation for Project in the Santa Clara Watershed

Master Case No. 99-264

We appreciate the opportunity to comment on the CEQA documentation for the above-mentioned project. For your information a list of permitting requirements and Regional Board Contacts is provided in Attachment A hereto.

The project site lies in the Santa Clara watershed that was listed as being impaired pursuant to Section 303 (d) of the Clean Water Act. Impairments listed in reaches downstream from the proposed project include nutrients and their effects, salts, coliform bacteria, and historic pesticides. The Los Angeles Regional Water Quality Control Board will be developing Total Maximum Daily Loads (TMDLs) for the watershed, but the proposed project is expected to proceed before applicable TMDLs are adopted. In the interim, the Regional Board must carefully evaluate the potential impacts of new projects that may discharge to impaired waterbodies.

Our review of your documentation shows that it does not include information on how this project will change the loading of these pollutants into the watershed. Please provide the following additional information for both the construction and operational phases of the project.

- For each constituent listed above, please provide an estimate of the concentration (ppb) and load (lbs/day) from non-point and point source discharges.
- Estimates of the amount of additional runoff generated by the project during wet and dry seasons.
- Estimate of the amount of increased or decreased percolation due to the project.
- Estimates of the net change in cubic feet per second of groundwater and surface water contributions under historic drought conditions (as compiled by local water purveyors, the Department of Water Resources, and others), and 10-year 50-year, and 100-year flood conditions.

California Environmental Protection Agency

Recycled Paper

and enhance the quality of California's water resources for the benefit of present and future generations.

Page 2 of 2

- 2 -

April 30, 2001

If you have any questions please call me at (213) 576 6683 or Rick Vergets at (213) 576 6688.

Sincerely,



Elizabeth Erickson  
Associate Geologist, TMDL Unit  
Los Angeles Regional Water Quality Control Board

EE  
Attachments (1)  
cc:  
State Clearinghouse  
File

## ATTACHMENT A

- ✓ If the proposed project will result in a **discharge of dredge or fill into a surface water** (including a dry streambed), and is subject to a **federal license or permit**, the project may require a *Section 401 Water Quality Certification*, or waiver of *Waste Discharge Requirements*. For further information, please contact:

Anthony Klecha, Nonpoint Source Unit at (213) 576-6785.

- ✓ If the project involves **inland disposal of nonhazardous contaminated soils and materials**, the proposed project may be subject to *Waste Discharge Requirements*. For further information, please contact:

Rodney Nelson, Landfills Unit, at (213) 576-6719.

\*\*\*\*\*

- ✓ If the overall project area is **larger than five acres**, the proposed project may be subject to the *State Board's General Construction Activity Storm Water Permit*. For further information, please contact:

Tracy Woods, Statewide General Construction Activity Storm Water Permits at (213) 576-6684.

- ✓ If the project involves a facility that is proposing to discharge storm water associated with **Industrial activity** (e.g., manufacturing, recycling and transportation facilities, etc.), the facility may be subject to the *State Board's General Industrial Activities Storm Water Permit*. For further information, please contact:

Kristie Chung, Statewide General Industrial Storm Water Permits at (213) 576-6807.

- ✓ If the proposed project involves requirements for new development and construction pertaining to **municipal storm water programs**, please contact:

Dan Radulescu, Municipal Storm Water Permits, Los Angeles County at (213) 576-6668;  
Matt Yeager, Municipal Storm Water Permits, Ventura County at (213) 576-6749.

- ✓ The proposed project also shall comply with the local regulations associated with the applicable **Regional Board stormwater permit**:

Los Angeles County and Co-permittees:  
NPDES No. CAS614001  
Waste Discharge Requirements Order No. 96-054.

Long Beach County and Co-permittees:  
NPDES CAS004003  
Waste Discharge Requirements Order No. 99-060.

Ventura County and Co-permittees:  
NPDES No. CAS004002  
Waste Discharge Requirements Order No. 00-108.

\*\*\*\*\*

- ✓ If the proposed project involves any construction and/or groundwater dewatering to be discharged to **surface waters**, the project may be subject to *NPDES/Waste Discharge Requirements*. For further information, please contact:

Augustine Anijelo, General Permitting and Special Projects Unit at (213) 576-6657 (All Region 4 Watersheds).

- ✓ If the proposed project involves any construction and/or groundwater dewatering to be discharged to **land or groundwater**, the project may be subject to *Waste Discharge Requirements*. For further information, please contact:

Kwang-il Lee, Non-Chapter 15 Unit, at (213) 576-6666 (All Region 4 Watersheds).

**SANTA MONICA MOUNTAINS CONSERVANCY**

RAMIREZ CANYON PARK  
5750 RAMIREZ CANYON ROAD  
MALIBU, CALIFORNIA 90265  
PHONE (310) 589-3200  
FAX (310) 589-3207



April 9, 2001

Ms. Lisa Hardy  
Department of Planning and Building Services  
City of Santa Clarita  
23920 Valencia Boulevard, Suite 300  
Santa Clarita, California 91355

**Gates-King Industrial Subdivision (Needham Ranch)  
Notice of Preparation Comments  
Tentative Tract No. 50283, Case No. 99-264**

Dear Ms. Hardy:

The proposed Gates-King Industrial Subdivision is located in the what is commonly referred to as the Newhall Wedge (wedge). By all accounts this wedge of land between Interstate 5 and State Route 14 holds the key to maintaining an adequate wildlife movement corridor between the San Gabriel and Santa Susana Mountains. The regional value of this inter-mountain range habitat linkage cannot be overstated. The subject 584-acre property comprises approximately 25 percent of the available habitat area within the wedge.

The Newhall Wedge is also the center piece of a regionally significant green belt that separates the Santa Clarita Valley from the San Fernando Valley. This green belt is fundamental to the scenic viewsheds on Interstate 5 and State Route 14 through the Newhall and San Fernando-Fremont Passes, respectively.

The regional habitat linkage significance of the Newhall Wedge warrants its inclusion in the *Los Angeles County Significant Ecological Area Update Study 2000* as part of the proposed new Santa Clara River or Santa Susana Mountains Significant Ecological Areas. The Conservancy's comments on the study request this modification of proposed new SEA boundaries.

The ultimate land uses within the subject property and the remainder of the Newhall Wedge will be the determinant of the ecological viability of the habitat linkage and the quality of the scenic corridor-green belt. Most conservation biologists would concur that the proposed project would result in significant, unavoidable, adverse impacts to this

**City of Santa Clarita  
Gates-King Industrial Subdivision NOP Comments  
April 9, 2001  
Page 2**

regional wildlife corridor. In order to provide adequate long-term protection to this area, the Conservancy recommends that the Draft Environmental Impact Report (DEIR) include the following information, analyses and project alternatives.

The subject property is fraught with major utility and transportation easements. These water, gas, electrical and railroad easements both parallel and cross the primary, north-south trending ridgeline that runs the length of the property (and the wedge). In order to provide a major access road that connects San Fernando Road with Sierra Highway, a gap in this ridgeline must be cut. In order to locate any development in areas other than those with slopes less than 25 percent, this highly prominent ridgeline must be flattened.

As proposed the current project would eliminate approximately a one and one-quarter-mile-long section of this ridgeline. Approximately one mile of this potentially affected ridgeline is visible from SR 14. A major arterial street is aligned where the ridgeline is situated. This mass grading of major landforms would require 7.0 million cubic yards of earth movement.

The project as proposed, as well as any project that mass grades the subject ridgeline, is in complete contrast with the City's Ridgeline Preservation and Hillside Development Ordinances. The biological and visual importance of the property warrant strict enforcement of the General Plan not a complete reversal of its intent. Substantial commercial use of the property can be obtained without grading the ridgeline or more than fifty acres with slopes greater than 25 percent. The offered 220 acres of unbuildable open space far from offsets the impacts of the proposed project.

To adequately disclose the ecological constraints on the property, and its contribution to the Newhall Wedge habitat block, the DEIR must address the wildlife carrying capacity of the wedge. For a San Gabriel Mountain to Santa Susana Mountain habitat linkage to function well, the wedge area must be able to provide sufficient habitat for sub-populations of mule deer, bobcats, grey fox, American badger and long-tailed weasel. It is acknowledged that the necessary level of study to definitively determine the minimum area for these species is beyond the scope of this DEIR. However, the DEIR must provide a thorough analysis using all the information currently available. For example, the DEIR should include USGS-based maps that identify each sub-watershed unit, year-round water source, and woodland unit greater than one-half acre in the wedge. This description, on a USGS 1:24000 base map, should show the boundaries and owners of all legal parcels in the wedge and the development footprints of any proposed or approved projects.



City of Santa Clarita  
Gates-King Industrial Subdivision NOP Comments  
April 9, 2001  
Page 3

The constraints analysis must also address the potential build out of other private properties within the wedge. The carrying capacity analysis must consider the impact of multiple developments and their associated recreational, infrastructure, fuel modification, and general edge effect impacts.

Without a reasonable constraints and build out scenario analysis in the DEIR, the document must conclude that the proposed project, as well as any project that grades more than 150 acres of the site, would result in unavoidable, significant, adverse impacts on the inter-mountain range habitat linkage function of the wedge.

#### Need for Numerous Project Alternatives

The DEIR must consider multiple less damaging alternative projects. Only through the consideration of reduced project footprints can an adequate regional habitat linkage be provided through the subject property. Several alternatives are recommended to give decisionmakers a spectrum of less damaging projects from the proposed 7.0 million cubic yard project to a project that provides two, unconnected commercial clusters.

**Environmentally Superior-Unconnected-Two Cluster Alternative:** This alternative would provide for two development clusters. A large cluster would be located to the north by San Fernando Road. A small cluster would be located to the east, just south of the cemetery, along Sierra Highway. A water tank site serving both clusters would be located in the center of property as shown on the proposed site plan included in the NOP documents (lots 43 and 44). The Sierra Road cluster would be limited to a grading footprint defined by the boundaries of lots 30,39,40 and 41. The San Fernando Road cluster would be limited to a development footprint with a southern boundary defined by the southern boundary of lot 16, the southern tip of lot 15 and encompassing the northern one third of lot 23.

This alternative would avoid all significant ridgeline impacts and the significantly reduce ecological impacts to the Newhall wedge.

**Two Cluster-Connected Alternative:** If a by-pass road connection is critical between San Fernando Road and Sierra Highway, this two cluster-connected alternative would provide adequate ecological protection and modest ridgeline protection.

Its footprint would add the following additional impact areas to the above described alternative. The Sierra Highway cluster would be increased to include all lots shown on the north side of "A" Street. The San Fernando Road Cluster would be increased by adding lot 17 and decreased by removing all grading and development from lot 23. A two lane

City of Santa Clarita  
Gates-King Industrial Subdivision NOP Comments  
April 9, 2001  
Page 4

road with a median would connect the two clusters. The road alignment would approximate "A" Street as shown. The only connection between the development and Pine Street would be through lots 5-7. Lot 23 contains significant woodland resources and its land use should not change.

**Dedication of Public Open Space**

Because of the site's ecological sensitivity, any commercially viable project would result in unavoidable significant adverse ecological impacts. To partially mitigate these impacts, it is imperative that the City require all ungraded area to be dedicated to a public park agency. In addition, such a dedication must include easements in favor of the development entity to allow for privately funded fuel modification. The DEIR should also incorporate a Landscape Maintenance District in the mitigation measures to fund maintenance of the open space. For a sense of scale, a 50-acre development footprint should fund a minimum of \$5,000 a year, in perpetuity. A 100-acre project should provide a minimum of \$10,000 a year, in perpetuity.

A spur of the Rim of the Valley Trail courses across the Newhall Wedge from the Los Pinetos-SR 14 undercrossing to Interstate 5. The proposed project, and each of its DEIR alternatives, should analyze alignments for this trail and provide funding for its construction.

The value of open space in the Santa Clara River watershed, in the green belt between Santa Clarita and Los Angeles, and in the connection between the Angeles National Forest and the Santa Clarita Woodlands is of State-wide significance. The most sound and enduring public policy direction on the subject property is to maximize the permanent protection of these resources. We urge the City to incorporate numerous DEIR alternatives that would implement this public policy direction.


Please direct any questions or future correspondence to Paul Edelman of our staff at (310) 589-3200 ext. 128.

Sincerely,



MICHAEL BERGER  
Chairperson



A  Semptra Energy company

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PLANNING DIVISION

MAR 07 2001

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

Southern California  
Gas Company  
9400 Oakdale Avenue  
Chatsworth, CA 91313-2300

Mailing Address:  
PO Box 2300  
Chatsworth, CA 91313-2300

March 2, 2001

Lisa Hardy, City Planner  
CITY OF SANTA CLARITA  
Planning and Building Services  
23920 Valencia Blvd, Suite 302  
Santa Clarita, CA 91355

**Subject: Agency Comment (& Negative Declaration) Letter for, VTTM  
50283, City of Santa Clarita, County of Los Angeles.  
(Gas Co Atlas No. C-2031-N, et.al., ETS Lines 3000, 3003, EDS SL# 45-1001)**

The Gas Company has met with the developers and anticipates substantial alterations to existing buried facilities which may impact undisturbed property with construction noise and dust. The developer will make all environmental mitigations and arrangements and obtain the required permits ahead of any gas pipeline work. These facilities are operated by the Energy Transmission Services Department (ETS) of the Gas Company. Please contact Mr. Martin Woodworth, ETS Planner, (818)-701-4543, for further information.

Southern California Gas Company has adequate supplies for the foreseeable future; and facilities in the area where this project is proposed. *An existing 12" medium pressure main in the property is the most likely source facility.* Demand projections by the Gas Company have allowed for the substantial additional demand generated by this proposal incorporating, as well, the cumulative impact of future proposals in this area. *Gas service can be provided without significant impact on the environment, from various existing medium pressure mains, extended into and through proposed dedicated streets.* These distribution facilities are operated by the Energy Distribution Services (EDS) Department. Please contact Mr. Richard Blain, EDS Sr. Planner, (818) 701-3327, for further information.

Sincerely,



Jim Hammel  
Technical Services, Northern Region  
(818) 701-3324  
FAX: (818) 701-3380

c: M. Woodworth, SCG ETS  
R. Blain, SCG EDS  
B. Huleis, Environmental Compliance  
T. Kappen, NBPM, Valencia District  
City Correspondence File

c:\Files\Agency comment\Impact3.doc



March 7, 2001

Lisa Hardy, AICP, Associate Planner  
City of Santa Clarita  
Department of Planning and Building Services  
23920 Valencia Boulevard, Suite 300  
Santa Clarita, CA 91355

RECEIVED  
PLANNING DIVISION  
MAR 8 8 2001  
PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

Re: MC 99-264/Tentative Track Map 50283  
Gates King Properties, LLC

Dear Ms. Hardy:

Thank you for providing Newhall School District the opportunity to comment on this project. As we understand it there will be no residential housing units in the development. The only potential impact to schools will be from employees of businesses in the development who wish to enroll their children in Newhall School District schools.

The developers will pay the current Industrial/Commercial School Mitigation Fees as established by the District prior to the time building permits are issued.

Sincerely,

Marc Winger, Ed.D.  
Superintendent

## NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364  
SACRAMENTO, CA 95814  
(916) 653-4082  
(916) 657-5390 - Fax



March 6, 2001

MAR 12 2001

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

Lisa Hardy  
City of Santa Clarita  
23920 Valencia Blvd., Suite 300  
Santa Clarita, CA 91355

RE: MC 99-246/Tenative Tract Map 50283 – SCH# 2001021121

Dear Ms. Hardy:

The Native American Heritage Commission has reviewed the above mentioned NOP. To adequately assess the project-related impact on archaeological resources, the Commission recommends the following action be required:

- ✓ Contact the appropriate Information Center for a records search. The record search will determine:
  - Whether a part or all of the project area has been previously surveyed for cultural resources.
  - Whether any known cultural resources have already been recorded on or adjacent to the project area.
  - Whether the probability is low, moderate, or high that cultural resources are located within the project area.
  - Whether a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage of is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - Required the report containing site significance and mitigation be submitted immediately to the planning department.
  - Required site forms and final written report be submitted within 3 months after work has been completed to the Information Center.
- ✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check.
  - A list of appropriate Native American Contacts for consultation concerning the project site and assist in the mitigation measures.
- ✓ Provisions for accidental discovery of archeological resources:
  - Lack of surface evidence of archeological resources does not preclude the existence of archeological resources. Lead agencies should include provisions for accidentally discovered archeological resources during construction per California Environmental Quality Act (CEQA) §15064.5 (f).
- ✓ Provisions for discovery of Native American human remains
  - Health and Safety Code §7050.5, CEQA §15064.5 (e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery and should be included in all environmental documents.

If you have any questions, please contact me at (916) 653-4040.

Sincerely,

A handwritten signature in black ink that reads "Rob Wood".

Rob Wood  
Associate Governmental Program Analyst

CC: State Clearinghouse

**RECEIVED**  
PLANNING DIVISION

APR 04 2001

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

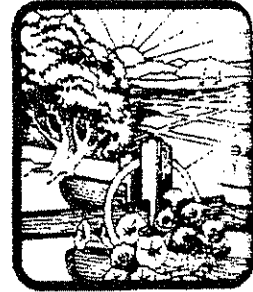
## SCOPE

**Santa Clarita Organization for Planning the Environment**

TO PROMOTE, PROTECT AND PRESERVE THE ENVIRONMENT, ECOLOGY  
AND QUALITY OF LIFE IN THE SANTA CLARITA VALLEY

POST OFFICE BOX 1182, SANTA CLARITA, CA 91386

3-23-01



Lisa Hardy, AICP  
Associate Planner  
City of Santa Clarita  
23920 Valencia Blvd.  
Santa Clarita, Ca. 91355

Re: Notice of Preparation  
Project # MC99-264/ Tentative Tract # 50283  
Gate King Properties, LLC

Dear Ms. Hardy:

We generally concur with the city's analysis of issues to be included in the DEIR. However, we wish to add a few suggestions:

First, we hope that the importance of this area as a wildlife corridor will be thoroughly evaluated and provisions made to protect this important resource. As you will recall, The Forest Service Supervisor, Michael Rodgers, made it quite clear a year ago at a City meeting, that if the City could not protect the wildlife corridor in its area, than the Forest Service would have to re-consider its stand on the corridor as it passes through Elsmere Canyon.

Additionally, the unresolved issue of the 64 oaks which were illegally cut down on this property should be addressed. The City cannot expect to require its residents to obey laws which are only enforced some of the time and only against certain parties. The law must be equally applied to all residents and property owners.

This is a geologically active area and contains a magnificent array of natural resources. We would like to make you aware early on that we do not support the destruction of over 1000 oaks, nor any general plan amendment before the water and energy supply issues for this valley are resolved. We also encourage the City to require full compliance with the Hillside and Ridgeline Ordinance as this project does not appear to provide "innovative design."

Further, we request that the City conduct an independent evaluation of the water and energy supplies for the Santa Clarita Valley and that this be included in the DEIR.

Thank-you for your time and attention to our concerns.

Sincerely,

Lynne Plambeck



Gray Davis  
GOVERNOR

STATE OF CALIFORNIA  
Governor's Office of Planning and Research  
State Clearinghouse



Steve  
1981

Notice of Preparation

February 27, 2001

RECEIVED  
PLANNING AND RESEARCH

MAR 13 2001

To: Reviewing Agencies  
Re: MC 99-246/Tentative Tract Map 50283  
SCH# 2001021121

PLANNING AND RESEARCH  
CITY OF SANTA CLARITA

Attached for your review and comment is the Notice of Preparation (NOP) for the MC 99-246/Tentative Tract Map 50283 draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Lisa Hardy  
City of Santa Clarita  
23920 Valencia Boulevard, Suite 300  
Santa Clarita, CA 91355

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan  
Project Analyst, State Clearinghouse

Attachments  
cc: Lead Agency



<input type="checkbox"/> Resources Agency Nadell Gayou	<input type="checkbox"/> Fish and Game Dept. of Fish & Game Joe Vincenty Environmental Services Division	<input type="checkbox"/> Colorado River Board Gerald R. Zimmerman	<input type="checkbox"/> Dept. of Transportation Chris Sayre District 10	<input type="checkbox"/> State Water Resources Control Board Greg Frantz Division of Water Quality
<input type="checkbox"/> Dept. of Boating & Waterways Bill Curry	<input type="checkbox"/> Dept. of Fish & Game Donald Koch Region 1	<input type="checkbox"/> Tahoe Regional Planning Agency (TRPA) Lyn Barnett	<input type="checkbox"/> Dept. of Transportation Lou Salazar District 11	<input type="checkbox"/> State Water Resources Control Board Mike Falkenstein Division of Water Rights
<input type="checkbox"/> California Coastal Commission Elizabeth A. Fuchs	<input type="checkbox"/> Dept. of Fish & Game Banky Curtis Region 2	<input type="checkbox"/> Office of Emergency Services John Rowden, Manager	<input type="checkbox"/> Dept. of Transportation Alleen Kennedy District 12	<input checked="" type="checkbox"/> Dept. of Toxic Substances Control CEQA Tracking Center
<input type="checkbox"/> Dept. of Conservation Ken Troit	<input type="checkbox"/> Dept. of Fish & Game Brian Hunter Region 3	<input type="checkbox"/> Delta Protection Commission Debby Eddy	<input type="checkbox"/> Business, Trans. & Housing Housing & Community Development Cathy Creswell Housing Policy Division	<input type="checkbox"/> Regional Water Quality Control Board (RWQCB)
<input type="checkbox"/> Dept. of Forestry & Fire Protection Allen Robertson	<input type="checkbox"/> Dept. of Fish & Game William Laudermlilk Region 4	<input type="checkbox"/> Santa Monica Mountains Conservancy Paul Edelman	<input type="checkbox"/> Housing & Community Development California Highway Patrol Lt. Dennis Brunette Office of Special Projects	<input type="checkbox"/> RWQCB Cathleen Hudson North Coast Region (1)
<input type="checkbox"/> Office of Historic Preservation Hans Kreuzberg	<input type="checkbox"/> Dept. of Fish & Game Sandy Peterson Region 5, Habitat Conservation Program	<input type="checkbox"/> Dept. of Transportation IGR/Planning District 1	<input type="checkbox"/> California Highway Patrol Ron Helgeson Caltrans - Planning	<input type="checkbox"/> RWQCB Environmental Document Coordinator San Francisco Bay Region (2)
<input type="checkbox"/> Dept. of Parks & Recreation Resource Mgmt. Division	<input type="checkbox"/> Dept. of Fish & Game Gabrina Gatchel Region 6, Habitat Conservation Program	<input type="checkbox"/> Dept. of Transportation Vicki Roe Local, Development Review, District 2	<input type="checkbox"/> California Highway Patrol Robert Sleppey Environmental Services Section	<input type="checkbox"/> RWQCB Central Coast Region (3)
<input type="checkbox"/> Reclamation Board Pam Bruner	<input type="checkbox"/> Dept. of Fish & Game Tammy Allen Region 6, Inyo/Mono, Habitat Conservation Program	<input type="checkbox"/> Dept. of Transportation Jeff Pulverman District 3	<input type="checkbox"/> California Highway Patrol Ann Geraghty Industrial Projects Mike Tollstrup	<input type="checkbox"/> RWQCB Jonathan Bishop Los Angeles Region (4)
<input type="checkbox"/> S.F. Bay Conservation & Dev't. Comm. Steve McAdam	<input type="checkbox"/> Dept. of Fish & Game DeWayne Johnston Marine Region	<input type="checkbox"/> Dept. of Transportation Jean Finney District 4	<input type="checkbox"/> Air Resources Board Airport Projects Jim Lerner	<input type="checkbox"/> RWQCB Central Valley Region (5)
<input type="checkbox"/> Resources Agency Nadell Gayou Dept. of Water Resources	<input type="checkbox"/> Dept. of Fish & Game DeWayne Johnston Marine Region	<input type="checkbox"/> Dept. of Transportation Lawrence Newland District 5	<input type="checkbox"/> Air Resources Board Transportation Projects Ann Geraghty	<input type="checkbox"/> RWQCB Fresno Branch Office
<input type="checkbox"/> Health & Welfare Wayne Hubbard Dept. of Health/Drinking Water	<input type="checkbox"/> Independent Commissions California Energy Commission Environmental Office	<input type="checkbox"/> Dept. of Transportation Marc Birnbaum District 6	<input type="checkbox"/> Air Resources Board Industrial Projects Mike Tollstrup	<input type="checkbox"/> RWQCB Central Valley Region (5) Redding Branch Office
<input type="checkbox"/> Food & Agriculture Tad Bell Dept. of Food and Agriculture	<input type="checkbox"/> Native American Heritage Comm. Debbie Treadway	<input type="checkbox"/> Dept. of Transportation Stephen J. Buswell District 7	<input type="checkbox"/> Air Resources Board California Integrated Waste Management Board Sue O'Leary	<input type="checkbox"/> RWQCB Lahontan Region (6)
	<input type="checkbox"/> Public Utilities Commission Andrew Barnsdale	<input type="checkbox"/> Dept. of Transportation Mike Slim District 8	<input type="checkbox"/> Air Resources Board State Water Resources Control Board Diane Edwards Division of Clean Water Programs	<input type="checkbox"/> RWQCB Lahontan Region (6) Victorville Branch Office
	<input type="checkbox"/> State Lands Commission Betty Silva	<input type="checkbox"/> Dept. of Transportation Caroline Yee for Kate Walton District 9		<input type="checkbox"/> RWQCB Colorado River Basin Region (7)
				<input type="checkbox"/> RWQCB Santa Ana Region (8)
				<input type="checkbox"/> RWQCB San Diego Region (9)



## Lisa Hardy - Needham Ranch

---

**From:** Leon Worden <Lworden@the-signal.com>  
**To:** <lhardy@santa-clarita.com>  
**Date:** 03/29/2001 8:32 PM  
**Subject:** Needham Ranch

---

Hi Lisa!

I was just reading through tomorrow's story in The Signal on the scoping meeting for the Needham Ranch development. I see no one showed up; I would have liked to have attended but I had just returned from out of town (assuming the meeting was held Wednesday evening -- if it was earlier in the day, I wasn't back yet!)

In any event, I wanted to express my quandary about the cultural resources listed in the document. I saw that you listed several areas of historic interest that are located off-site, and we (the Santa Clarita Valley Historical Society) are interested in seeing these analyzed. However, we are also quite interested in some of the resources that are actually on-site, which do not seem to be mentioned. Specifically, we are hoping the EIR will include an analysis of the Needham Ranch buildings -- the home, and whatever other structures may be on-site -- from a cultural-resource perspective. Also, some of our Society members have expressed interest in the rock gateway located near Sierra Highway; hopefully the EIR can address this structure as well.

Thank you for your attention and sorry for the late request!

Best wishes,  
LEON WORDEN  
President, Santa Clarita Valley Historical Society

P.S. Please let me know that you've received this e-mail! Not sure about your e-mail address.



Winston H. Hickox  
Agency Secretary  
California Environmental  
Protection Agency

April 6, 2001

Lisa Hardy  
City of Santa Clarita  
23920 Valencia Boulevard, Suite 300  
Santa Clarita, California 91355

## Department of Toxic Substances Control

Edwin F. Lowry, Director  
1011 N. Grandview Avenue  
Glendale, California 91201



Gray Davis  
Governor

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APR 10 2001

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

### NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE MC 99-246/TENTATIVE TRACT MAP 50283 (PROJECT) SCH 2001021121

Dear Ms. Hardy:

The Department of Toxic Substances Control (DTSC) has received your Notice of Preparation (NOP) of a draft Environmental Impact Report (EIR) for the above mentioned Project.

Based on the review of the document, the DTSC comments are as follows:

- 1) The draft EIR should identify the mechanism to initiate any required investigation and/or remediation for any site that may require remediation, and which government agency will provide appropriate regulatory oversight.
- 2) If during construction of the project, soil contamination is suspected, construction in the area should stop and appropriate Health and Safety procedures should be implemented. If it is determined that contaminated soil exists, the draft EIR should identify how any required investigation and/or remediation will be conducted, and which government agency will provide appropriate regulatory oversight.

DTSC provides guidance for Preliminary Endangerment Assessment (PEA) preparation and cleanup oversight through the Voluntary Cleanup Program (VCP). For additional information on the VCP or to meet/discuss this matter further, please contact Bob Krug, Project Manager, at (818) 551-2866 or me at (818) 551-2877.

Sincerely,

Harlan R. Jeché  
Unit Chief

Southern California Cleanup Operations - Glendale Office

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at [www.dtsc.ca.gov](http://www.dtsc.ca.gov).*

Ms. Lisa Hardy  
April 6, 2001  
page 2

cc: Governor's Office of Planning and Research  
State Clearinghouse  
P.O. Box 3044  
Sacramento, California 95812-3044

Mr. Guenther W. Moskat, Chief  
Planning and Environmental Analysis Section  
CEQA Tracking Center  
Department of Toxic Substances Control  
P.O. Box 806  
Sacramento, California 95812-0806

**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

*Office of the General Manager***RECEIVED**  
PLANNING DIVISION

APR 12 2001

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

March 26, 2001

Ms. Lisa Hardy  
City of Santa Clarita  
Department of Planning and Building Services  
23920 Valencia Boulevard, Suite 300  
Santa Clarita, California 91355

Dear Ms. Hardy:

Notice of Preparation of a Draft Environmental Impact Report for  
Master Case 99-264/Tentative Tract Map 50283 in the City of Santa Clarita

The Metropolitan Water District of Southern California (Metropolitan) has received a Notice of Preparation (Notice) of a Draft Environmental Impact Report (EIR) for Master Case 99-264/Tentative Tract Map 50283 in the City of Santa Clarita (City). The applicant, Gate King Properties, LLC, proposes an industrial/commercial subdivision consisting of 60 lots on 584 acres. Lots 1-41 are proposed to be industrial/commercial lots. Lots 42-44 would accommodate a water tank. Lots 45-54 consist of open space and trails. Lots 55-59 make up the open space/wilderness area. An oak tree permit is also requested to remove approximately 1,154 of the 10,527 on-site oak trees. The project also involves the construction of a four-lane industrial collector through the project site connecting Sierra Highway and San Fernando Road. This letter contains our response as a potentially affected public agency.

Our review of the Notice indicates that Metropolitan's Foothill Feeder Newhall Tunnel traverses the proposed project area in a northwest-southeast direction. The enclosed map shows this facility in relation to the proposed project. It will be necessary for the City to consider this facility in its project planning.

In order to avoid potential conflicts with Metropolitan's rights-of-way, we request that any preliminary engineering design drawings or improvement plans for any activity in the area of Metropolitan's pipelines and rights-of-way be submitted for our review and written approval. The applicant may obtain detailed prints of drawings of Metropolitan's pipelines and rights-of-way by calling Metropolitan's Substructures Information Line at (213) 217-6564. To assist the applicant in preparing plans that are compatible with Metropolitan's facilities and easements, we have enclosed a copy of the "Guidelines for Developments in the Area of Facilities, Fee Properties,

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Ms. Lisa Hardy

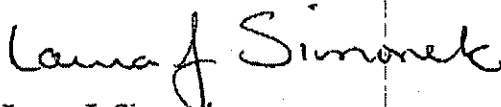
Page 2

March 26, 2001

and/or Easements of The Metropolitan Water District of Southern California." Please note that all submitted designs or plans must clearly identify Metropolitan's facilities and rights-of-way.

We appreciate the opportunity to provide input to your planning process and we look forward to receiving future environmental documentation on this project. If we can be of further assistance, please contact me at (213) 217-6242.

Very truly yours,



Laura J. Simonek

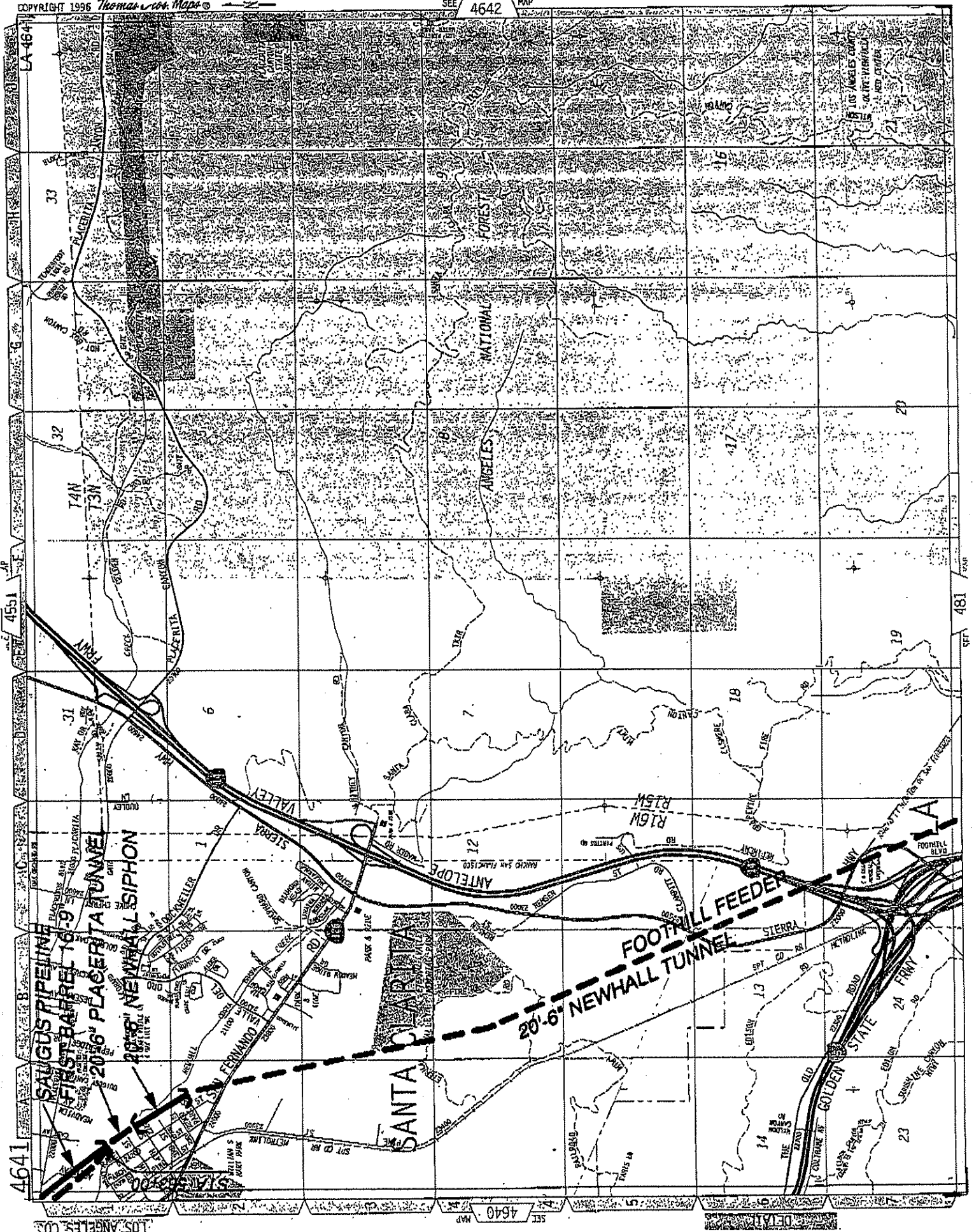
Principal Environmental Specialist

DTF

Enclosures

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SEE 4642 MAP



4641

SEE 4640 MAP

DETAIL

LOS ANGELES CO.

SEE 481

Guidelines for Developments in the Area of Facilities, Fee Properties, and/or Easements of The Metropolitan Water District of Southern California

1. Introduction

a. The following general guidelines should be followed for the design of proposed facilities and developments in the area of Metropolitan's facilities, fee properties, and/or easements.

b. We require that 3 copies of your tentative and final record maps, grading, paving, street improvement, landscape, storm drain, and utility plans be submitted for our review and written approval as they pertain to Metropolitan's facilities, fee properties and/or easements, prior to the commencement of any construction work.

2. Plans, Parcel and Tract Maps

The following are Metropolitan's requirements for the identification of its facilities, fee properties, and/or easements on your plans, parcel maps and tract maps:

a. Metropolitan's fee properties and/or easements and its pipelines and other facilities must be fully shown and identified as Metropolitan's on all applicable plans.

b. Metropolitan's fee properties and/or easements must be shown and identified as Metropolitan's with the official recording data on all applicable parcel and tract maps.

c. Metropolitan's fee properties and/or easements and existing survey monuments must be dimensionally tied to the parcel or tract boundaries.

d. Metropolitan's records of surveys must be referenced on the parcel and tract maps.

e. Metropolitan's pipelines and other facilities, etc. structures, manholes, equipment, survey monuments, etc. within its fee properties and/or easements must be protected from damage by the easement holder on Metropolitan's property or the property owner where Metropolitan has an easement, at no expense to Metropolitan. If the facility is a cathodic protection station it shall be located prior to any grading or excavation. The exact location, description and way of protection shall be shown on the related plans for the easement area.

4. Easements on Metropolitan's Property

a. We encourage the use of Metropolitan's fee rights-of-way by governmental agencies for public street and utility purposes, provided that such use does not interfere with Metropolitan's use of the property, the entire width of the property is accepted into the agency's public street system and fair market value is paid for such use of the right-of-way.

b. Please contact the Director of Metropolitan's Right of Way and Land Division, telephone (213) 250-6302, concerning easements for landscaping, street, storm drain, sewer, water or other public facilities proposed within Metropolitan's fee properties. A map and legal description of the requested easements must be submitted. Also, written evidence must be submitted that shows the city or county will accept the easement for the specific purposes into its public system. The grant of the easement will be subject to Metropolitan's rights to use its land for water pipelines and related purposes to the same extent as if such grant had not been made. There will be a charge for the easement. Please note that, if entry is required on the property prior to issuance of the easement, an entry permit must be obtained. There will also be a charge for the entry permit.

5. Landscaping

Metropolitan's landscape guidelines for its fee properties and/or easements are as follows:

a. A green belt may be allowed within Metropolitan's fee property or easement.

b. All landscape plans shall show the location and size of Metropolitan's fee property and/or easement and the location and size of Metropolitan's Pipeline or other facilities therein.

a. Permanent structures, including catch basins, manholes, power poles, telephone riser boxes, etc., shall not be located within its fee properties and/or easements.

b. We request that permanent utility structures within public streets, in which Metropolitan's facilities are constructed under the Metropolitan Water District Act, be placed as far from our pipeline as possible, but not closer than 5 feet from the outside of our pipeline.

c. The installation of utilities over or under Metropolitan's pipeline(s) must be in accordance with the requirements shown on the enclosed prints of Drawings Nos. C-11632 and C-9547. Whenever possible we request a minimum of one foot clearance between Metropolitan's pipe and your facility. Temporary support of Metropolitan's pipe may also be required at undercrossings of its pipe in an open trench. The temporary support plans must be reviewed and approved by Metropolitan.

d. Lateral utility crossings of Metropolitan's pipelines must be as perpendicular to its pipeline alignment as practical. Prior to any excavation our pipeline shall be located manually and any excavation within two feet of our pipeline must be done by hand. This shall be noted on the appropriate drawings.

e. Utilities constructed longitudinally within Metropolitan's rights-of-way must be located outside the theoretical trench prism for uncovering its pipeline and must be located parallel to and as close to its rights-of-way lines as practical.

f. When piping is jacked or installed in jacked casing or tunnel under Metropolitan's pipe, there must be at least two feet of vertical clearance between the bottom of Metropolitan's pipe and the top of the jacked pipe, jacked casing or tunnel. We also require that detail drawings of the shoring for the jacking or tunneling pits be submitted for our review and approval. Provisions must be made to grout any voids around the exterior of the jacked pipe, jacked casing or tunnel. If the piping is installed in a jacked casing or tunnel the annular space between the piping and the jacked casing or tunnel must be filled with grout.

j. Potholing of Metropolitan's pipeline is required if the vertical clearance between a utility and Metropolitan's pipeline is indicated on the plan to be one foot or less. If the indicated clearance is between one and two feet, potholing is suggested. Metropolitan will provide a representative to assist others in locating and identifying its pipeline. Two-working days notice is requested.

k. Adequate shoring and bracing is required for the full depth of the trench when the excavation encroaches within the zone shown on Figure 4.

l. The location of utilities within Metropolitan's fee property and/or easement shall be plainly marked to help prevent damage during maintenance or other work done in the area. Detectable tape over buried utilities should be placed a minimum of 12 inches above the utility and shall conform to the following requirements:

1) Water pipeline: A two-inch blue warning tape shall be imprinted with:

"CAUTION BURIED WATER PIPELINE"

2) Gas, oil, or chemical pipeline: A two-inch yellow warning tape shall be imprinted with:

"CAUTION BURIED PIPELINE"

3) Sewer or storm drain pipeline: A two-inch green warning tape shall be imprinted with:

"CAUTION BURIED PIPELINE"

4) Electric, street lighting, or traffic signals conduit: A two-inch red warning tape shall be imprinted with:

"CAUTION BURIED CONDUIT"

5) Telephone, or television conduit: A two-inch orange warning tape shall be imprinted with:

"CAUTION BURIED CONDUIT"



imposes loads no greater than AASHTO H-10. If the cover is between two and three feet, equipment must be restricted to that of a Caterpillar D-4 tract-type tractor. If the cover is less than two feet, only hand equipment may be used. Also, if the contractor plans to use any equipment over Metropolitan's pipeline which will impose loads greater than AASHTO H-20, it will be necessary to submit the specifications of such equipment for our review and approval at least one week prior to its use. More restrictive requirements may apply to the loading guideline over the San Diego Pipelines 1 and 2, portions of the Orange County Feeder, and the Colorado River Aqueduct. Please contact us for loading restrictions on all of Metropolitan's pipelines and conduits.

b. The existing cover over the pipeline shall be maintained unless Metropolitan determines that proposed changes do not pose a hazard to the integrity of the pipeline or an impediment to its maintenance.

13. Blasting

a. At least 20 days prior to the start of any drilling for rock excavation blasting, or any blasting, in the vicinity of Metropolitan's facilities, a two-part preliminary conceptual plan shall be submitted to Metropolitan as follows:

b. Part 1 of the conceptual plan shall include a complete summary of proposed transportation, handling, storage, and use of explosions.

c. Part 2 shall include the proposed general concept for blasting, including controlled blasting techniques and controls of noise, fly rock, airblast, and ground vibration.

14. CEQA Requirements

a. When Environmental Documents Have Not Been Prepared

1) Regulations implementing the California Environmental Quality Act (CEQA) require that Metropolitan have an opportunity to consult with the agency or consultants preparing any environmental documentation. We are required to review and consider the environmental effects of the project as shown in the Negative Declaration or Environmental Impact Report (EIR) prepared for your project before committing Metropolitan to approve your request.

o. Control cables connected with the operation of Metropolitan's system are buried within streets, its fee properties and/or easements. The locations and elevations of these cables shall be shown on the drawings. The drawings shall note that prior to any excavation in the area, the control cables shall be located and measures shall be taken by the contractor to protect the cables in place.

p. Metropolitan is a member of Underground Service Alert (USA). The contractor (excavator) shall contact USA at 1-800-422-4133 (Southern California) at least 48 hours prior to starting any excavation work. The contractor will be liable for any damage to Metropolitan's facilities as a result of the construction.

8. Paramount Right

Facilities constructed within Metropolitan's fee properties and/or easements shall be subject to the paramount right of Metropolitan to use its fee properties and/or easements for the purpose for which they were acquired. If at any time Metropolitan or its assigns should, in the exercise of their rights, find it necessary to remove any of the facilities from the fee properties and/or easements, such removal and replacement shall be at the expense of the owner of the facility.

9. Modification of Metropolitan's Facilities

When a manhole or other of Metropolitan's facilities must be modified to accommodate your construction or reconstruction, Metropolitan will modify the facilities with its forces. This should be noted on the construction plans. The estimated cost to perform this modification will be given to you and we will require a deposit for this amount before the work is performed. Once the deposit is received, we will schedule the work. Our forces will coordinate the work with your contractor. Our final billing will be based on actual cost incurred, and will include materials, construction, engineering plan review, inspection, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount.

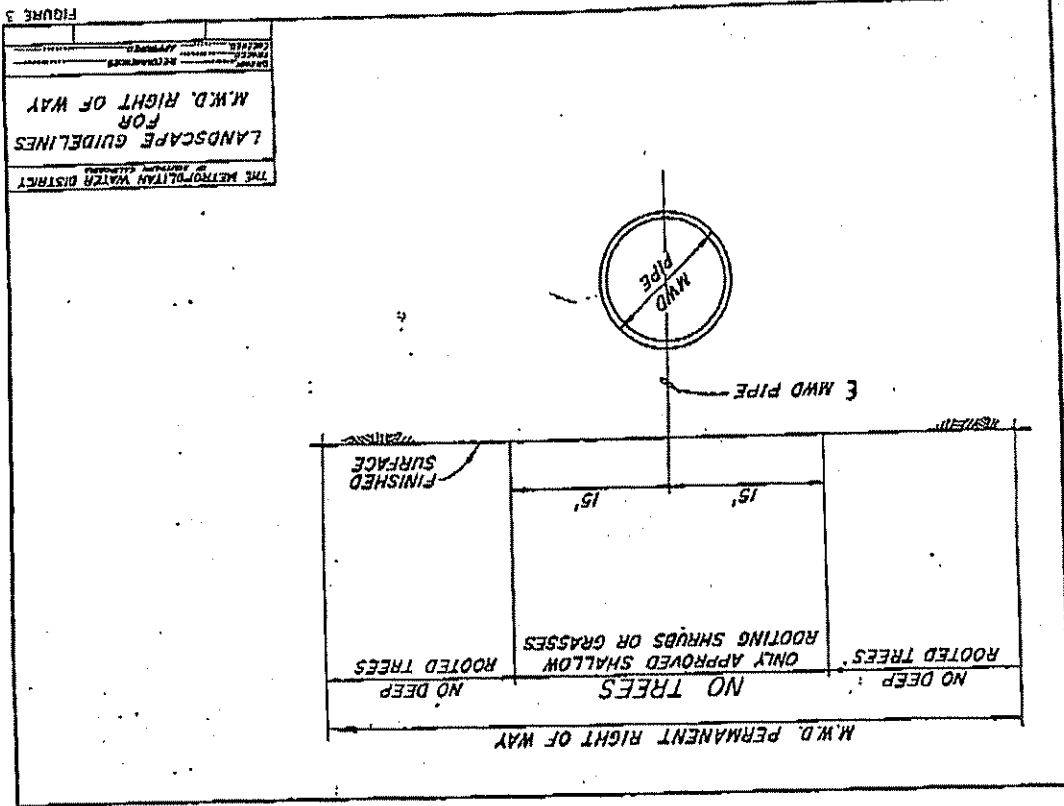
giving Metropolitan's comments, requirements and/or approval that will require 8 man-hours or less of effort is typically performed at no cost to the developer, unless a facility must be modified where Metropolitan has superior rights. If an engineering review and letter response requires more than 8 man-hours of effort by Metropolitan to determine if the proposed facility or development is compatible with its facilities, or if modifications to Metropolitan's manhole(s) or other facilities will be required, then all of Metropolitan's costs associated with the project must be paid by the developer, unless the developer has superior rights.

b. A deposit of funds will be required from the developer before Metropolitan can begin its detailed engineering plan review that will exceed 8 hours. The amount of the required deposit will be determined after a cursory review of the plans for the proposed development.

c. Metropolitan's final billing will be based on actual cost incurred, and will include engineering plan review, inspection, materials, construction, and administrative overhead charges calculated in accordance with Metropolitan's standard accounting practices. If the cost is less than the deposit, a refund will be made; however, if the cost exceeds the deposit, an invoice will be forwarded for payment of the additional amount. Additional deposits may be required if the cost of Metropolitan's review exceeds the amount of the initial deposit.

16. Caution

We advise you that Metropolitan's plan reviews and responses are based upon information available to Metropolitan which was prepared by or on behalf of Metropolitan for general record purposes only. Such information may not be sufficiently detailed or accurate for your purposes. No warranty of any kind, either express or implied, is attached to the information therein conveyed as to its accuracy, and no inference should be drawn from Metropolitan's failure to comment on any aspect of your project. You are therefore cautioned to make such surveys and other field investigations as you may deem prudent to assure yourself that any plans for your project are correct.



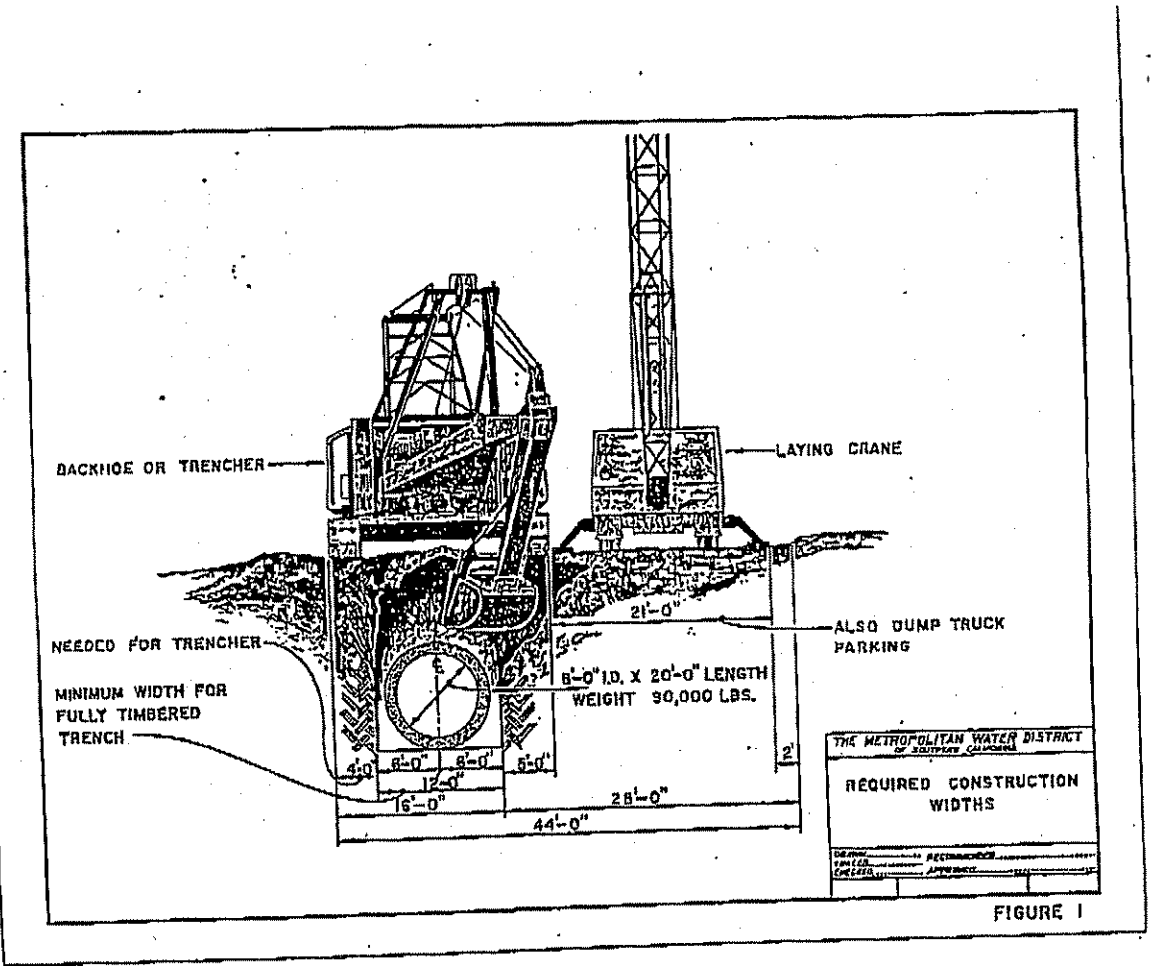
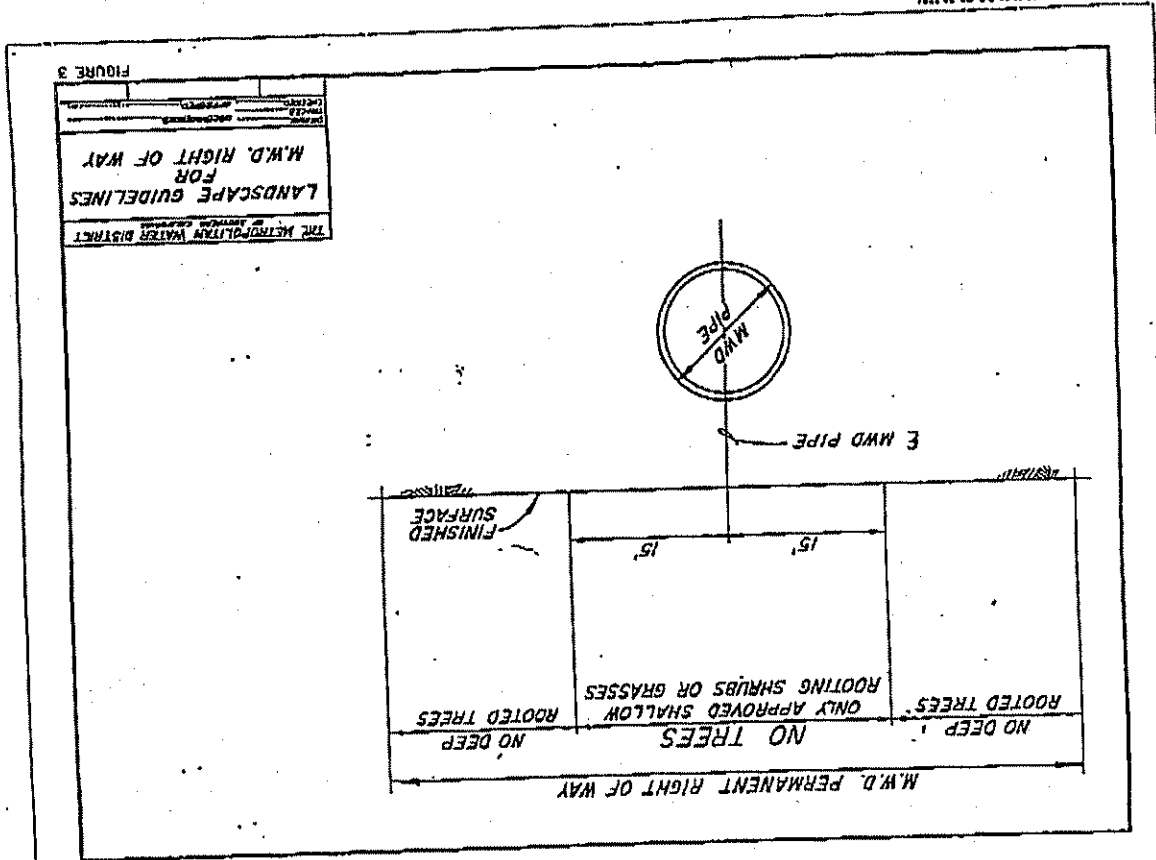
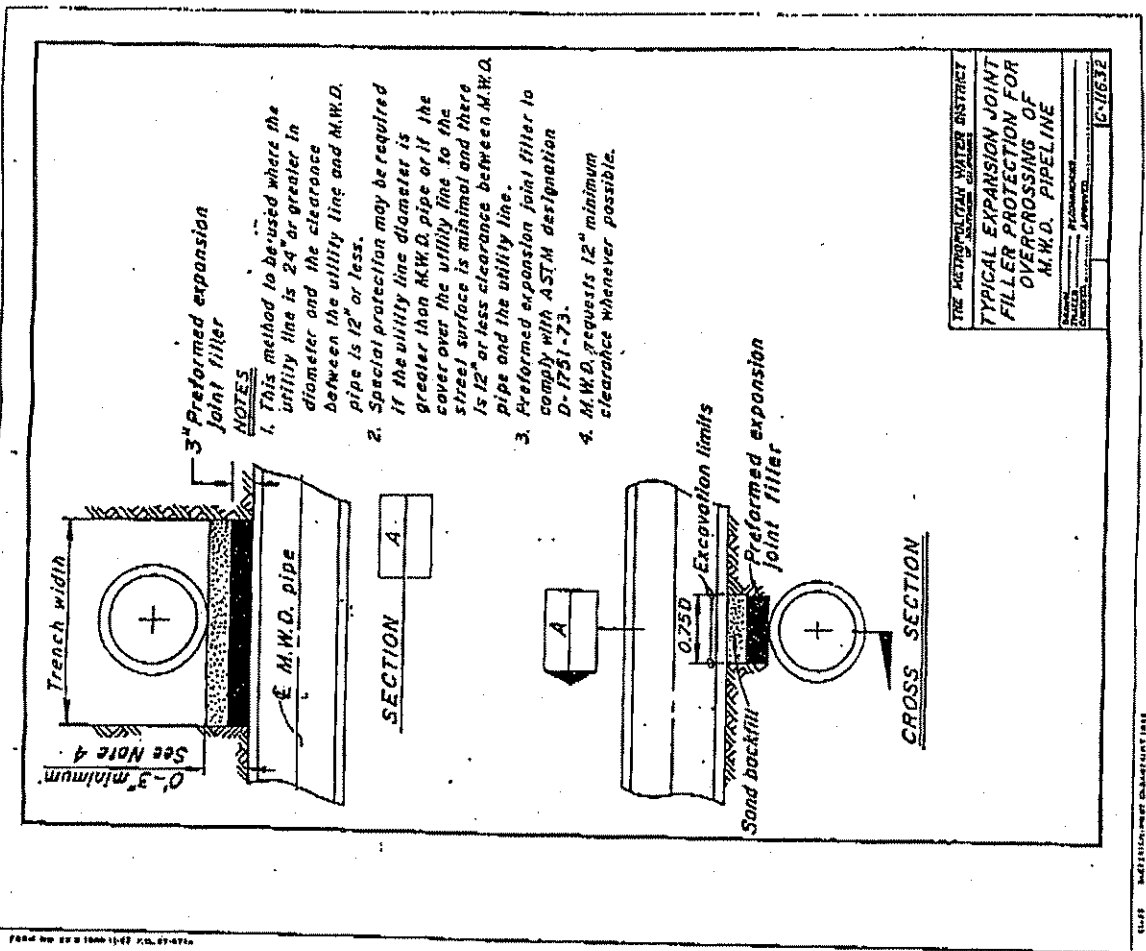
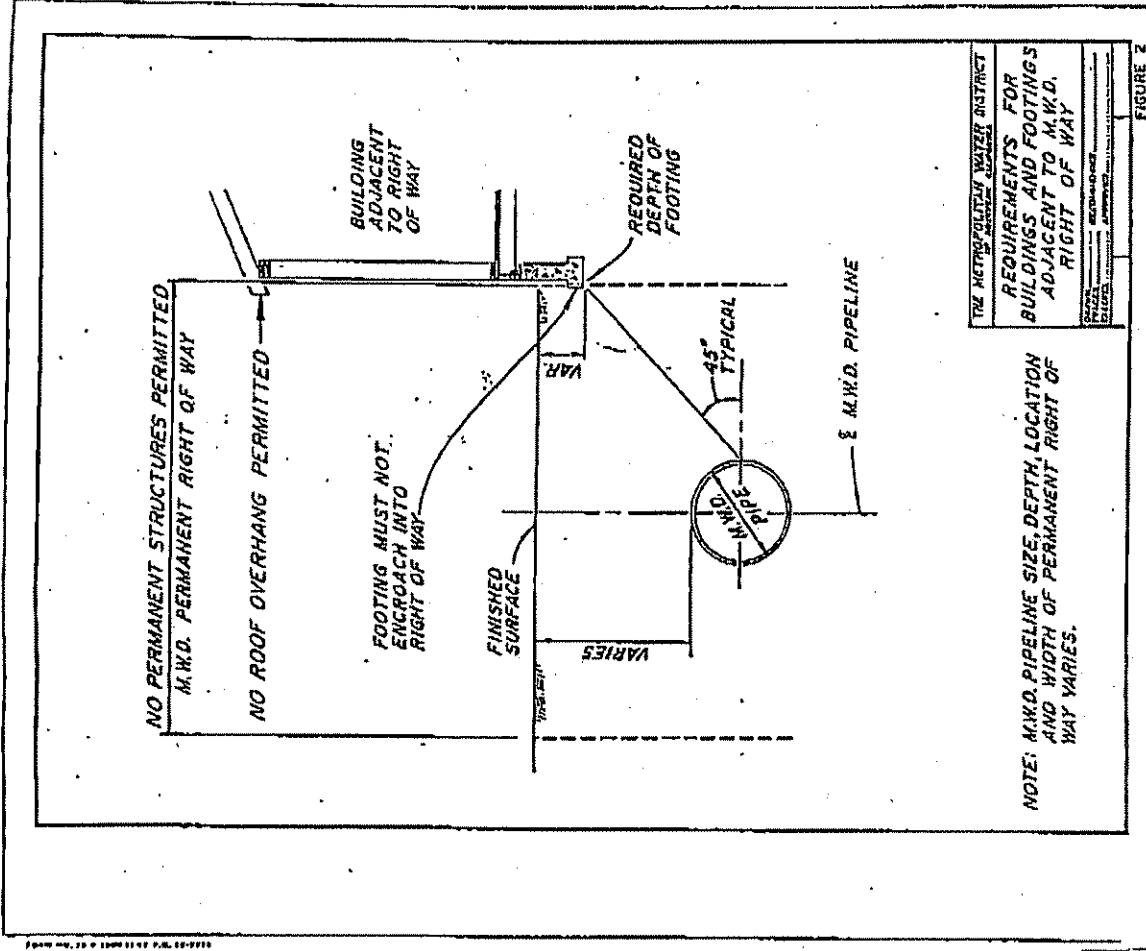
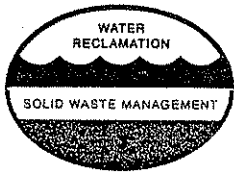


FIGURE 1







# COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400  
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998  
Telephone: (562) 699-7411, FAX: (562) 699-5422  
www.lacsd.org

JAMES F. STAHL  
Chief Engineer and General Manager

RECEIVED  
PLANNING DIVISION

March 7, 2001

File No: 32-00.04-00

MAR 08 2001

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

Ms. Lisa Hardy, AICP  
City of Santa Clarita  
Department of Planning and Building Services  
23920 Valencia Boulevard, Suite 300  
Santa Clarita, CA 91355

Dear Ms. Hardy:

## **Tentative Tract Map No. 50283, Master Case No. 99-264**

The County Sanitation Districts of Los Angeles County (Districts) received a Notice of Preparation of a Draft Environmental Impact Report for the subject project on February 23, 2001. We offer the following comments regarding sewerage service:

1. A portion of the territory in question is located outside the sphere of influence of the Districts, as adopted by the Local Agency Formation Commission (LAFCO). Therefore, until the current sphere of influence for the appropriate Sanitation District has been amended by LAFCO to include the subject territory, the Districts will be unable to annex the territory and provide sewerage services.
2. Additionally, the entire area in question is outside the jurisdictional boundaries of the Districts and will require annexation into District No. 32 before sewerage service can be provided to the proposed development. For specific information regarding the annexation procedure and fees, please contact Ms. Margarita Cabrera at extension 2708.
3. Because of the project's location, the flow originating from the proposed project would have to be transported to the Districts' trunk sewers by local sewer(s) which are not maintained by the Districts. If no local sewer lines currently exist, it is the responsibility of the developer to convey any wastewater generated by the project to the nearest local sewer and/or Districts' trunk sewer. The nearest Districts' trunk sewer is the Newhall Trunk Sewer, located in Walnut Street at 16<sup>th</sup> Street. This 21-inch diameter trunk sewer has a design capacity of 4.3 million gallons per day (mgd) and conveyed a peak flow of 1.5 mgd when last measured in 1996.
4. The Districts operate two water reclamation plants (WRPs), the Saugus WRP and the Valencia WRP in order to provide wastewater treatment in the Santa Clarita Valley. These facilities are interconnected to form a regional treatment system known as the Santa Clarita Valley Joint Sewerage System (SCVJSS) which has a permitted treatment capacity of 19.1 mgd. A two phase expansion of the Valencia WRP has been currently approved which will increase the treatment capacity of the SCVJSS by 15 mgd. The first phase, scheduled to be completed by early 2002, will consist of a 9.0 mgd expansion and is expected to meet the Regional Growth Management Plan forecasted demand through 2010. The second phase, scheduled to be completed by early 2010, will consist of an additional 6.0 mgd expansion and will increase the SCVJSS treatment capacity to 34.1 mgd which will be sufficient to meet the demand until 2015. The SCVJSS currently processes an average flow of 16.7 mgd.

March 7, 2001

5. The expected average wastewater flow from the project site is approximately one million gallons per day. A copy of the Districts' average wastewater generation factors is enclosed for your information.
6. Individual developments associated with the proposed project may require a Districts' permit for Industrial Wastewater Discharge. Project developers should contact the Districts' Industrial Waste Section at extension 2900, in order to reach a determination on this matter. If this permit is necessary, project developers will be required to forward a copy of final plans for the proposed development(s) to the Districts for review and approval before beginning project construction.
7. The Districts are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting (directly or indirectly) to the Districts' Sewerage System or **increasing the existing strength and/or quantity of wastewater attributable to a particular parcel or operation already connected**. This connection fee is required to construct an incremental expansion of the Sewerage System to accommodate the proposed project which will mitigate the impact of this project on the present Sewerage System. Payment of a connection fee will be required before a permit to connect to the sewer is issued. For specific information regarding the connection fee application procedure and fees, please contact the Connection Fee Counter at extension 2727.
8. In order for the Districts to conform with the requirements of the Federal Clean Air Act (CAA), the design capacities of the Districts' wastewater treatment facilities are based on the regional growth forecast adopted by the Southern California Association of Governments (SCAG). Specific policies included in the development of the SCAG regional growth forecast are incorporated into the Air Quality Management Plan, which is prepared by the South Coast Air Quality Management District in order to improve air quality in the South Coast Air Basin as mandated by the CAA. All expansions of Districts' facilities must be sized and service phased in a manner which will be consistent with the SCAG regional growth forecast for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The available capacity of the Districts' treatment facilities will, therefore, be limited to levels associated with the approved growth identified by SCAG. As such, this letter does not constitute a guarantee of wastewater service, but is to advise you that the Districts intend to provide this service up to the levels which are legally permitted and to inform you of the currently existing capacity and any proposed expansion of the Districts' facilities.

If you have any questions, please contact the undersigned at (562) 699-7411, extension 2717.

Very truly yours,

James F. Stahl



Ruth I. Frazen  
Engineering Technician  
Planning & Property Management Section

RIF:eg

Enclosure

c: M. Cabrera

TABLE 1  
LOADINGS FOR EACH CLASS OF LAND USE

<u>DESCRIPTION</u>	<u>UNIT OF MEASURE</u>	<u>FLOW (Gallons per Day)</u>	<u>COD (Pounds per Day)</u>	<u>SUSPENDED SOLIDS (Pounds per Day)</u>
<b>RESIDENTIAL</b>				
Single Family Home	Parcel	260	1.22	0.59
Duplex	Parcel	312	1.46	0.70
Triplex	Parcel	468	2.19	1.05
Fourplex	Parcel	624	2.92	1.40
Condominiums	Parcel	195	0.92	0.44
Single Family Home (reduced rate)	Parcel	156	0.73	0.35
Five Units or More	No. of Dwlg. Units	156	0.73	0.35
Mobile Home Parks	No. of Spaces	156	0.73	0.35
<b>COMMERCIAL</b>				
Hotel/Motel/Rooming House	Room	125	0.54	0.28
Store	1000 ft <sup>2</sup>	100	0.43	0.23
Supermarket	1000 ft <sup>2</sup>	150	2.00	1.00
Shopping Center	1000 ft <sup>2</sup>	325	3.00	1.17
Regional Mall	1000 ft <sup>2</sup>	150	2.10	0.77
Office Building	1000 ft <sup>2</sup>	200	0.86	0.45
Professional Building	1000 ft <sup>2</sup>	300	1.29	0.68
Restaurant	1000 ft <sup>2</sup>	1,000	16.68	5.00
Indoor Theatre	1000 ft <sup>2</sup>	125	0.54	0.28
Car Wash				
Tunnel - No Recycling	1000 ft <sup>2</sup>	3,700	15.86	8.33
Tunnel - Recycling	1000 ft <sup>2</sup>	2,700	11.74	6.16
Wand	1000 ft <sup>2</sup>	700	3.00	1.58
Financial Institution	1000 ft <sup>2</sup>	100	0.43	0.23
Service Shop	1000 ft <sup>2</sup>	100	0.43	0.23
Animal Kennels	1000 ft <sup>2</sup>	100	0.43	0.23
Service Station	1000 ft <sup>2</sup>	100	0.43	0.23
Auto Sales/Repair	1000 ft <sup>2</sup>	100	0.43	0.23
Wholesale Outlet	1000 ft <sup>2</sup>	100	0.43	0.23
Nursery/Greenhouse	1000 ft <sup>2</sup>	25	0.11	0.06
Manufacturing	1000 ft <sup>2</sup>	200	1.86	0.70
Dry Manufacturing	1000 ft <sup>2</sup>	25	0.23	0.09
Lumber Yard	1000 ft <sup>2</sup>	25	0.23	0.09
Warehousing	1000 ft <sup>2</sup>	25	0.23	0.09
Open Storage	1000 ft <sup>2</sup>	25	0.23	0.09
Drive-in Theatre	1000 ft <sup>2</sup>	20	0.09	0.05



TABLE 1

(continued)

## LOADINGS FOR EACH CLASS OF LAND USE

<u>DESCRIPTION</u>	<u>UNIT OF MEASURE</u>	<u>FLOW (Gallons per Day)</u>	<u>COD (Pounds per Day)</u>	<u>SUSPENDED SOLIDS (Pounds per Day)</u>
<b>COMMERCIAL</b>				
Night Club	1000 ft <sup>2</sup>	350	1.50	0.79
Bowling/Skating Club	1000 ft <sup>2</sup>	150	1.76	0.55
Auditorium, Amusement Park (Structures and Improvements)	1000 ft <sup>2</sup>	125	0.54	0.27
Golf Course, Camp, and Park (Structures and Improvements)	1000 ft <sup>2</sup>	350	1.50	0.79
Recreational Vehicle Park	1000 ft <sup>2</sup>	100	0.43	0.23
Convalescent Home	No. of Spaces	55	0.34	0.14
Laundry	Bed	125	0.54	0.28
Mortuary/Cemetery	1000 ft <sup>2</sup>	3,825	16.40	8.61
Health Spa, Gymnasium With Showers	1000 ft <sup>2</sup>	100	1.33	0.67
Without Showers	1000 ft <sup>2</sup>	600	2.58	1.35
Convention Center, Fairground, Racetrack, Sports Stadium/Arena	1000 ft <sup>2</sup>	300	1.29	0.68
	Average Daily Attendance	10	0.04	0.02
<b>INSTITUTIONAL</b>				
College/University	Student	20	0.09	0.05
Private School	1000 ft <sup>2</sup>	200	0.86	0.45
Church	1000 ft <sup>2</sup>	50	0.21	0.11



# South Coast Air Quality Management District

21865 E. Copley Drive, Diamond Bar, CA 91765-4182  
(909) 396-2000 • <http://www.aqmd.gov>



March 6, 2001

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PLANNING DIVISION

MAR 12 2001

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

Ms. Lisa Hardy, AICP  
City of Santa Clarita  
Department of Planning and Building Services  
23920 Valencia Boulevard, Suite 300  
Santa Clarita, CA 91355

Dear Ms. Hardy:

## **Notice of Preparation of an Environmental Impact Report MC 99-264/Tentative Tract Map 50283**

The South Coast Air Quality Management District (AQMD) appreciates the opportunity to comment on the above-mentioned document. The AQMD's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the Draft Environmental Impact Report (EIR).

### **Air Quality Analysis**

The AQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The AQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the AQMD's Subscription Services Department by calling (909) 396-3720.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction and operations should be considered. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the evaluation. An analysis of all toxic air contaminant impacts due to the decommissioning or use of equipment potentially generating such air pollutants should also be included.

**Mitigation Measures**

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures be utilized during project construction and operation to minimize or eliminate significant adverse air quality impacts. To assist the Lead Agency with identifying possible mitigation measures for the project, please refer to Chapter 11 of the AQMD CEQA Air Quality Handbook for sample air quality mitigation measures. Additionally, AQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook contain numerous measures for controlling construction-related emissions that should be considered for use as CEQA mitigation if not otherwise required. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed.

**Data Sources**

AQMD rules and relevant air quality reports and data are available by calling the AQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the AQMD's World Wide Web Homepage (<http://www.aqmd.gov>).

The AQMD is willing to work with the Lead Agency to ensure that project-related emissions are accurately identified, categorized, and evaluated. Please call Dr. Charles Blankson, Transportation Specialist, CEQA Section, at (909) 396-3304 if you have any questions regarding this letter.

Sincerely,

*Steve Smith*

Steve Smith, Ph.D.  
Program Supervisor, CEQA Section  
Planning, Rule Development and Area Sources

SS:CB:li

LAC010227-02LI  
Control Number

**DEPARTMENT OF TRANSPORTATION**

OFFICE OF ADVANCE PLANNING

DISTRICT 7, IGR OFFICE 1-10C

120 SO. SPRING ST.

LOS ANGELES, CA 90012

TEL: (213) 897-6696 ATSS: 8- 647-6696

FAX: (213) 897-6317

**RECEIVED**  
PLANNING DIVISION

MAR 27 2001

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

March 26, 2001

IGR/CEQA cs/010343

NOP

City of Santa Clarita

Master Case # 99-264; TTM# 50283; GPA

99-003; ZC 99-002;

584 acre 60 lot industrial subdivision

S. of San Fernando Rd./W. of Sierra Hwy.

Vic. LA-(11.43-126-12.51); LA-14-26.89

SCH# 2001021121



Ms. Lisa Hardy  
 City of Santa Clarita  
 23920 Valencia Blvd.  
 Santa Clarita, CA 91355

Dear Ms. Hardy:

Thank you for including Caltrans in the environmental review process for the above-mentioned project. Based on the information received, we have the following comments:

A traffic study will be needed to evaluate the project's overall impact on the State transportation system including State Route 126 (San Fernando Rd.) and State Route 14 (Antelope Valley Freeway) and all affected freeway on/off ramps and intersections. The traffic study should include, but not be limited to:

- 1) Assumptions used to develop trip generation/distribution percentages and assignments.
- 2) An analysis of ADT, AM and PM peak hour volumes for both the existing and future (year 2020) conditions. This should also include, but not be limited to, level-of-service calculations:

Existing traffic volumes

Existing level-of-service (LOS) calculations

Future traffic volumes projections for year 2020

Cumulative level-of-service (LOS) calculations

- 3) Any mitigation measures proposed to alleviate traffic impact should include, but not be limited to the following:

Financing

Scheduling considerations

Implementation responsibilities

Monitoring plan

- 4) Developer's percent share of the cost along with a plan of realistic mitigation measures under the control of the developer should be addressed. Any assessment fees for mitigation should be of such proportion as to cover mainline highway deficiencies that occur as a result of the additional traffic generated by the project.

Ms. Lisa Hardy  
Page Two  
March 26, 2001

- 5) Any work to be performed within State Right-of-way, such as ingress/egress, grading, changes to hydraulic run-off, drainage, landscaping, etc., will need a Caltrans Encroachment Permit.
- 6) The proposed development will need to comply with all applicable hazardous waste management and stormwater run-off compliance.
- 7) Tentative Tract Maps adjacent to State Right-of-way will need to be reviewed by Caltrans prior to recordation.
- 8) We recommend that construction related truck trips on State highways be limited to off-peak commute periods. Transport of oversize or overweight vehicles and equipment on State highways will need a Caltrans Transportation Permit.
- 9) We would appreciate advance copies of the DEIR and traffic study to facilitate internal Caltrans review. Copies should be sent to the undersigned :

c/o Stephen Buswell, IGR/CEQA Program Manager  
Caltrans District 7, Office of Regional Planning  
120 South Spring Street  
Los Angeles, CA 90012

If you have any questions regarding our comments, refer to Caltrans IGR/CEQA Record # cs/010343, and please do not hesitate to contact me at (213) 897-4429.

Sincerely,



for

STEPHEN BUSWELL  
IGR/CEQA Program Manager

cc: Mr. Scott Morgan, State Clearinghouse

**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2001021121  
**Project Title** MC 99-246/Tentative Tract Map 50283  
**Lead Agency** Santa Clarita, City of

**Type** NOP Notice of Preparation  
**Description** The proposed TTM 50283 is an industrial/commercial subdivision consisting of 60 lots on 584 acres. Lots 1-41 are proposed to be industrial/commercial lots. Lots 42-44 would accommodate the water tank. Lots 45-54 consist of open space and trails. Lots 55-59 make up the open space/wilderness area. An oak tree permit is also requested to remove ~1,154 of the 10,527 on-site oak trees.

**Lead Agency Contact**

**Name** Lisa Hardy  
**Agency** City of Santa Clarita  
**Phone** 661/255-4330 **Fax**  
**email**  
**Address** 23920 Valencia Boulevard, Suite 300  
**City** Santa Clarita **State** CA **Zip** 91355

**Project Location**

**County** Los Angeles  
**City** Santa Clarita  
**Region**  
**Cross Streets** SR-14/Sierra Highway/San Fernando Road/Pine Street  
**Parcel No.**  
**Township** **Range** **Section** **Base**

**Proximity to:**

**Highways** SR-14  
**Airports**  
**Railways**  
**Waterways**  
**Schools**  
**Land Use** Zoning: Industrial Commercial Planned Development; Industrial Commercial; Community Commercial; Residential Estate; Open Space  
 General Plan Designation: Industrial/Commercial; Community Commercial; Residential Estate; Open Space

**Project Issues** Landuse; Geologic/Seismic; Water Quality; Drainage/Absorption; Air Quality; Traffic/Circulation; Aesthetic/Visual; Toxic/Hazardous; Noise; Public Services; Recreation/Parks; Archaeologic-Historic; Other Issues; Wetland/Riparian; Wildlife; Forest Land/Fire Hazard; Schools/Universities; Septic System; Social; Water Supply; Vegetation

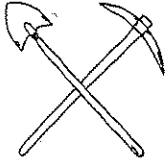
**Reviewing Agencies** Resources Agency; Department of Conservation; Department of Forestry and Fire Protection; Department of Fish and Game, Region 5; Native American Heritage Commission; Public Utilities Commission; State Lands Commission; Santa Monica Mountains Conservancy; Caltrans, District 7; California Highway Patrol; Air Resources Board, Major Industrial Projects; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 4

**Date Received** 02/27/2001 **Start of Review** 02/27/2001 **End of Review** 03/28/2001

## **Appendix B**

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### **Geotechnical Investigation**



**ALLAN E. SEWARD**  
**ENGINEERING GEOLOGY, INC.**  
Geological And Geotechnical Consultants

**EIR-LEVEL PRELIMINARY GEOLOGIC/GEOTECHNICAL SUMMARY**

Tentative Tract 50283  
Santa Clarita, California

Prepared for

Rincon Consultants, Inc.  
790 E. Santa Clara St.  
Ventura, CA 93001

Job No: 01-1799R-9  
Dated November 28, 2001



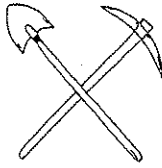


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**ALLAN E. SEWARD**  
**ENGINEERING GEOLOGY, INC.**  
Geological And Geotechnical Consultants

November 28, 2001

Job No: 01-1799R-9

Rincon Consultants, Inc.  
790 E. Santa Clara St.  
Ventura, CA 93001

**Attention:** Mr. Joe Power

**Subject:** **EIR-LEVEL PRELIMINARY GEOLOGIC/GEOTECHNICAL  
SUMMARY**  
Tentative Tract 50283  
Santa Clarita, California

**References:** at end of text

Ladies and Gentlemen:

This preliminary geologic and geotechnical evaluation of the site is provided for incorporation into the Environmental Impact Report (EIR) for the proposed development of Vesting Tentative Tract 50283. This report presents our opinions regarding the existing geologic and geotechnical conditions and their effects on the future development of the site. This report is based primarily upon information contained in the referenced reports by R.T. Frankian and Associates who are the geologic/geotechnical consultant of record for the subject site.

## **1.0 SCOPE OF WORK**

This report has been compiled in order to provide a geologic/geotechnical summary review that describes the geologic and geotechnical conditions at the site. Potential impacts caused by the proposed project have been identified. Mitigation measures to lessen or avoid impacts, have also been suggested in this report.

This investigation included the following:

1. Review of in-house data and reports on this site compiled by this office listed under References.

2. Review of the listed Published References.
3. Review of the referenced reports on this site compiled by R.T. Frankian and Associates (R.T.F&A). Their reports dated June 15, 2001 and October 22, 2001 provide a comprehensive review of the revised Tentative Map by Sikand Engineering dated 5-24-01.
4. Review of the Munger Map Book, California - Alaska, Oil and Gas Fields, 1999.
5. Review of the following aerial photographs:

<u>Year</u>	<u>Photos</u>	<u>Scale</u>	<u>Agency</u>
1928	E 192-195, 214-222 & 250-252	1"=2000'±	Fairchild

6. Review of the topographic base map and the Vesting Tentative Tract Map (05/24/01) by Sikand Engineering Associates, Inc. at a scale of 1 inch = 200 feet. We make no representations regarding the accuracy of these maps. The Tentative Tract Map is used as the base map for our Geologic Summary Map (Plate I).
7. Evaluation of significant faults near the subject site.
8. Preparation of the Location Map, Geologic Summary Map and this report.

Note: For consistency and to facilitate you in the compilation of the EIR, we have directly quoted large portions of RTF&A's June 15, 2001 report in *italics* where we are in agreement with their findings and have added additional information or analyses, where appropriate. Quotes from other RTF&A Reports are specifically noted. We have also constructed a geologic summary map (reduced to 1 inch = 700 feet) that illustrates the generalized geology of the site and identifies the various existing geologic and geotechnical constraints and appropriate mitigation measures, where applicable.

## 2.0 SITE DESCRIPTION

*"Tract 50283 lies just north of Newhall (San Fernando) Pass in the southern end of the Santa Clarita Valley at the southern end of the City of Santa Clarita. Specifically, the site is*

*bounded on the northeast by San Fernando Road, on the east by Sierra Highway and Eternal Valley Memorial park (cemetery), and on the south by undeveloped land. On the west, the northern portion of the site is bounded by commercial/industrial developments, isolated ranch homes, undeveloped land, and a Metropolitan Transit Authority (MTA) right-of-way. The southern portion of the site is bounded on the west by undeveloped land and is transected north-south by the MTA right-of-way. In addition to the MTA right-of-way, the site is crossed by easements for the Metropolitan Water District (MWD) aqueduct, the Southern California Gas Company (SoCal Gas), Southern California Edison (SCE), and the ARCO Products Company."*

*"The general topography of the site consists of moderate to steeply inclined ridges and narrow canyons oriented roughly east-west to west by southwest to north by northeast."*

*"The eastern portion of the site adjacent to the cemetery was previously graded, as were the developed northwest portions. Grading adjacent to the cemetery included cutting down of ridges and construction of artificial fill slopes located approximately 400 and 600 feet to the north and northwest of an existing water tank site. Fill was also placed in the canyon to the south of the cemetery between Sierra Highway and the ridges to the west resulting in a large level area. A 30- to 40-foot-deep stream channel separates most of the level area from Sierra Highway. The grading in the northwestern portion of site includes graded lots containing industrial related business and ranch homes."*

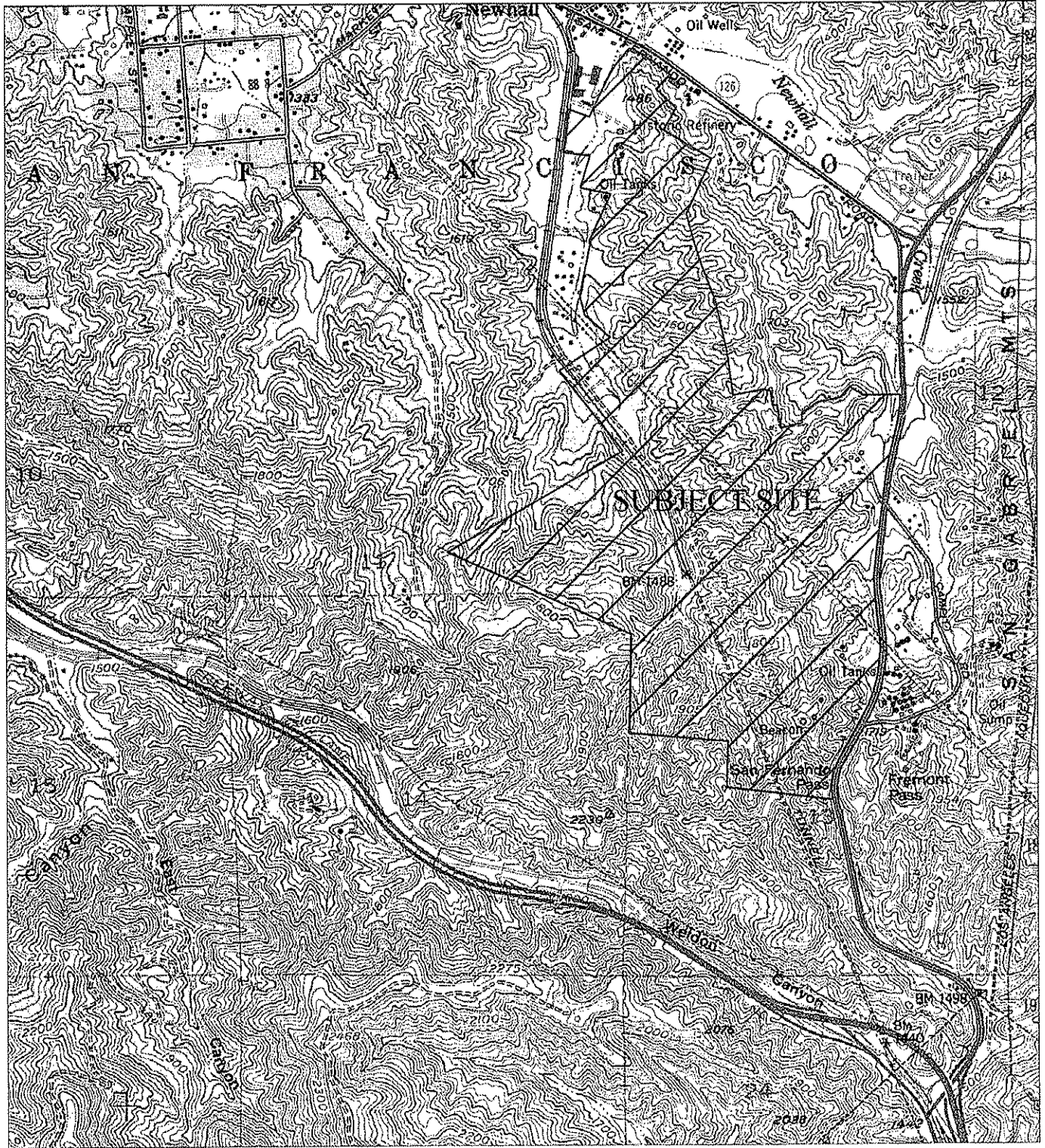
Details of the site topography shown are on the Location Map and the Geologic Summary Map. Ground elevations range from a low point of approximately 1330 ft. above sea level near San Fernando Road to a high point of approximately 1900 ft. on the southwestern portion of the property.

### **3.0 PROPOSED DEVELOPMENT**

*"Proposed cut and fill grading of the site is planned to construct industrial and commercial lots. The primary area of grading will be to the east of the MTA right-of-way, will remain as a wilderness area. Proposed cut slope and fill slope gradients vary from 2:1 to 3:1 (horizontal: vertical). The maximum cut slope height is approximately 160 feet. The maximum fill slope height is approximately 130 feet."*

The deepest proposed cut area is located at Lot 27 and proposes to remove approximately 125 feet of bedrock.





Source: U.S. Geological Survey Oat Mountain  
 Quadrangle, Dated 1952, Photorevised 1969

Approximate Scale: 1"= 2,000'

NOTE: THIS IS NOT A SURVEY OF THE  
 PROPERTY



**ALLAN E. SEWARD**  
**ENGINEERING GEOLOGY, INC.**  
 Geological And Geotechnical Consultants

*LOCATION MAP*

Job No.: 01-1799R-9

Date: 11-28-01





The deepest proposed fill areas are located at Lots 16, 17 and 18 where up to approximately 120 feet of compacted fill is proposed to be added.

## 4.0 GEOLOGY

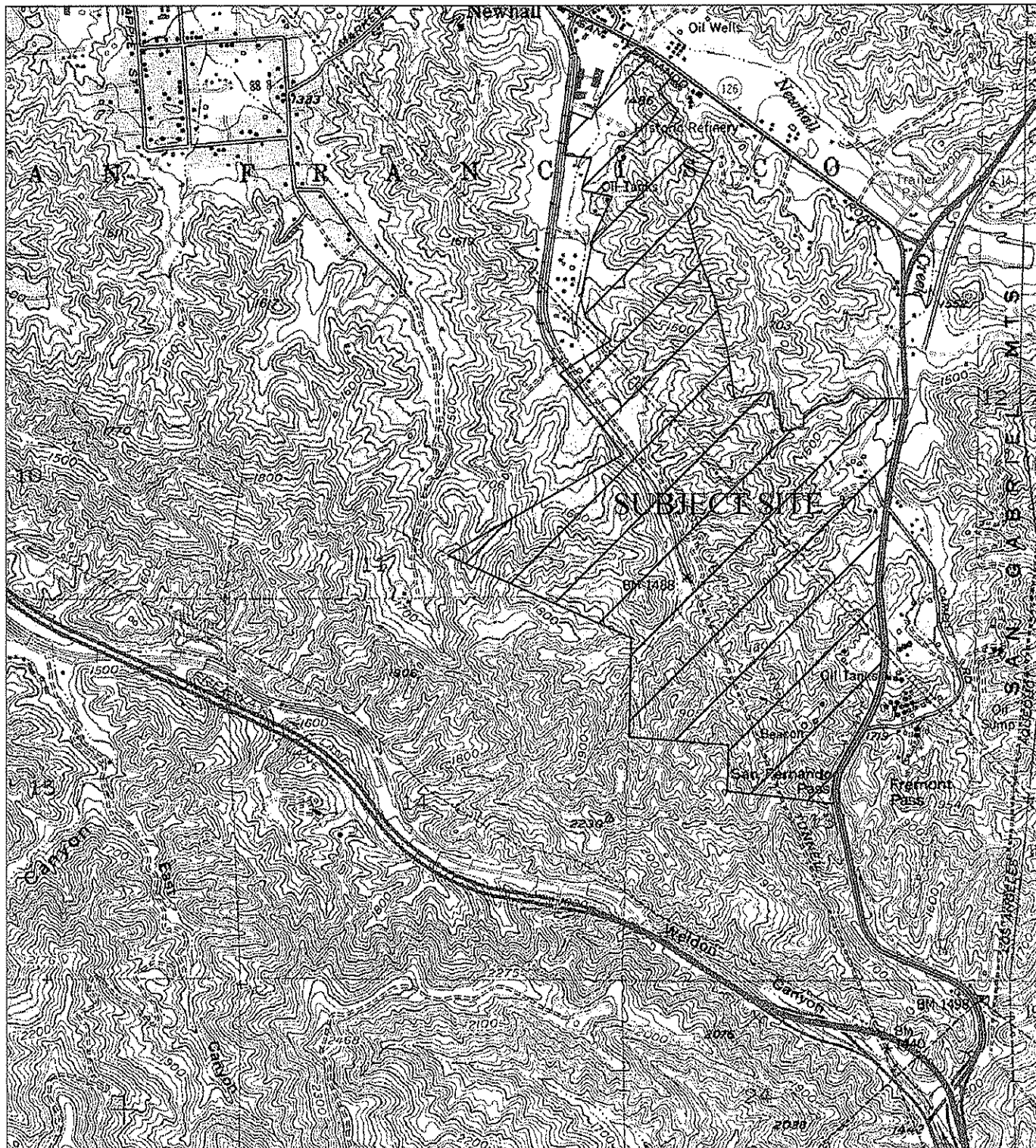
### 4.1 Regional Geology

*"Tract 50283 is located at the southeastern end of the Ventura basin within the Transverse Ranges geomorphic province of California. The Ventura basin consists of a narrow, elongate sedimentary trough extending from Santa Barbara Channel on the west to the San Gabriel fault on the east. The axis of the trough trends east-west, reflecting the overall east-west trend of the Transverse Ranges, and generally coincides with the Santa Clara River Valley. The Ventura basin has been an area of subsidence and sediment accumulation since the beginning of the Tertiary period, with the present trough-like form developing near the beginning of the Miocene epoch (Winterer and Durham, 1962)."*

*"The structure of the basin is defined as a highly folded 'synclinorium' formed by north-south compressional forces (Kew, 1942), and containing a maximum 50,000± feet of marine and nonmarine Tertiary through Quaternary age sedimentary rocks (Bailey and Jahns, 1954). Within the Santa Clarita Valley the primary sedimentary rock formations are the Pico and Saugus Formations. The Pico Formation outcrops along the northern flanks of the Santa Susana Mountains and in the Hasley Canyon-Val Verde area. The Saugus Formation overlies the Pico Formation and comprises most of the hills of the valley between Newhall and Castaic. Other geologic materials exposed within the valley include Pleistocene fanglomerate deposits of the Pacoima Formation (Oakeshott, 1958), exposed in the southern portion of the valley, sporadic remnant terrace deposits of Pleistocene age, and Holocene alluvium mantling the valley floor."*

*"The Pico and Saugus Formations have been deformed into a series of closely spaced anticlines and synclines whose moderately to steeply dipping flanks are cut off diagonally by the San Gabriel Fault (Bailey and Jahns, 1954). The San Gabriel fault, the dominant geologic feature in the Santa Clarita Valley, forms the eastern Ventura basin boundary, and separates the Ventura basin from the structurally similar Soledad basin."*





Source: U.S. Geological Survey Oat Mountain  
 Quadrangle, Dated 1952, Photorevised 1969

Approximate Scale: 1"=2,000'

NOTE: THIS IS NOT A SURVEY OF THE  
 PROPERTY



**ALLAN E. SEWARD**  
**ENGINEERING GEOLOGY, INC.**  
 Geological And Geotechnical Consultants

*LOCATION MAP*

Job No.: 01-1799R-9

Date: 11-28-01



## 4.2 Site Geology

*"Tract 50283 is situated at the south end of the Santa Clarita Valley, just north of Newhall Pass, at the easterly end of the Santa Susana Mountains. The site lies between the east-west trending Santa Susana fault on the south, and the northwest trending San Gabriel fault on the northeast. The site is bounded on the north by the Legion fault. The Beacon fault transects the southerly half of the site, and Weldon fault crosses the southerly edge of the site. The Whitney Canyon fault is located offsite to the east. The Whitney Canyon fault trends north-south. The Legion, Beacon, and Weldon faults trend northwest and subparallel to the San Gabriel fault, which is the major geologic structural feature within the Santa Clarita Valley."*

*"Two primary formations underlie the site. The Saugus Formation, which lies primarily north of the Beacon fault, and the Pico Formation to the south of the fault."*

*"The major geologic structural feature within Tract 50283 is the Beacon fault, which transects the southern half of the site. The Beacon fault separates the Pico Formation to the south from the Saugus Formation to the north. Other structural features include the Legion and Weldon faults, bounding the site on the north and south, respectively; an east-west trending, gently folded anticline, south of the Beacon fault; and an east-west trending gentle syncline north of the fault. Bedding within both the Saugus and Pico Formations dips gently to the northwest or southwest in relation to the location and proximity of the Beacon fault and the two fold axes. Bedding observed in both formations generally strikes N74E to N44W, and dips 5 to 30 degrees to the west."*

The locations of these geologic features are shown on the attached Geologic Summary Map.

## 4.3 Bedrock

### 4.3.1 Pico Formation (Tp)

*"The Pico Formation, named by Kew (1924) for rock exposures in Pico Canyon, consists of middle to late Pliocene age (Oakeshott, 1958) marine sedimentary rocks. The formation is composed chiefly of light olive-gray and medium bluish gray massive soft siltstone and fine-grained silty sandstone, containing reddish brown limonite concretions, and light colored sandstone and conglomerate (Winterer and*

*Durham, 1962). Adjacent to the Santa Clara River, near the Los Angeles-Ventura County line, the siltstone is the dominant formational unit. Farther east, in the Newhall-San Fernando Pass, the Pico Formation is largely sandstone and conglomerate (Winterer and Durham, 1962)."*

*"The Pico Formation interfingers with, and overlies, marine units of the Mio-Pliocene Towsley Formation, and grades upward and laterally into the Plio-Pleistocene Saugus Formation. The Pico Formation attains a maximum estimated thickness of approximately 5,000 feet (Winterer and Durham, 1962)."*

*"Within the site, the Pico Formation is composed primarily fine to medium grained sandstones, coarse grained pebbly sandstones, siltstones, and some silty claystone interbeds. Fine-grained sandstone is the dominant Lithology of the formation and is typically very thinly or thinly bedded, soft, and moderately weathered with alternating bands of iron oxide staining. Siltstone and silty claystone beds are moderately to well indurated and massive. Sandstone beds are typically dark yellowish orange to yellowish gray; siltstone beds are typically yellowish gray to olive brown."*

#### 4.3.2 Saugus Formation (TQs)

*"The Saugus Formation consists of interfingering shallow-water marine, brackish water, and nonmarine sedimentary units (Winterer and Durham, 1962). The Saugus Formation was first described by Hershey (as referenced by Kew, 1924) as 'the Saugus division of the upper Pliocene series' of the Santa Clarita Valley consisting of 'a great series of unlithified sand, gravel, and clay.' Kew (1924) redefined the Saugus as a formation of late Pliocene and early Pleistocene age lying 'unconformably on the Pico' Formation, and 'unconformably overlain by Pleistocene terrace deposits.' Saugus Formation units include light-colored poorly sorted, loosely consolidated sandstone, pebbly sandstone, conglomeratic sandstone, and conglomerate with alternating beds of greenish gray siltstone, sandy siltstone/silty sandstone, and reddish brown sandy siltstone, claystone, and mudstone (Oakeshott, 1958; Winterer and Durham, 1962.)"*

*"Within the site the Saugus Formation is composed of fine to coarse grained sandstone and conglomeratic/pebbly sandstone, with some siltstone interbeds. Medium to coarse sandstone and conglomeratic sandstone are the dominant*

*lithologies of the formation and are typically soft, dry, and thickly bedded to massive. Some of the finer grained sandstone beds are very thinly bedded, moderately weathered, and have some iron oxide staining. Siltstone beds within the formation are typically 2 feet thick or less, moderately to well indurated, and thickly bedded to massive. Sandstone beds are dark yellowish orange to grayish orange while siltstones are yellowish gray."*

#### **4.4 Surficial Deposits**

Overlying the bedrock units are younger surficial deposits of Older Alluvium, Alluvium, Colluvium, Residual Soil and Man-made Deposits of Artificial Fill and Refuse. The distribution of these units have been shown on the attached Geologic Summary Map with the exception of the colluvium and residual soil deposits which are widespread relatively thin, making them unpractical to show.

##### **4.4.1 Older Alluvium (Qoa)**

*"Older alluvium is present in the central western portion of the site along the Southern Pacific Railroad right-of-way. These deposits consist of slightly uplifted and dissected fine to coarse grained sand and gravel with some cobbles."*

##### **4.4.1 Alluvium (Qal)**

*"Alluvium is present in the canyon bottoms of the site. These deposits consist of fine to coarse grained sand, some silt, some gravel, and some small boulders."*

R.T. Frankian & Associates has identified five alluvial areas in their June 15, 2001 Report and a sixth in their October 22, 2001 report, referred to as the Arklin Property, which, underlies Lots 1 and 5 thru 9 (see geologic map).

For reference, we have shown the six alluvial areas on the Geologic Summary Map.

##### **4.4.2 Colluvium**

Colluvium consists of accumulations of soil and weathered bedrock that have been deposited by gravity down slope and generally accumulate in the swales and lower slope flanks. Colluvium is also commonly referred to as slopewash. Based on review



of R.T. Frankian & Associates trench and boring logs, colluvium on the site consists of silty sand with gravel and local cobbles and ranges from 2 feet thick to a maximum thickness of 10 feet. Based on our past experience in similar areas, local pockets of colluvium in the larger swale areas may be as deep as 15 feet.

#### 4.4.3 Residual Soil

*"Residual soil mantles the Saugus and Pico Formations on site. Our test pits indicate that the thickness of the residual soil generally varies from 6 inches to 1 foot on natural slopes. The deposits consist of dry, loose, moderate brown sand to silty sand with some void spaces and roots."*

#### 4.4.4 Man Made Deposits (af, afc, df, rp)

*"Man-made deposits include artificial fill (af); fill associated with the cemetery (afc); dump fill (df) consisting of uncompacted fill associated with existing roads, utilities, and oil well pads; and refuse stockpile (rp) associated with green waste recycling."*

These deposits vary from a few feet to approximately 60 feet in thickness.

### 4.5 Mass Movement Deposits

#### 4.5.1 Landslides

RTF&A have identified and mapped 15 landslides within Tentative Tract 50283. The landslides vary from approximately 15,000 ft.<sup>2</sup> to 61,000 ft.<sup>2</sup> in area and range to a maximum depth of approximately 31 ft. based on boring data. The locations of these landslides are shown on the Geologic Summary Map.

Review of the site topography and aerial photographs indicates that **four additional Landslides** may be present in the open space lots on the southern portion of the site. These landslides are shown as queried on the attached Geologic Summary Map. Mitigation for the mapped landslides is discussed below under Section 5.7.1.

#### 4.5.2 Surficial Failures

Per RTF&A's report dated October 22, 2001, "*Some surficial failures are present on the site but are typically less than 20 feet across and 5 feet thick, and cannot realistically be delineated on 1 inch equals 200 feet Geologic Map. In general, the surficial failures are located near the upper reaches of the steeper canyons or canyon walls, and are composed of a combination of residual soil and weathered bedrock.*"

Based on our experience of similar sites in this area, surficial failures can be as thick as 10 to 15 feet and can consist of accumulations of past multiple failures.

#### 4.6 Faults

##### 4.6.1 General

*"The numerous faults in southern California include active, potentially active, and inactive faults. Based on data developed by the California Division of Mines and Geology (CDMG) (Hart, 1999) for the Alquist-Priolo Earthquake Fault Zone Program, a fault can be considered active if it has demonstrated movement within the Holocene epoch, or approximately the last 11,000 years. Faults that have demonstrated Quaternary movement (last 1.6 million years), but lacking strong evidence of Holocene movement, are classified as potentially active. Faults that have not moved since the beginning of the Quaternary period are deemed inactive."*

*No portion of the tract lies within an Alquist-Priolo Earthquake Fault Zone, as established by CDMG. The closest such zone is located approximately 1,500 feet southeast of the tract. This zone was established for an unnamed bedrock fault, of limited lateral extent, mapped by CDMG (Barrows et al., 1974) following the San Fernando earthquake. This same fault reactivated during the 1994 Northridge earthquake (Hart et al, 1995), with 2.5 centimeters of vertical slip."*

*"The closest active faults to the site are the Santa Susana and San Gabriel faults located approximately 1.5 miles south-southeast and 2.2 miles northeast of the site, respectively."*

*"The Beacon fault transects the southern portion of the site as shown on the Geotechnical Map. The fault is a reverse fault that juxtaposes the stratigraphically*

*older Pico Formation against the younger Saugus Formation. The fault location is marked by the separation between these formations and steeply dipping beds in adjacent outcrops. The Legion fault, which just clips the northern edge of Tract 50283, as shown on the Geotechnical Map, essentially parallels San Fernando Road for most of its extent. The Weldon fault crosses through the southwestern corner of the site."*

*"Other minor inactive faults, mostly adjacent to the Beacon fault, were mapped during our field exploration. These faults are not considered potentially damaging to the site."*

The approximate locations of the Legion, Beacon and Weldon faults are illustrated on the attached Geologic Summary Map, as delineated by R.T. Frankian & Associates. During previous site investigations by AES, Inc., a laterally traceable splay fault was mapped south of the Beacon fault as illustrated in our 6/19/91 geologic report (see attached Geologic Summary Map for location). This fault was delineated based on truncated markers beds and faults measured along the railroad alignment.

#### 4.6.2 Relative Activity of Known Faults On-Site

*"Three through-going, northwesterly trending faults have been mapped within the tract boundaries. The three faults are, from north to south, the Legion, Beacon and Weldon faults. The faults disrupt units of the Saugus Formation, which ranges from Pliocene to Pleistocene age. Although the exact age of the Saugus Formation onsite is unknown, it may be assumed that some Pleistocene age Saugus Formation units exist. By CDMG's definition, a fault cutting Pleistocene age units would be considered potentially active. However, exceptions are made for Pleistocene faults in which the faults "were presumed to be inactive based on direct geologic evidence of inactivity during all of Holocene time or longer" (Hart, 1999).*

*We observed no direct field evidence of Holocene age rupture on the Legion, Beacon, or Weldon faults during our geologic mapping of the site. No surface rupture or sympathetic movement, associated with the 1971 San Fernando earthquake (Barrows, et al, 1974) or the 1994 Northridge earthquake (Hart, et al., 1995; Stewart et al., 1996), has been identified on the three faults. Furthermore, based on a review of published geologic data, the Legion, Beacon, and Weldon faults are: (1) designated as inactive on CDMG Geologic Data Map No. 6 (Jennings, 1994); (2) are not*

*classified as faults demonstrating Holocene or late Quaternary movement by Ziony and Yerkes (1985); and (3) do not fall under the category of "potentially active" (11,000 to 750,000 years before present) or "conditionally active" (greater than 750,000 years before present or activity uncertain) faults as defined in the County of Los Angeles Safety Element (1990).*

#### **4.7 Groundwater**

*"Borings B-1 through B-10 were drilled within higher level terrain at the site. Except for minor groundwater seepage noted in Boring 2 at depths of 51 and 66 feet, water was not encountered in these borings." It should be noted that boring B-2 is located near an existing water tank site.*

*"Borings B-11 through B-14 were drilled within the relatively level area at the western end of the cemetery to better establish fill depths. Water was not encountered in Borings B-11, B-13, or B-14. The fill in Boring B-12 was wet below a depth of approximately 15 feet with seepage of mud into the boring below a depth of 20 feet. Boring B-12 was drilled between the top of a fill slope and a filled area with ponded water; the water in the boring was certainly from this ponded water. The proposed grading will result in the removal of the fill and the area of ponded water."*

*"Borings WB-1 through WB-4, together with the CPTs, were drilled in lower lying alluvial areas for use in evaluation of liquefaction. Water levels in the borings and CPTs ranged from 13 to 52 feet below the existing grade. There are five alluvial areas within the tract. The first area consists of Lots 14 and 15 off of Pine Street, where water was encountered at depth of 21 feet. The second area consists of Lot 23, also off of Pine Street, where water was measured at depths of 13 to 38 feet. The third area consist of Lots 30, 31, and 36, through 41 located along Sierra Highway immediately south of Eternal Valley Memorial park, where water was measured at depths of 24 to 52 feet. Lot 28 off of Sierra Highway north of the SCE easement is the fourth area where water was measured at depths of 21 to 45 feet. Lot 27A off of Sierra Highway south of the SCE easement is the fifth area and the depth to water there was measured at 37 feet."*

RTF &A drilled an additional wash boring, WB-5, in alluvial area six (Arklin Property) and encountered groundwater @ 24.5 feet.

Geotechnical implications of the observed ground water conditions relative to liquefaction are discussed under the Ground Failure Section below.

## **5.0 EXISTING AND POTENTIAL GEOLOGIC AND GEOTECHNICAL HAZARDS, CONSTRAINTS AND POSSIBLE MITIGATION MEASURES AND PROJECT IMPACTS**

### **5.1 Seismicity**

The subject site lies within the seismically active Southern California region. Earthquake-related hazards typically include ground rupture, ground shaking and ground failure.

### **5.2 Ground Rupture**

Per R.T. Frankian & Associates (RTF & A) fault evaluations quoted under Section 4.6 of this report on relative fault activity, the following conclusions on potential ground rupture hazard were determined.

*"The potential for fault surface rupture occurring within the site on the Legion, Beacon, or Weldon faults is judged to be low. However, given the tectonic framework of the region (i.e., the proximity of the nearby active Santa Susana and San Gabriel faults, and age of the three faults within the site) it seems prudent to avoid building directly over the Beacon fault, which transects Tract 50283".*

*"The Legion and Weldon faults lie outside of any currently proposed development. Consequently, no Building Setbacks are recommended for either. Future plan revisions may require re-evaluation of these two faults relative to additional Building Setbacks if future development is planned over the faults."*

*"Several minor inactive faults were observed in the borings and test pits. These inactive faults do not pose a hazard of surface fault-rupture at the site."*

Based upon the above evaluations a preliminary (approximately 100 ft. wide) Building Setback has been proposed for the Beacon Fault and is approximately shown on the attached Geologic Summary Map. Per RTF&A, "During site grading the final at-grade fault location should be determined, and the location and width of the setback should be

*adjusted accordingly*". As noted by RTF&A, if development is proposed in close proximity to the Legion or Weldon faults, the location and activity of these faults should be investigated and the need for Building Setbacks evaluated. The splay fault mapped south of the Beacon Fault in our 6/19/91 report is west of the proposed development, but it projects toward Lot 25, where it may intersect with Beacon Fault. The significance of this fault should be addressed at the Grading Plan stage.

### 5.3 Ground Shaking

R.T. Frankian & Associates performed a probabilistic seismicity analysis of the site and concluded that the peak ground acceleration at the site ranges from 0.9g to 1.0g depending on the underlying materials and location within the site without a magnitude weighted PGA of 0.71g. The following quote from R.T. Frankian & Associates describes their analysis:

*"According to CDMG, 1997b, the probabilistically determined predominant earthquake for the site has a moment magnitude ( $M_w$ ) of 6.6 with an epicenter located approximately 2 kilometers (1 ¼ miles) away. The predominant earthquake does not refer to any specific earthquake on any specific fault, but rather to the effects on an earthquake occurring on a nearby fault. The anticipated peak ground acceleration at the site ranges from 0.9g to 1.0g depending upon the underlying materials and specific location within the site.*

*We used the program FRISKSP, Version 4.0, to calculate the probabilistic peak ground acceleration (PGA) specifically at the deep soil portions of the site for 10% probability of exceedance in 50 years. We averaged the accelerations obtained using the attenuation relationships of Boore et al., 1997 for NEHRP Class D sites, Campbell, 1997 for alluvial sites, and Sadigh et al., 1997 for deep soil sites. The peak ground acceleration (PGA) is expected to be 0.95g in the deep soil portions of the site, with a magnitude-weighted PGA of 0.71g for a Magnitude of 7.5. The magnitude-weighted PGA is used in liquefaction analyses."*

We also ran Blake's program FRISKSP (Version 4.00) in order to provide a list of the nearby faults that are the most likely to affect the site relative to ground shaking along with the distance to the surface trace of these faults from the center of the site.

**Table I** summarizes the more significant potential earthquake sources near the site with estimated maximum moment magnitudes.

**TABLE I**  
**SIGNIFICANT REGIONAL FAULTS**

<b>FAULT</b>	<b>MAXIMUM MOMENT MAGNITUDE</b>	<b>APPROXIMATE DISTANCE TO SITE*</b>
Santa Susana	6.6	3.1
Northridge (E. Oak Ridge)	6.9	2.6
Sierra Madre-San Fernando	6.7	6.0
San Gabriel	7.0	6.0
Holser	6.5	8.3
San Andreas	7.8	35.7

\*Approximate closest distance to surface trace in kilometers.

In order to provide information on significant, historic earthquakes which have occurred near the site during historic times, we ran the computer program EQSEARCH by Thomas Blake (Version 3.00). Magnitudes and distances of the more prominent earthquakes are provided in Table II.

**TABLE II**  
**SIGNIFICANT HISTORICAL EARTHQUAKES**

<b>Earthquake</b>	<b>EARTHQUAKE MAGNITUDE*</b>	<b>DISTANCE TO EPICENTER (KILOMETERS)</b>	<b>DATE</b>
Fort Tejon	7.9	158.0	1857
Kern Co.	7.7	85.8	1952
Santa Barbara	7.0	119.5	1812
San Fernando	6.4	12.2	1971
Northridge	6.7	15.3	1994

\*Moment Magnitude after 1933 or above 6, or Local Magnitude prior to 1933 or below 6 (S.C.E.C.)

#### 5.4 Ground Failure

Ground failure is a general term describing seismically-induced secondary permanent ground deformation caused by strong ground motion. This includes liquefaction of saturated granular deposits or fine-grained soils with low plasticity, lateral spreading, seismic settlement of poorly consolidated materials (dynamic densification), differential materials response, slope failures, sympathetic movement on weak bedding planes or non-causative faults, shattered ridge effects and ground lurching. The most significant types of ground failure with respect to the subject site are discussed below.

Per RTF&A's October 22, 2001 report, *"In their comments AES indicates that the City of Santa Clarita has requested analyses of liquefaction potential, cyclic settlements, and potential for lateral spreading based upon the current tentative map grades. Based on our analyses for the currently proposed conditions, there is a low to no potential for liquefaction to affect the site. Seismically induced settlement may occur in the alluvial areas along Sierra Highway. This settlement is expected to be areal and to be less than 1/2 inch. The only locations where there would be a potential for lateral spreading to occur is Lots 39 through 41 along Sierra Highway. Removal of the existing fill and upper natural soils will mitigate the potential for lateral spreading. The results of liquefaction analyses are presented in Appendix B."*

Based on groundwater depths encountered in the subsurface explorations, per RTF&A, the alluvial soils will not be subject to significant liquefaction of cyclic settlements and the potential for lateral spreading identified on lots 39 through 41 (Alluvial area 3) can be mitigated by removal of the existing fill and upper natural soils. RTF&A's recommended removal depths range from 5 to 70 feet in this area. Due to the deep nature of these removals, the temporary stability of any backcuts required to perform these removals should be analyzed at the Grading Plan Stage.

Earthquake-induced slope failures include activation and reactivation of landslides, surficial failures, debris flows and rock falls. The potential for earthquake-induced slope failures is moderate to high on the steep canyon slopes. Most of the hillside area of the site is designated on the State of California Seismic Hazard Zone Map to have potential for earthquake induced slope instability. RTF&A has analyzed the potential for earthquake-induced slope instability in the referenced reports and has provided mitigation recommendations where applicable. Each type of earthquake-induced



slope failures listed above is addressed below along with proposed cut-slopes, fill slopes and natural slopes.

## **5.5 Slope Instability (Static and Earthquake Induced)**

### **5.5.1 Landslides**

R.T. Frankian and Associates (RTF&A) have identified and evaluated fifteen landslides on the site. We have shown these landslides, per their designations as Qls-1 through Qls-15, on the attached Geologic Summary Map. Three of the landslides Qls-1 to Qls-3 are located outside areas of proposed development in open space areas and require no mitigation with the current design. Two landslides (Qls-4 and Qls-15) are located adjacent to areas proposed for development, but RTF&A has concluded that they do not adversely affect the development and hence require no mitigation. Restricted Use Areas have been proposed around these two landslides due to their proximity to the proposed development. Of the remaining ten landslides, RTF&A recommends complete removal of eight (Qls-5, 7, 9, 10, 11, 12, 13 and 14) and partial removal of two (Qls-6 and Qls-8). RTF&A has established removal depths for these landslides ranging from 5 to 30 feet.

Four additional landslides have been queried (Qls?-16 through Qls?-19) on the southern portion of the tract by AESEGI based on the review of the site topography and aerial photographs. These landslides are located in proposed open space areas and do not adversely impact the currently proposed development.

### **5.5.2 Surficial Failures**

Per RTF&A's report dated October 22, 2001, "*Surficial failures upslope of proposed building pads constitute a potential debris flow hazard. Therefore, the failure should be dealt with in the same manner as other areas of potential debris flows. This can include establishing building setbacks from the upslope failure, constructing retaining devices (retaining walls, debris basins, etc.) downslope of the failure, or removing the slope failure during grading.*"

### 5.5.3 Potential Debris Flow Hazards

The subject site contains numerous drainages with surficial (colluvial) soil material. These drainages are subject to potential debris flow occurrence during heavy rains, especially in exceptionally wet years.

R.T. Frankian & Associates have identified, on a preliminary basis, areas of potential debris flow hazard by lot numbers in their June 15, 2001 report with two additional lots added in their October 22, 2001 report. We have shown these areas on the attached Geologic Summary Map for reference. Per RTF&A a more definitive determination of potential debris flow hazard should be completed as a part of a review of 1 inch = 40 feet scale Grading Plans.

Mitigation measures for debris flow hazard consist of avoidance, debris walls or debris basins designed to contain the anticipated volume of debris, Building Setbacks from the potential debris flow hazard area, or removal of the material susceptible to debris flow.

### 5.5.4 Cut-Slopes

R.T. Frankian & Associates (RTF&A) have identified and evaluated thirty-one proposed cut-slopes on the site that are greater than or equal to 25 feet in height. These cut-slopes range from 25 ft. to 160 ft. in height with slope gradients ranging from 2:1 to 4:1 (h:v). Eighteen of these cut-slopes are anticipated to expose daylighted bedding. Slope stability analyses performed by RTF&A indicates that four of these cut-slopes require buttresses with keyways ranging in size from 50 ft. wide x 5 ft. deep to 85 ft. wide x 5 ft. deep. Per RTF&A the remaining fifteen daylighted cut-slopes and thirteen self-supporting cut-slopes are grossly stable but may require Stability Fills with keyways ranging in size from 20 ft. to 35 ft. wide and to 3 ft. deep to mitigate seepage along bedding planes and erosion. We have shown the general locations of RTF&A's recommended buttresses and stability fills on the Geologic Summary Map. A more detailed analyses will need to be performed at the Grading Plan Stage once 1"=40' scale plans are available.

Cut-slopes that will expose bedrock disrupted by the Beacon Fault may also require Stability Fills to mitigate the potential for surficial instability, and should be evaluated at the Grading Plan stage.

The stability of bedding planes below the proposed buttresses should also be analyzed and presented at the Grading Plan stage utilizing piezometric surfaces where applicable. A declaratory statement needs to be made in the slope stability section of the report that justifies the use or omission of groundwater (piezometric surfaces) in the slope stability analyses. Per RTF&A the temporary stability of the backcuts for the recommended Stability Fills and Buttresses will also need to be demonstrated at the Grading Plan stage along with any backcuts required for the removal of landslides, alluvium or artificial fill. Future anticipated loads from water tanks, buildings or other significant structures should also be incorporated into the stability calculations at the Grading Plan stage.

#### 5.5.5 Natural Slopes

Portions of the site are noted on the Seismic Hazards Map for Oat Mountain Quadrangle as having the potential for earthquake-induced landslides. The gross stability of the natural slopes (including daylighted and steep natural slopes located adjacent to proposed development) was addressed in RTF&A report dated October 22, 2001.

##### *5.5.5.1 Daylighted Natural Slopes*

Our review of the Tentative Map in conjunction with RTF&A's Geologic Map and Cross-Sections indicates that daylighted natural slopes exist adjacent to proposed building pads. RTF&A has performed slope stability analyses and calculations on what they consider to be the most critical daylighted natural slope conditions on the site and that the gross stability of these daylighted natural slopes exceed the required minimum factors of safety for static and pseudostatic (earthquake induced) conditions. Based on their analyses, mitigation measures for the daylighted natural slopes are not required relative to gross stability.

##### *5.5.5.2 Steep Natural Slopes*

Steep to very steep ( $>70^\circ$ ) natural slopes are located adjacent to proposed development, specifically at the southern most water tank. RTF&A analyzed these steep natural slopes and presented their findings in their report dated October 22, 2001.

Based on their analyses, some of the steep natural slopes below the proposed water tank site have a factor of safety less than 1.0, which is below the required minimum of 1.5.

Per RTF&A's October 22, 2001 report, "*Using the shear strength values from our laboratory testing, some of the natural slopes below the water tank area have a factor of safety of less than 1.0. Therefore, if water tanks are to be constructed above the slopes, they should be set back sufficiently so that potential failure of the slopes would not affect the tanks.*"

*To obtain shear strength for use in determining the set-back distance for the tanks, we back-calculated the shear strengths required to obtain a factor of safety of 1.0 for the slope in Section EE-EE'. The calculations for two pairs of cohesion and friction values are presented in Appendix G together with the other calculations for Section EE-EE'. We then used the values obtained from the back calculations to determine a set-back distance for the tanks from the edge of the proposed pad. The set-back distance is based on a slip-surface with a factor of safety of at least 1.5. Calculations for the set-back distance are presented in Appendix F, Sections DD-DD', EE-EE', and FF-FF'. The set-back distance is shown on Figure 2.3.*

Review of the set-back illustrated on RTF&A's Figure 2.3 shows that the maximum set-back distance is approximately 44 feet deep into the proposed water tank pad (distance measured from the toe of the southwest-facing cut-slope). We have shown the approximate set-back on the Geologic Summary Map for reference.

The future anticipated load(s) from the proposed water tank(s) should be incorporated into the stability calculations at the Grading Plan stage along with any anticipated future groundwater.

Per RTF&A's October 22, 2001 report, no other mitigation measures are required for the steep natural slopes.

#### 5.5.6 Fill Slopes and Fill Areas

Proposed fill slopes on the site are designed at gradients of 2:1 to 3:1 with maximum height of 130 feet. The compacted fill generated from onsite earth materials and constructed per the Uniform Building Code and per RTF&A will be grossly and surficially stable as designed per RTF&A's analyses in their report dated June 15, 2001. Per RTF&A (6/15/01) any compacted fill slopes greater than 130 feet in height need to be evaluated on an individual basis.

Review of the tentative map indicates that there are areas of proposed fill that will be greater than 40 feet in thickness. It is a standard practice among geotechnical/engineers in Southern California and requirement of Los Angeles County to recommend higher compaction requirements for fills deeper than 40 feet from the final surface grades. Typically these recommendations are for 93-95% relative compaction for the portions of the fills that are 40 feet and greater.

Per RTF&A's October 22, 2001 report, *"There is no current regulatory requirement for compacting deep fills to more than 90 percent within the city of Santa Clarita. We will review the need to compact deep fills to more than 90 percent at the grading plan stage of the project and therefore will not show areas of deep fill on the Geotechnical Map for the tentative tract map. If deeper fills areas need to be shown on the grading plan, the Project Civil Engineer would need to delineate them."*

The areas of deep (>40 feet thick) proposed fills need to be evaluated at the Grading Plan Stage.

#### 5.6 Hydroconsolidation

The phenomenon of collapsing soils is the result of water interacting with void-bearing sediments. Water in the sediments reorganizes sediment particles into a more compact arrangement, causing reduction of the void space. This causes settlement (hydroconsolidation) of the material, which is potentially hazardous to overlying structures. Rapidly buried silty sediments such as thick slopewash and alluvium commonly contain void space and are subject to hydroconsolidation.

Per RTF&A's October 22, 2001 report, *"Many of the soils at the site are too coarse to be tested for hydroconsolidation. However, we previously prepared a preliminary report of*

*geotechnical investigation dated September 16, 1991, for the site. The Plot Plan, boring the test pit lots, and results of laboratory test data that investigation are presented in Appendix E.*

*As indicated in our previous reports, all existing fills at the site and, at some locations, the upper natural soils, should be removed and replaced as compacted fill. The fill depths encountered in our explorations range up to 57 feet. The deep fills are mostly due to grading associated with grading of Eternal Valley Memorial Park. Removals of natural soils will range from shallow, as dictated by disturbance of the upper soils by removals of existing vegetation and structures, to approximately 15 feet where loose soils are encountered near the surface. Removals indicated in our 1991 report ranged from 2 to 8 feet at the locations explored. The removal and recompaction of the fill and upper natural soils will mitigate the potential for hydroconsolidation occurring at the site. Removal depths for the existing fills and upper natural soils are shown on Figure 2.1."*

Recommended removal depths shown on RTF&A's Figure 2.1 (report 10/22/01) range from 3 to 70 feet. The deep removals should be analyzed in detail at the Grading Plan Stage relative to groundwater conditions and backcut stability.

Per RTF&A (2001) uncertified existing fills will be removed prior to the placement of compacted fill. Any unsuitable materials underlying the fills should also be removed.

### **5.7 Erosion Potential**

*Per RTF&A "Friable sandstone beds are common within the Pico and Saugus Formation and have been identified at the site. If exposed in graded slopes, these beds could be subject to erosion and rilling, due to the lack cementation. Under most circumstances, the erosion can be controlled by the established of vegetative cover upon completion of grading. The abundance of erosion susceptible beds should be determined during grading. Extensive or thick deposits of the friable beds may warrant the construction of stability fills.*

*In order to reduce the potential for erosion, all cut and fill slopes should be seeded or planted with proper ground cover as soon as possible following grading. The ground cover should consist of drought-resistant, deep-rooting vegetation. A landscaping expert should be consultant for ground cover recommendations."*

The existing provisions in the Grading Ordinance for planting and irrigation of cut and fill slopes and control of sheet flow along with RTF&A's recommendations will greatly reduce the potential for surficial erosion.

RTF&A have recommended canyon subdrains in the main drainage areas to receive fill and backdrains for Buttress Fills to help protect the proposed fills from groundwater infiltration.

## **5.8 Drainage**

Per standard grading practices water should not be allowed to stand or pond on the future graded building pads nor should it be allowed to flow over natural or constructed slopes, but should be directed to the natural slope drainage devices.

## **5.9 Construction Considerations**

### **5.9.1 Rippability**

Bedrock (Saugus Formation and Pico Formation) on the site is moderately consolidated and grading operations shall be able to be performed with conventional equipment. Heavy single shank ripping will probably be required in the massive conglomerate units of the Pico and Saugus Formations.

### **5.9.2 Oversize Material**

Cobbles and small boulders are commonly present within both the alluvium and the Pico Formation on the site. This oversized material may present some difficulties during cutting operations with some types of smaller equipment; however, it is not considered to be a significant detriment to the development. Oversize material will require special handling during fill construction as specified by RTF&A's recommendations quoted below:

*"Irreducible materials larger than 8 inches in size but less than 24 inches in size may be placed in windrows or trenches at the site. Larger materials should be reduced in size, removed from the site, or stockpiled for use in landscaping."*

### 5.9.3 Expansive Materials

The fine-grained units of the Saugus Formation and Pico Formation are potentially very expansive. If these potentially expansive units are encountered in the final pad or street grades, they should be evaluated by the Project Geotechnical Engineer. Special foundation designs and reinforcement can be utilized to mitigate expansive material. Optionally, the expansive material can be removed to a specified depth determined by the Project Geotechnical Engineer and replaced with compacted fill with very low to non-expansive characteristics, or the expansive soil may be treated with additives to lower the expansion index. RTF&A has reported that an 8-foot thick cap of relatively non-expansive soils within building areas and a 3-foot thick cap within pavement and hardscape areas is expected, which would adequately mitigate expansion potential.

### 5.9.4 Shrinking and Bulking Characteristics of Earth Materials

Typically, alluvial, colluvial, soil deposits and artificial fills shrink in volume when removed and recompacted, and the Saugus Formation and Pico Formation bedrock bulks. Determination of the shrinking or bulking factors of the on-site materials should be performed at the Grading Plan stage of development to properly assess the cut-fill balance of the proposed grading.

### 5.9.5 Corrosion Potential

Soils (includes bedrock, alluvium, and slopewash) on site may have some degree of corrosive characteristics to concrete and ferrous metals. Soil moisture, chemistry, and other physical characteristics all have important effects on corrosivity. A study relative to the potential for soil corrosivity was performed by M.J. Schiff and Associates at the request of RTF&A.

*Per RTF&A: "The study shows that the soils are severely corrosive to ferrous metals but not aggressive to copper. The on-site soils do not contain sufficient sulfates to be potentially deleterious to concrete. Recommendations for protecting underground utilities are presented in the Schiff report. The conclusions in the Schiff report should be reevaluated at the grading plan and building permit stage of the land development process."*



Review of the Schiff report (in RTF&A 6/15/01), indicates that the underground utilities can be protected utilizing dielectric coating, cathodic protection, mortar coating or encase in cement-slurry or concrete.

#### 5.9.6 Sewage Disposal

It is our understanding that sewage disposal will be by public sewers and not pose a hazard to ground water.

#### 5.9.7 Oil Wells

Numerous oil wells have been drilled on the site and it is our understanding that they are being addressed by other parties. Per RTF&A: *"At least 34 oil wells are known to have been drilled within, or in close proximity to, the site. All of these wells were drilled between the period of 1920 and 1954. Based on the DOGGR data provided to our office, it does not appear that any of these wells were abandoned within the last 10 years. Consequently, it can be assumed that all of the previously abandoned and plugged wells do not meet current DOGGR well abandonment standards. Prior to conducting and grading within Tract 50283, proposed grading plans should be submitted to DOGGR for their review. DOGGR will determine if active, idle or previously abandoned wells on or adjacent to the site will require abandonment/reabandonment in accordance with current requirements.*

*In general, the DOGGR procedures for determining what wells need abandonment/reabandonment entails exposing the wellhead then testing the well for fluid or gas leakage. The well testing shall be performed by DOGGR, or by the developer under the observation of DOGGR personnel. Following the testing, DOGGR will make a determination regarding further action.*

*All wells should be surveyed to accurately establish the well locations. If during grading any previously unknown well is discovered, DOGGR must be notified immediately to determine plugging and abandonment requirements."*

## 6.0 PROJECT FEASIBILITY

The proposed development is feasible from the geologic and geotechnical standpoint, and will be safe from geologic hazards provided that the geologic or geotechnical

recommendations outlined in this report and RTF&A's referenced reports along with appropriate building and grading codes are taken into account and properly implemented during the planning, design and construction phases of the project.

## 7.0 LIMITATIONS

This report has been prepared for the exclusive use of Rincon Consultants, Inc. and their design consultants for the specific site discussed herein. This report should not be considered transferable. Prior to use by others, we should be notified, as additional work may be required to update this report.

In the event that any modifications in the design or location of the proposed development, as discussed herein, are planned, the conclusions and recommendations contained in this report will require a written review by this firm with respect to the planned modifications.

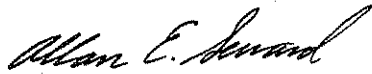
In performing these professional services, we have used the degree of care and skill ordinarily exercised, under similar circumstances, by reputable engineering geologists and geotechnical engineers practicing in this or similar localities.

The analyses and interpretations presented in this report have been based on the results of field reconnaissance and review of the referenced reports. It should be recognized that subsurface conditions can vary in time and laterally and with depth at a given site. Our conclusions and recommendations are based on the data available and our interpretation of the data based on our experience and background. Hence, our **conclusions** and **recommendations** are **professional opinions** and are **not meant** to be a control of nature; therefore, **no warranty** is herein **expressed** or **implied**.

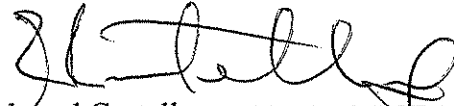
It should be noted that faulting is normally confined to the area immediately adjacent to a known fault, or within a few feet of the last fault movement. Regardless of what criteria are used however, absolute assurance against future fault displacement or strong ground motion cannot be obtained in tectonically active areas. New faults can form, as the orientation and magnitude of deformational forces in the earth's crust change with time. Therefore, the location of new breaks or ground motions during a seismic event cannot be located or anticipated.

This opportunity to be of service is appreciated. If you have any questions regarding this report, please give us a call.

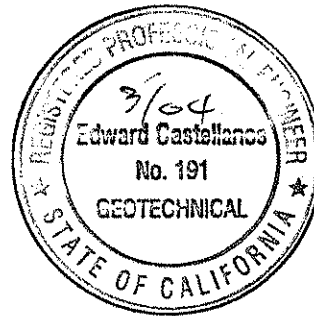
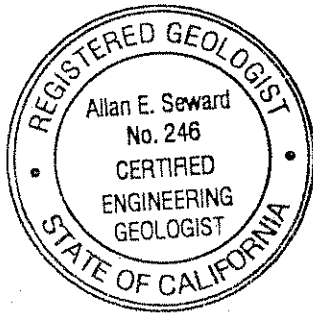
Respectfully submitted,



Allan E. Seward, CEG 246  
Principal Engineering Geologist  
President



Edward Castellanos, PE 30279, RGE 191  
Principal Geotechnical Engineer



**The following attachments complete this report.**

**Location Map**

following page 3

**References**

**Geologic Summary Map, at 1"=700'**

**Plate I**

**Geologic Summary Map, at 1"=400'**

**Plate I**

(In Pocket)

**Distribution:** (2) Addressee – (1 unbound)

Attn: Mr. Joe Power

(1) City of Santa Clarita

Attn: Mr. Jeff Hogan, Associate Planner

## REFERENCES

### By: Allan E. Seward Engineering Geology, Inc.

- (1) **Geologic "Status" Report**  
Tentative Tract 50283  
Santa Clarita, California  
Dated June 19, 1991 – JN: 91-1229-1
- (2) **Geologic Memorandum, Artificial Fill (Cemetery Related)**  
Tentative Tract 50283  
Santa Clarita, California  
Dated December 12, 1994 – Job No: 91-1229-4

### By: R.T. Frankian & Associates

- (1) **Preliminary Report of Geotechnical Investigation**  
Parcel Map 50283  
Santa Clarita, California  
Dated September 16, 1991 – Job No: 91-020FT
- (2) **Report of Preliminary Geotechnical Investigation**  
Tentative Tract Map 50283  
Santa Clarita, California  
Dated July 26, 2000 – Job No: 99-500-01
- (3) **Geotechnical Review of Revised Tentative Map**  
Tentative Tract Map 50283  
Santa Clarita, California  
Dated June 15, 2001 – Job No: 99-500-01
- (4) **Responses to Allan E. Seward Engineering Geology, Inc.**  
Comments dated August 30, 2001  
Tentative Tract Map No. 50283  
Santa Clarita, California  
Dated October 22, 2001 – Job No: 99-500-01

**GEOLOGIC SUMMARY MAP**  
(For EIR Purposes)



- LEGEND**
- LOCKETT
  - ADJACENT OWNERS
  - BOUNDARY
  - STREET R/W & LOT LINES
  - EASEMENT LINES
  - TIME
  - APPROX. LOCATION OF PROPOSED TRAIL EASEMENT
  - EXISTING ZONE LINES
  - EXISTING CONTOURS
  - CONTOURS
  - OFFICE EASEMENT AND/OR RIGHTS FOR DRIVING, ETC.

**LEGEND**

- tp of sfc
  - af/Gal
  - df
  - Q1s
  - Qal
  - Qos
  - TQs
  - TP
  - RUA
  - PDPFH
- Native Fill
  - Artificial Fill
  - Artificial Fill, Quarry Hatched
  - Undifferentiated Artificial Fill and Alluvium
  - Deposited Fill
  - Landslide (Overlooked Landslide as per AEC)
  - Quarry Alluvium
  - Quarry Older Alluvium
  - Slope Formation
  - Flow Formation
  - Shedding Alluvium
  - Approximate Building
  - Geologic Contact
- "Trace" of Beacon Fault per AECOM Report (1994)
  - Fault (Dashed Where Concealed)
  - Syncline (Dashed Where Approximate, Dotted Where Concealed)
  - Anticline (Dashed Where Approximate, Dotted Where Concealed)
  - Restricted Use Area
  - Approximate Source Area for Potential Debris Flow Hazard Area

**DATA SUMMARY**

EXISTING ZONING: UNZONED  
 ADJACENT OWNERS: (SEE CONJECTURE FOR ADDRESS INFORMATION)  
 PROPOSED ZONING: UNZONED  
 EXISTING LANDUSE: VACANT  
 PROPOSED LANDUSE: INDUSTRIAL/COMMERCIAL/OPEN SPACE

**LOT SUMMARY:**

LOTS 1-13	1/2 LOTS
LOTS 14-15	1/2 CONDO LOTS
LOTS 16-22	1/2 LOTS
LOTS 23	1/2 CONDO LOT
LOTS 24-41, 27A	1/2 LOTS
LOTS 42-44	WATER TRAIL LOTS
LOTS 45-14	OPEN SPACE & TRAIL LOTS
LOTS 55-56	WILDFIRE PARK LOTS
TOTAL LOTS: 60	

**NOTES:**

1. REQUEST PERMISSION TO ADJUST LOT LINES.
2. REQUEST PERMISSION TO COMBINE LOTS.
3. REQUEST PERMISSION TO RECORD LINES.
4. GRADING IS APPROPRIATE ONLY AND SUBJECT TO ADJUSTMENT.
5. ALL EASEMENTS SHOWN ON ENCLOSURE MAP.

**TYPICAL TRAIL EASEMENT**

**SECTION X - X**

HP TO SCALE



**ALLAN E. SEWARD**  
ENGINEERING GEOLOGY, INC.

DATE: 11/20/01  
 DRAWN BY: JTF/AA  
 CHECKED BY: [Blank]

**RECEIVED**  
JUL 1 8 2001  
ALLAN E. SEWARD  
Engineering Geology, Inc.

**CITY OF SANTA CLARITA**  
TENTATIVE TRACT NO. 50283

PREPARED FOR:  
**GATE - KING PARTNERS**  
700 EMERSON STREET  
PALO ALTO, CALIFORNIA 94301  
(415)321-5982 ATTN: MARK GATES

LEGAL DESCRIPTION:  
A PORTION OF TRACT NO. 2703 AND A PORTION OF TRACT NO. 3205, ALL IN THE CITY OF SANTA CLARITA, STATE OF CALIFORNIA AS PER MAP RECORDED IN BOOK 28 PAGES 20-26.



NO.	DATE	DESCRIPTION	BY	CHECKED
1	5-18-01	PLAN REVIEW BY ST. HORN, AND BY THE CITY ENGINEER		
2	12-08-01	PLAN REVIEW BY ST. HORN, AND BY THE CITY ENGINEER		
3	2-26-02	PLAN REVIEW BY ST. HORN, AND BY THE CITY ENGINEER		

DATE: 11/20/01  
 SCALE: 1" = 200'  
 DRAWN BY: JTF/AA  
 CHECKED BY: [Blank]

ENGINEER: PLANNING SURVEYING

1120 OLIVE BLDG., 14th FLOOR, SAN FRANCISCO, CALIF. 94103  
 415-774-6000 FAX: 415-774-6001

# **Appendix C**

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## **Air Quality Calculations**

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## URBEMIS 7G For Windows 5.1.0

File Name: C:\Program Files\URBEMIS 7G For Windows\Projects\gate-king.urb  
 Project Name: Gate King  
 Project Location: South Coast Air Basin (Los Angeles area)

DETAIL REPORT  
 (Pounds/Day - Summer)

Total Land Use Area to be Developed (Estimated): 204 acres  
 Retail/Office/Institutional Square Footage: 4445730  
 Single Family Units: 0 Multi-family Units: 0

## CONSTRUCTION EMISSION ESTIMATES

Source	ROG	NOx	CO	PM10
SOX				
Demolition	-	-	-	0.00
-				
Site Grading	12.94	158.31	-	216.87
20.34				
Const. Worker Trips	0.00	0.00	0.00	0.00
-				
Stationary Equip	0.34	0.27	-	0.02
0.00				
Mobile Equip. - Gas	11.12	8.02	-	0.54
0.42				
Mobile Equip. - Diesel	12.42	70.23	-	16.47
9.04				
Architectural Coatings	898.86	-	-	-
-				
Asphalt Offgassing	0.26	-	-	-
-				
TOTALS (lbs/day, unmitigated)	935.93	236.83	0.00	233.90
29.81				

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AREA SOURCE EMISSION ESTIMATES (Summer Pounds per Day, Unmitigated)

Source	ROG	NOx	CO	PM10
SOX				
Natural Gas	0.06	0.81	0.32	0.00
-				
Wood Stoves - No summer emissions				
Fireplaces - No summer emissions				
Landscaping	0.10	0.01	0.69	0.00
0.00				
Consumer Prdcts	0.00	-	-	-
-				
TOTALS (lbs/day, unmitigated)	0.16	0.81	1.01	0.00
0.00				

Page: 3

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO
PM10			
Industrial park	381.75	598.77	2,410.07
226.62			
TOTAL EMISSIONS (lbs/day)	381.75	598.77	2,410.07
226.62			

Includes correction for passby trips.  
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2002 Temperature (F): 90 Season: Summer

EMFAC Version: EMFAC7G (10/96)

Summary of Land Uses:

Unit Type	Trip Rate	Size
Total Trips		
Industrial park	6.00 trips / 1000 sq. ft.	4,445.7
3 26,674.38		



Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	D		
iesel						
Light Duty Autos	75.00	1.16	98.58			
0.26						
Light Duty Trucks	10.00	0.13	99.54			
0.33						
Medium Duty Trucks	3.00	1.44	98.56			
-						
Lite-Heavy Duty Trucks	1.00	19.56	40.00			
40.44						
Med.-Heavy Duty Trucks	1.00	19.56	40.00			
40.44						
Heavy-Heavy Trucks	5.00	-	-			
100.00						
Urban Buses	2.00	-	-			
100.00						
Motorcycles	3.00	100.00% all fuels				
Travel Conditions						
		Residential		Comm		
ercial						
		Home-Work	Home-Shop	Home-Other	Commute	Non
-Work Customer						
Urban Trip Length (miles)	11.5	4.9	6.0	10.3		
5.5 5.5						
Rural Trip Length (miles)	11.5	4.9	6.0	10.3		
5.5 5.5						
Trip Speeds (mph)	35.0	40.0	40.0	40.0		
40.0 40.0						
% of Trips - Residential	20.0	37.0	43.0			
% of Trips - Commercial (by land use)						
Industrial park				41.5		
20.8 37.8						

Page: 4

Changes made to the default values for Construction

The construction year changed from 2000 to 2002.

The length of construction period changed from 250 to 365.

The construction mitigation measure option switch changed from on to off.

The site grading max daily acreage estimate changed from to 20.

The site grading tracked loader total vehicles changed from to 1.

The site grading tracked tractor total vehicles changed from to 1

The site grading scraper total vehicles changed from to 3.

The site grading wheeled dozer total vehicles changed from to 1.

The site grading wheeled loader total vehicles changed from to 1.

The site grading wheeled tractor total vehicles changed from to 1

The site grading roller total vehicles changed from to 1.

The site grading motor grader total vehicles changed from to 3.

The worker construction year changed from 2000 to 2002.

The mobile gas roller total vehicles changed from to 1.

The mobile gas motor grader total vehicles changed from to 2.

The mobile diesel tracked loader total vehicles changed from to 1

The mobile diesel tracked tractor total vehicles changed from to 1.

The mobile diesel scraper total vehicles changed from to 3.

The mobile diesel wheeled dozer total vehicles changed from to 1.

The mobile diesel wheeled loader total vehicles changed from to 1

The mobile diesel wheeled tractor total vehicles changed from to 1.

The mobile diesel motor grader total vehicles changed from to 3.

The coatings number of days of painting changed from 20 to 180.

Changes made to the default values for Area

The area source mitigation measure option switch changed from on to off.

The landscape year changed from 2000 to 2002.

Changes made to the default values for Operations

The mitigation option switch changed from on to off.

The operational emission year changed from 2000 to 2002.

The travel mode environment settings changed from both to: none

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URBEMIS 7G For Windows 5.1.0

File Name: C:\Program Files\URBEMIS 7G For Windows\Projects\gate-king.urb

Project Name: Gate King  
 Project Location: South Coast Air Basin (Los Angeles area)

DETAIL REPORT  
 (Tons/Year)

Total Land Use Area to be Developed (Estimated): 204 acres  
 Retail/Office/Institutional Square Footage: 4445730  
 Single Family Units: 0 Multi-family Units: 0

CONSTRUCTION EMISSION ESTIMATES

Source	ROG	NOx	CO	PM10
SOX				
Demolition	-	-	-	0.00
-				
Site Grading	1.62	19.79	-	27.11
2.54				
Const. Worker Trips	0.00	0.00	0.00	0.00
-				
Stationary Equip	0.06	0.05	-	0.00
0.00				
Mobile Equip. - Gas	2.03	1.46	-	0.10
0.08				
Mobile Equip. - Diesel	2.27	12.82	-	3.01
1.65				
Architectural Coatings	82.25	-	-	-
-				
Asphalt Offgassing	0.00	-	-	-
-				
TOTALS (tpy, unmitigated)	88.22	34.12	0.00	30.22
4.27				

Page: 6

AREA SOURCE EMISSION ESTIMATES

Source	ROG	NOx	CO	PM10
SOX				
Natural Gas	0.01	0.15	0.06	0.00
-				
Wood Stoves	0.00	0.00	0.00	0.00
0.00				
Fireplaces	0.00	0.00	0.00	0.00
0.00				

Landscaping	0.01	0.00	0.06	0.00
0.00				
Consumer Prdcts	0.00	-	-	-
-				
TOTALS (tpy, unmitigated)	0.02	0.15	0.12	0.00
0.00				

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UNMITIGATED OPERATIONAL EMISSIONS

	PM10	ROG	NOx	CO
Industrial park	41.36	77.29	112.79	529.60
TOTAL EMISSIONS (tons/year)	41.36	77.29	112.79	529.60

Includes correction for passby trips.  
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2002 Temperature (F): 90 Season: Annual

EMFAC Version: EMFAC7G (10/96)

Summary of Land Uses:

Unit Type	Trip Rate	Size
Industrial park	6.00 trips / 1000 sq. ft.	4,445.7
3 Total Trips		26,674.38

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	D
iesel				
Light Duty Autos	75.00	1.16	98.58	

0.26					
Light Duty Trucks	10.00		0.13		99.54
0.33					
Medium Duty Trucks	3.00		1.44		98.56
-					
Lite-Heavy Duty Trucks	1.00		19.56		40.00
40.44					
Med.-Heavy Duty Trucks	1.00		19.56		40.00
40.44					
Heavy-Heavy Trucks	5.00		-		-
100.00					
Urban Buses	2.00		-		-
100.00					
Motorcycles	3.00			100.00%	all fuels
Travel Conditions					
			Residential		Comm
ercial					
		Home-	Home-	Home-	
		Work	Shop	Other	Commute Non
-Work Customer					
Urban Trip Length (miles)	11.5	4.9	6.0	10.3	
5.5 5.5					
Rural Trip Length (miles)	11.5	4.9	6.0	10.3	
5.5 5.5					
Trip Speeds (mph)	35.0	40.0	40.0	40.0	
40.0 40.0					
% of Trips - Residential	20.0	37.0	43.0		
% of Trips - Commercial (by land use)					
Industrial park				41.5	
20.8 37.8					

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Changes made to the default values for Construction

The construction year changed from 2000 to 2002.  
 The length of construction period changed from 250 to 365.  
 The construction mitigation measure option switch changed from on to off.  
 The site grading max daily acreage estimate changed from to 20.  
 The site grading tracked loader total vehicles changed from to 1.  
 The site grading tracked tractor total vehicles changed from to 1.  
 The site grading scraper total vehicles changed from to 3.

The site grading wheeled dozer total vehicles changed from to 1.  
The site grading wheeled loader total vehicles changed from to 1.  
The site grading wheeled tractor total vehicles changed from to 1

.  
The site grading roller total vehicles changed from to 1.  
The site grading motor grader total vehicles changed from to 3.  
The worker construction year changed from 2000 to 2002.  
The mobile gas roller total vehicles changed from to 1.  
The mobile gas motor grader total vehicles changed from to 2.  
The mobile diesel tracked loader total vehicles changed from to 1

.  
The mobile diesel tracked tractor total vehicles changed from to 1.  
The mobile diesel scraper total vehicles changed from to 3.  
The mobile diesel wheeled dozer total vehicles changed from to 1.  
The mobile diesel wheeled loader total vehicles changed from to 1

.  
The mobile diesel wheeled tractor total vehicles changed from to 1.  
The mobile diesel motor grader total vehicles changed from to 3.  
The coatings number of days of painting changed from 20 to 180.  
Changes made to the default values for Area

The area souce mitigation measure option switch changed from on to off.  
The landscape year changed from 2000 to 2002.  
Changes made to the default values for Operations

The mitigation option switch changed from on to off.  
The operational emission year changed from 2000 to 2002.  
The travel mode environment settings changed from both to: none

**Transportation Project-Level  
Carbon Monoxide Protocol  
UCD-ITS-RR-97-21  
December 1997**

Intersection: Placerita Canyon Road/Sierra Highway  
Scenario: Baseline No Project

Intersection Type: 4x6 intersection  
Geographic Location: Coastal Valley

1. Average Cruise Speed

Placerita Canyon Road – 35 mph  
Sierra Highway – 40 mph

2. Through Movement Red Time

Placerita Canyon Road – 50%  
Sierra Highway – 70%

3. Traffic Volume (vehicles per hour per lane – PM peak hour)

Placerita Canyon Road –  $186/2 = 93 \approx 200$   
Sierra Highway –  $2278/3 = 759 \approx 800$

4. Concentration Contribution for Projects in Coastal Valley Areas (from Table A.3)

Placerita Canyon Approach – 46.8 ppm (assumes 5 meters from road edge)  
Placerita Canyon Departure – 24.4 ppm (assumes 5 meters from road edge)

Sierra Highway Approach – 61.6 ppm (assumes 5 meters from road edge)  
Sierra Highway Departure – 26.8 ppm (assumes 5 meters from road edge)

5. Traffic Volume Correction Factors (from Table A.5)

Placerita Canyon Road – 0.27 (200 vehicles per hour per lane)  
Sierra Highway – 0.85 (800 vehicles per hour per lane)

6. Corrected Concentration (Step 4 x Step 5)

Placerita Canyon Approach	12.6 ppm
Placerita Canyon Departure	6.6 ppm
Sierra Highway Approach	52.4 ppm
Sierra Highway Departure	22.8 ppm

7. Performance Correction (from Tables A.6 and A.7)

Placerita Canyon Approach	0.26
Placerita Canyon Departure	0.11
Sierra Highway Approach	1.0
Sierra Highway Departure	1.0

8. Corrected Concentration (Step 6 x Step 7)

San Fernando Approach	3.3 ppm
San Fernando Departure	0.7 ppm
Sierra Highway Approach	52.4 ppm
<u>Sierra Highway Departure</u>	<u>22.8 ppm</u>
Total	79.2 ppm

9. Wind Speed Correction (assumes 1.0 m/s)

$$79.2 \text{ ppm} \times 0.7 = 55.4 \text{ ppm}$$

10. Cold Starts (from Table A.8 - assumes 20% in 2012)

$$55.4 \text{ ppm} \times 0.17 = 9.4 \text{ ppm}$$

11. Wind Angle Correction (from Table A.9 - 5 m distance)

$$9.4 \text{ ppm} \times 0.86 = 8.1 \text{ ppm}$$

12. Background Concentration + Project Contribution

$$4.79 \text{ ppm (highest recorded level at Santa Clarita Station in 2000)} + 8.1 \text{ ppm} = 12.9 \text{ ppm}$$

13. 8-Hour Conversion

$$12.9 \text{ ppm} \times 0.6 = 7.7 \text{ ppm}$$



**Transportation Project-Level  
Carbon Monoxide Protocol**  
UCD-ITS-RR-97-21  
December 1997

Intersection: Placerita Canyon Road/Sierra Highway  
Scenario: Baseline + Project

Intersection Type: 4x6 intersection  
Geographic Location: Coastal Valley

1. Average Cruise Speed

Placerita Canyon Road – 35 mph  
Sierra Highway – 40 mph

2. Through Movement Red Time

Placerita Canyon Road – 50%  
Sierra Highway – 70%

3. Traffic Volume (vehicles per hour per lane – PM peak hour)

Placerita Canyon Road –  $212/2 = 106 \approx 200$   
Sierra Highway –  $2514/3 = 838 \approx 900$

4. Concentration Contribution for Projects in Coastal Valley Areas (from Table A.3)

Placerita Canyon Approach – 46.8 ppm (assumes 5 meters from road edge)  
Placerita Canyon Departure – 24.4 ppm (assumes 5 meters from road edge)

Sierra Highway Approach – 61.6 ppm (assumes 5 meters from road edge)  
Sierra Highway Departure – 26.8 ppm (assumes 5 meters from road edge)

5. Traffic Volume Correction Factors (from Table A.5)

Placerita Canyon Road – 0.27 (200 vehicles per hour per lane)  
Sierra Highway – 0.93 (900 vehicles per hour per lane)

6. Corrected Concentration (Step 4 x Step 5)

Placerita Canyon Approach	12.6 ppm
Placerita Canyon Departure	6.6 ppm
Sierra Highway Approach	57.3 ppm
Sierra Highway Departure	24.9 ppm

7. Performance Correction (from Tables A.6 and A.7)

Placerita Canyon Approach	0.26
Placerita Canyon Departure	0.11
Sierra Highway Approach	1.0
Sierra Highway Departure	1.0

8. Corrected Concentration (Step 6 x Step 7)

Placerita Canyon Approach	3.3 ppm
Placerita Canyon Departure	0.7 ppm
Sierra Highway Approach	57.3 ppm
<u>Sierra Highway Departure</u>	<u>24.9 ppm</u>
Total	86.2 ppm

9. Wind Speed Correction (assumes 1.0 m/s)

$$86.2 \text{ ppm} \times 0.7 = 60.3 \text{ ppm}$$

10. Cold Starts (from Table A.8 - assumes 20% in 2012)

$$60.3 \text{ ppm} \times 0.17 = 10.3 \text{ ppm}$$

11. Wind Angle Correction (from Table A.9 - 5 m distance)

$$10.3 \text{ ppm} \times 0.82 = 8.4 \text{ ppm}$$

12. Background Concentration + Project Contribution

$$4.79 \text{ ppm (highest recorded level at Santa Clarita Station in 2000)} + 8.4 \text{ ppm} = 13.2 \text{ ppm}$$

13. 8-Hour Conversion

$$13.2 \text{ ppm} \times 0.6 = 7.9 \text{ ppm}$$

**Transportation Project-Level  
Carbon Monoxide Protocol**  
UCD-ITS-RR-97-21  
December 1997

Intersection: San Fernando Road/Pine Street  
Scenario: Baseline No Project

Intersection Type: 6x2 intersection  
Geographic Location: Coastal Valley

1. Average Cruise Speed

San Fernando Road – 35 mph  
Pine Street – 30 mph

2. Through Movement Red Time

San Fernando Road – 50%  
Pine Street – 70%

3. Traffic Volume (vehicles per hour per lane – PM peak hour)

San Fernando Road –  $1806/3 = 602 \approx 600$   
Pine Street –  $109/1 = 109 \approx 200$

4. Concentration Contribution for Projects in Coastal Valley Areas (from Table A.3)

San Fernando Road Approach – 61.6 ppm (assumes 5 meters from road edge)  
San Fernando Road Departure – 26.8 ppm (assumes 5 meters from road edge)

Pine Street Approach – 27.0 ppm (assumes 5 meters from road edge)  
Pine Street Departure – 17.8 ppm (assumes 5 meters from road edge)

5. Traffic Volume Correction Factors (from Table A.5)

San Fernando Road – 0.67 (600 vehicles per hour per lane)  
Pine Street – 0.27 (200 vehicles per hour per lane)

6. Corrected Concentration (Step 4 x Step 5)

San Fernando Road Approach	41.2 ppm
San Fernando Road Departure	18.0 ppm
Pine Street Approach	7.3 ppm
Pine Street Departure	4.8 ppm

7. Performance Correction (from Tables A.6 and A.7)

San Fernando Road Approach	0.39
San Fernando Road Departure	0.13
Pine Street Approach	0.45
Pine Street Departure	0.13

8. Corrected Concentration (Step 6 x Step 7)

San Fernando Road Approach	16.1 ppm
San Fernando Road Departure	2.3 ppm
Pine Street Approach	3.3 ppm
<u>Pine Street Departure</u>	<u>0.6 ppm</u>
Total	22.3 ppm

9. Wind Speed Correction (assumes 1.0 m/s)

$$22.3 \text{ ppm} \times 0.7 = 15.6 \text{ ppm}$$

10. Cold Starts (from Table A.8 - assumes 20% in 2012)

$$15.6 \text{ ppm} \times 0.17 = 2.7 \text{ ppm}$$

11. Wind Angle Correction (from Table A.9 - 5 m distance)

$$2.7 \text{ ppm} \times 0.91 = 2.4 \text{ ppm}$$

12. Background Concentration + Project Contribution

$$4.79 \text{ ppm (highest recorded level at Santa Clarita Station in 2000)} + 2.4 \text{ ppm} = 7.2 \text{ ppm}$$

13. 8-Hour Conversion

$$7.2 \text{ ppm} \times 0.6 = 4.3 \text{ ppm}$$

**Transportation Project-Level  
Carbon Monoxide Protocol**  
UCD-ITS-RR-97-21  
December 1997

Intersection: San Fernando Road/Pine Street  
Scenario: Baseline + Project

Intersection Type: 6x2 intersection  
Geographic Location: Coastal Valley

1. Average Cruise Speed

San Fernando Road – 35 mph  
Pine Street – 30 mph

2. Through Movement Red Time

San Fernando Road – 50%  
Pine Street – 70%

3. Traffic Volume (vehicles per hour per lane – PM peak hour)

San Fernando Road –  $2426/3 = 809 \approx 900$   
Pine Street –  $305/1 = 305 \approx 400$

4. Concentration Contribution for Projects in Coastal Valley Areas (from Table A.3)

San Fernando Road Approach – 61.6 ppm (assumes 5 meters from road edge)  
San Fernando Road Departure – 26.8 ppm (assumes 5 meters from road edge)

Pine Street Approach – 27.0 ppm (assumes 5 meters from road edge)  
Pine Street Departure – 17.8 ppm (assumes 5 meters from road edge)

5. Traffic Volume Correction Factors (from Table A.5)

San Fernando Road – 0.93 (900 vehicles per hour per lane)  
Pine Street – 0.47 (400 vehicles per hour per lane)

6. Corrected Concentration (Step 4 x Step 5)

San Fernando Road Approach	57.3 ppm
San Fernando Road Departure	24.9 ppm
Pine Street Approach	12.7 ppm
Pine Street Departure	8.4 ppm

7. Performance Correction (from Tables A.6 and A.7)

San Fernando Road Approach	1.0
San Fernando Road Departure	0.35
Pine Street Approach	0.76
Pine Street Departure	0.19

8. Corrected Concentration (Step 6 x Step 7)

San Fernando Road Approach	57.3 ppm
San Fernando Road Departure	8.7 ppm
Pine Street Approach	9.7 ppm
<u>Pine Street Departure</u>	<u>1.6 ppm</u>
Total	77.3 ppm

9. Wind Speed Correction (assumes 1.0 m/s)

$$77.3 \text{ ppm} \times 0.7 = 54.1 \text{ ppm}$$

10. Cold Starts (from Table A.8 - assumes 20% in 2012)

$$54.1 \text{ ppm} \times 0.17 = 9.2 \text{ ppm}$$

11. Wind Angle Correction (from Table A.9 - 5 m distance)

$$9.2 \text{ ppm} \times 0.91 = 8.4 \text{ ppm}$$

12. Background Concentration + Project Contribution

$$4.79 \text{ ppm (highest recorded level at Santa Clarita Station in 2000)} + 8.4 \text{ ppm} = 13.2 \text{ ppm}$$

13. 8-Hour Conversion

$$13.2 \text{ ppm} \times 0.6 = 7.9 \text{ ppm}$$

**Transportation Project-Level  
Carbon Monoxide Protocol**  
UCD-ITS-RR-97-21  
December 1997

Intersection: San Fernando Road/Sierra Highway  
Scenario: Baseline No Project

Intersection Type: 6x6 intersection  
Geographic Location: Coastal Valley

1. Average Cruise Speed

San Fernando Road – 35 mph  
Sierra Highway – 40 mph

2. Through Movement Red Time

San Fernando Road – 50%  
Sierra Highway – 70%

3. Traffic Volume (vehicles per hour per lane – PM peak hour)

San Fernando Road –  $1808/3 = 603 \approx 700$   
Sierra Highway –  $1186/3 = 395 \approx 400$

4. Concentration Contribution for Projects in Coastal Valley Areas (from Table A.3)

San Fernando Road Approach – 61.6 ppm (assumes 5 meters from road edge)  
San Fernando Road Departure – 26.8 ppm (assumes 5 meters from road edge)

Sierra Highway Approach – 61.5 ppm (assumes 5 meters from road edge)  
Sierra Highway Departure – 26.8 ppm (assumes 5 meters from road edge)

5. Traffic Volume Correction Factors (from Table A.5)

San Fernando Road – 0.76 (700 vehicles per hour per lane)  
Sierra Highway – 0.47 (400 vehicles per hour per lane)

6. Corrected Concentration (Step 4 x Step 5)

San Fernando Approach	46.8 ppm
San Fernando Departure	20.4 ppm
Sierra Highway Approach	29.0 ppm
Sierra Highway Departure	12.6 ppm

7. Performance Correction (from Tables A.6 and A.7)

San Fernando Approach	0.52
San Fernando Departure	0.16
Sierra Highway Approach	0.76
Sierra Highway Departure	0.17

8. Corrected Concentration (Step 6 x Step 7)

San Fernando Approach	24.3 ppm
San Fernando Departure	3.3 ppm
Sierra Highway Approach	22.0 ppm
<u>Sierra Highway Departure</u>	<u>2.1 ppm</u>
Total	51.7 ppm

9. Wind Speed Correction (assumes 1.0 m/s)

$$51.7 \text{ ppm} \times 0.7 = 36.2 \text{ ppm}$$

10. Cold Starts (from Table A.8 - assumes 20% in 2012)

$$36.2 \text{ ppm} \times 0.17 = 6.2 \text{ ppm}$$

11. Wind Angle Correction (from Table A.9 - 5 m distance)

$$6.2 \text{ ppm} \times 0.82 = 5.1 \text{ ppm}$$

12. Background Concentration + Project Contribution

$$4.79 \text{ ppm (highest recorded level at Santa Clarita Station in 2000)} + 5.1 \text{ ppm} = 9.9 \text{ ppm}$$

13. 8-Hour Conversion

$$9.9 \text{ ppm} \times 0.6 = 5.9 \text{ ppm}$$



**Transportation Project-Level  
Carbon Monoxide Protocol**  
UCD-ITS-RR-97-21  
December 1997

Intersection: San Fernando Road/Sierra Highway  
Scenario: Baseline + Project

Intersection Type: 6x6 intersection  
Geographic Location: Coastal Valley

1. Average Cruise Speed

San Fernando Road – 35 mph  
Sierra Highway – 40 mph

2. Through Movement Red Time

San Fernando Road – 50%  
Sierra Highway – 70%

3. Traffic Volume (vehicles per hour per lane – PM peak hour)

San Fernando Road –  $2016/3 = 672 \approx 700$   
Sierra Highway –  $2089/3 = 696 \approx 700$

4. Concentration Contribution for Projects in Coastal Valley Areas (from Table A.3)

San Fernando Road Approach – 61.6 ppm (assumes 5 meters from road edge)  
San Fernando Road Departure – 26.8 ppm (assumes 5 meters from road edge)

Sierra Highway Approach – 61.5 ppm (assumes 5 meters from road edge)  
Sierra Highway Departure – 26.8 ppm (assumes 5 meters from road edge)

5. Traffic Volume Correction Factors (from Table A.5)

San Fernando – 0.76 (700 vehicles per hour per lane)  
Sierra Highway – 0.76 (700 vehicles per hour per lane)

6. Corrected Concentration (Step 4 x Step 5)

San Fernando Approach	46.8 ppm
San Fernando Departure	20.4 ppm
Sierra Highway Approach	46.8 ppm
Sierra Highway Departure	20.4 ppm

7. Performance Correction (from Tables A.6 and A.7)

San Fernando Approach	0.52
San Fernando Departure	0.16
Sierra Highway Approach	1.0
Sierra Highway Departure	1.0

8. Corrected Concentration (Step 6 x Step 7)

San Fernando Approach	24.3 ppm
San Fernando Departure	3.3 ppm
Sierra Highway Approach	46.8 ppm
<u>Sierra Highway Departure</u>	<u>20.4 ppm</u>
Total	94.8 ppm

9. Wind Speed Correction (assumes 1.0 m/s)

$$94.8 \text{ ppm} \times 0.7 = 66.4 \text{ ppm}$$

10. Cold Starts (from Table A.8 - assumes 20% in 2012)

$$66.4 \text{ ppm} \times 0.17 = 11.3 \text{ ppm}$$

11. Wind Angle Correction (from Table A.9 - 5 m distance)

$$11.3 \text{ ppm} \times 0.82 = 9.3 \text{ ppm}$$

12. Background Concentration + Project Contribution

$$4.79 \text{ ppm (highest recorded level at Santa Clarita Station in 2000)} + 9.3 \text{ ppm} = 14.1 \text{ ppm}$$

13. 8-Hour Conversion

$$15.1 \text{ ppm} \times 0.6 = 8.4 \text{ ppm}$$

## **Appendix D**

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### Intersection Capacity Utilization Worksheets

16. I-5 SB Ramps & Pico/Marriott

Existing Count						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1750	81	.05	94	.05
SBL	1.5		296		491	
SBT	0.5	3500	92	.11*	123	.18*
SBR	1	1750	41	.02	125	.07
EBL	0	0	0		0	
EBT	2	3500	710	.22*	821	.25
EBR	0	0	43		46	
WBL	1	1750	49	.03*	71	.04
WBT	2	3500	471	.13	1103	.32*
WBR	1	1750	685	.39	355	.20
Right Turn Adjustment			Multi	.09*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.55		.60

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1750	90	.05	96	.05
SBL	1.5		435		507	
SBT	0.5	3500	92	.15*	123	.18*
SBR	1	1750	41	.02	125	.07
EBL	0	0	0		0	
EBT	2	3500	763	.23*	829	.25
EBR	0	0	43		46	
WBL	1	1750	50	.03*	78	.04
WBT	2	3500	474	.14	1154	.33*
WBR	1	1750	685	.39	355	.20
Right Turn Adjustment			Multi	.05*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.56		.61

16. I-5 SB Ramps & Lyons

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1750	113	.06	151	.09
SBL	1.5		301		576	
SBT	0.5	3500	169	.13*	226	.23*
SBR	1	1750	157	.09	269	.15
EBL	0	0	0		0	
EBT	2	3500	715	.22*	826	.25*
EBR	0	0	43		60	
WBL	1	1750	266	.15*	323	.18*
WBT	2	3500	556	.16	1108	.32
WBR	1	1750	690	.39	527	.30
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.60		.76

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1750	122	.07	153	.09
SBL	1.5		440		592	
SBT	0.5	3500	169	.17*	226	.23*
SBR	1	1750	157	.09	269	.15
EBL	0	0	0		0	
EBT	2	3500	768	.23*	834	.26*
EBR	0	0	43		60	
WBL	1	1750	267	.15*	330	.19*
WBT	2	3500	559	.16	1159	.33
WBR	1	1750	690	.39	527	.30
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.65		.78

16. I-5 SB Ramps & Lyons

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1750	113	.06	151	.09
SBL	1.5		102	.06	422	
SBT	0.5	3500	169	.10*	226	.19*
SBR	1	1750	157	.09	269	.15
EBL	0	0	0		0	
EBT	2	3500	675	.21*	822	.25*
EBR	0	0	43		60	
WBL	1	1750	266	.15*	323	.18*
WBT	2	3500	523	.15	1058	.30
WBR	1	1750	702	.40	538	.31
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .56 .72

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1750	122	.07	153	.09
SBL	1.5		241		438	
SBT	0.5	3500	169	.12*	226	.19*
SBR	1	1750	157	.09	269	.15
EBL	0	0	0		0	
EBT	2	3500	728	.22*	830	.25*
EBR	0	0	43		60	
WBL	1	1750	267	.15*	330	.19*
WBT	2	3500	526	.15	1109	.32
WBR	1	1750	702	.40	538	.31
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .59 .73

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	10	.01*	10	.01*
NBT	0	0	0		0	
NBR	1	1750	180	.10	180	.10
SBL	1.5		953		1046	
SBT	0.5	3500	80	.30*	100	.33*
SBR	1	1750	232	.13	426	.24
EBL	0	0	0		0	
EBT	3	5250	1355	.27*	1529	.30*
EBR	0	0	40		50	
WBL	1	1750	140	.08*	160	.09*
WBT	3	5250	830	.16	1566	.30
WBR	f		897		372	
Right Turn Adjustment			NBR	.03*	NBR	.02*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .79 .85

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	10	.01*	10	.01*
NBT	0	0	0		0	
NBR	1	1750	180	.10	180	.10
SBL	1.5		877		992	
SBT	0.5	3500	80	.27*	100	.31*
SBR	1	1750	233	.13	422	.24
EBL	0	0	0		0	
EBT	3	5250	1360	.27*	1539	.30*
EBR	0	0	40		50	
WBL	1	1750	140	.08*	160	.09*
WBT	3	5250	803	.15	1545	.29
WBR	f		894		351	
Right Turn Adjustment			NBR	.03*	NBR	.02*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .76 .83

17. I-5 NB Ramps & Lyons

Existing Count						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3500	290	.08*	626	.18*
NBT	0	0	2		5	
NBR	f		488		742	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	161	.09*	287	.16*
EBT	2	3500	381	.11	742	.21
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1052	.30*	845	.24*
WBR	0	0	498		458	.26
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .57 .68

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3500	290	.08*	626	.18*
NBT	0	0	2		5	
NBR	f		491		742	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	161	.09*	287	.16*
EBT	2	3500	582	.17	768	.22
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1056	.30*	902	.26*
WBR	0	0	520		596	.34
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .57 .70

17. I-5 NB Ramps & Lyons

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	537	.15*	739	.21*
NBT	0	0	2		5	
NBR	f		683		747	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	227	.13*	292	.17*
EBT	2	3500	447	.13	998	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1111	.32*	1154	.33*
WBR	0	0	610	.35	571	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .70 .81

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	537	.15*	739	.21*
NBT	0	0	2		5	
NBR	f		686		747	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	227	.13*	292	.17*
EBT	2	3500	648	.19	1024	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1115	.32*	1211	.35*
WBR	0	0	632	.36	709	.41
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .70 .83

Interim Year with Project with Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	537	.15*	739	.21*
NBT	0	0	2		5	
NBR	f		686		747	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	227	.13*	292	.17*
EBT	2	3500	648	.19	1024	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1115	.21*	1211	.23*
WBR	1	1750	632	.36	709	.41
Right Turn Adjustment			WBR	.04*	WBR	.02*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .63 .73



17. I-5 NB Ramps & Lyons

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	537	.15*	739	.21*
NBT	0	0	2		5	
NBR	f		739		748	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	227	.13*	292	.17*
EBT	2	3500	208	.06	842	.24
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1092	.31*	1115	.30*
WBR	0	0	529		457	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .69 .78

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	537	.15*	739	.21*
NBT	0	0	2		5	
NBR	f		742		748	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	227	.13*	292	.17*
EBT	2	3500	409	.12	868	.25
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1096	.31*	1172	.33*
WBR	0	0	551	.31	595	.34
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .69 .81

Interim Year w/Proj w/o Dkweiler w/Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	537	.15*	739	.21*
NBT	0	0	2		5	
NBR	f		742		748	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	227	.13*	292	.17*
EBT	2	3500	409	.12	868	.25
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1096	.21*	1172	.22*
WBR	1	1750	551	.31	595	.34
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .59 .70

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		545	{.17}*	939	{.31}*
NBT	0	5250	0	{.17}	0	.31
NBR	1.5		585		673	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	282	.16*	264	.15*
EBT	3	5250	1605	.31	2266	.43
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1681	.32*	1483	.28*
WBR	f		1080		988	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .75 .84

17. I-5 NB Ramps & Lyons

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1.5		537	{.17}*	936	{.30}*
NBT	0	5250	0	{.17}	0	.30
NBR	1.5		600		629	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	1	1750	283	.16*	263	.15*
EBT	3	5250	1538	.29	2229	.42
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1660	.32*	1447	.28*
WBR	f		982		956	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.75		.83

54. Orchard Village & Wiley

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	73	.04*	174	.10*
NBT	2	3500	421	.12	742	.21
NBR	d	1750	55	.03	140	.08
SBL	1	1750	49	.03	71	.04
SBT	2	3500	376	.11*	699	.20*
SBR	1	1750	182	.10	197	.11
EBL	2	3500	61	.02	255	.07
EBT	2	3500	143	.05*	211	.10*
EBR	0	0	34		145	
WBL	1	1750	90	.05*	75	.04*
WBT	2	3500	66	.02	126	.04
WBR	d	1750	66	.04	47	.03
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.35		.54

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	74	.04*	181	.10*
NBT	2	3500	429	.12	829	.24
NBR	d	1750	55	.03	150	.09
SBL	1	1750	49	.03	71	.04
SBT	2	3500	493	.14*	722	.21*
SBR	1	1750	182	.10	197	.11
EBL	2	3500	61	.02	255	.07
EBT	2	3500	143	.05*	211	.10*
EBR	0	0	41		146	
WBL	1	1750	97	.06*	77	.04*
WBT	2	3500	66	.02	126	.04
WBR	d	1750	66	.04	47	.03
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.39		.55

54. Orchard Village & Wiley

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	78	.04	179	.10
NBT	2	3500	426	.12*	747	.21*
NBR	d	1750	178	.10	192	.11
SBL	1	1750	266	.15*	429	.25*
SBT	2	3500	381	.11	821	.23
SBR	1	1750	207	.12	202	.12
EBL	2	3500	167	.05	260	.07
EBT	2	3500	194	.07*	643	.23*
EBR	0	0	39		150	
WBL	1	1750	188	.11*	225	.13*
WBT	2	3500	199	.06	357	.10
WBR	d	1750	672	.38	682	.39
Right Turn Adjustment			WBR	.14*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.69		.92

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	79	.05	186	.11
NBT	2	3500	434	.12*	834	.24*
NBR	d	1750	178	.10	202	.12
SBL	1	1750	266	.15*	429	.25*
SBT	2	3500	498	.14	844	.24
SBR	1	1750	207	.12	202	.12
EBL	2	3500	167	.05	260	.07
EBT	2	3500	194	.07*	643	.23*
EBR	0	0	46		151	
WBL	1	1750	195	.11*	227	.13*
WBT	2	3500	199	.06	357	.10
WBR	d	1750	672	.38	682	.39
Right Turn Adjustment			WBR	.14*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.69		.95

Interim Year with Project with Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	79	.05	186	.11
NBT	2	3500	434	.12*	834	.24*
NBR	d	1750	178	.10	202	.12
SBL	1	1750	266	.15*	429	.25*
SBT	2	3500	498	.14	844	.24
SBR	1	1750	207	.12	202	.12
EBL	2	3500	167	.05	260	.07
EBT	2	3500	194	.06*	643	.18*
EBR	1	1750	46	.03	151	.09
WBL	1	1750	195	.11*	227	.13*
WBT	2	3500	199	.06	357	.10
WBR	d	1750	672	.38	682	.39
Right Turn Adjustment			WBR	.15*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.69		.90

54. Orchard Village & Wiley

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	78	.04	182	.10
NBT	2	3500	276	.08*	713	.20*
NBR	d	1750	197	.11	218	.12
SBL	1	1750	292	.17*	433	.25*
SBT	2	3500	346	.10	667	.19
SBR	1	1750	212	.12	303	.17
EBL	2	3500	187	.05	263	.08
EBT	2	3500	264	.09*	747	.26*
EBR	0	0	41		151	
WBL	1	1750	211	.12*	240	.14*
WBT	2	3500	220	.06	388	.11
WBR	d	1750	815	.47	804	.46
Right Turn Adjustment			WBR	.18*		
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .74 .95

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	79	.05	189	.11
NBT	2	3500	284	.08*	800	.23*
NBR	d	1750	197	.11	228	.13
SBL	1	1750	292	.17*	433	.25*
SBT	2	3500	463	.13	690	.20
SBR	1	1750	212	.12	303	.17
EBL	2	3500	187	.05	263	.08
EBT	2	3500	264	.09*	747	.26*
EBR	0	0	48		152	
WBL	1	1750	218	.12*	242	.14*
WBT	2	3500	220	.06	388	.11
WBR	d	1750	815	.47	804	.46
Right Turn Adjustment			WBR	.18*		
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .74 .98

Interim Year w/Proj w/o Dkweiler w/Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	79	.05	189	.11
NBT	2	3500	284	.08*	800	.23*
NBR	d	1750	197	.11	228	.13
SBL	1	1750	292	.17*	433	.25*
SBT	2	3500	463	.13	690	.20
SBR	1	1750	212	.12	303	.17
EBL	2	3500	187	.05	263	.08
EBT	2	3500	264	.08*	747	.21*
EBR	1	1750	48	.03	152	.09
WBL	1	1750	218	.12*	242	.14*
WBT	2	3500	220	.06	388	.11
WBR	d	1750	815	.47	804	.46
Right Turn Adjustment			WBR	.19*		
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .74 .93

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	314	.18*	113	.06*
NBT	3	5250	828	.19	789	.20
NBR	0	0	160		258	
SBL	2	3500	343	.10	846	.24
SBT	2	3500	709	.27*	1212	.41*
SBR	0	0	233		218	
EBL	1	1750	114	.07*	248	.14*
EBT	3	5250	386	.07	834	.16
EBR	1	1750	41	.02	318	.18
WBL	1	1750	228	.13	183	.10
WBT	2	3500	560	.16*	524	.15*
WBR	2	3500	1087	.31	1005	.29
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .78 .86

Note: Assumes Right-Turn Overlap for WBR

54. Orchard Village & Wiley

Long Range with Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1750	296	.17*	98	.06*
NBT	3	5250	837	.19	825	.21
NBR	0	0	160		273	
SBL	2	3500	342	.10	927	.26
SBT	2	3500	723	.27*	1206	.41*
SBR	0	0	237		218	
EBL	1	1750	114	.07*	260	.15*
EBT	3	5250	397	.08	882	.17
EBR	1	1750	42	.02	271	.15
WBL	1	1750	235	.13	194	.11
WBT	2	3500	584	.17*	538	.15*
WBR	2	3500	1195	.34	886	.25
Clearance Interval				.10*	.10*	
Note: Assumes Right-Turn Overlap for WBR						

TOTAL CAPACITY UTILIZATION .78 .87

56. Newhall & Lyons

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	496	.14*	544	.16*
NBT	1	1750	165	.09	137	.08
NBR	1	1750	18	.01	34	.02
SBL	1	1750	42	.02	31	.02
SBT	1	1750	147	.08*	176	.10*
SBR	1	1750	226	.13	188	.11
EBL	1	1750	196	.11*	196	.11*
EBT	2	3500	456	.13	775	.22
EBR	1	1750	461	.26	681	.39
WBL	1	1750	27	.02	32	.02
WBT	2	3500	714	.20*	764	.22*
WBR	1	1750	68	.04	48	.03
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.63		.69

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	521	.15*	847	.24*
NBT	1	1750	165	.09	146	.08
NBR	1	1750	21	.01	34	.02
SBL	1	1750	46	.03	32	.02
SBT	1	1750	151	.09*	179	.10*
SBR	1	1750	226	.13	188	.11
EBL	1	1750	196	.11*	196	.11*
EBT	2	3500	548	.16	786	.22
EBR	1	1750	786	.45	739	.42
WBL	1	1750	28	.02	32	.02
WBT	2	3500	730	.21*	857	.24*
WBR	1	1750	68	.04	50	.03
Right Turn Adjustment			EBR	.04*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.70		.79

Existing plus Project with Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	521	.15*	847	.24*
NBT	1	1750	165	.09	146	.08
NBR	1	1750	21	.01	34	.02
SBL	1	1750	46	.03	32	.02
SBT	1	1750	151	.09*	179	.10*
SBR	1	1750	226	.13	188	.11
EBL	1	1750	196	.11*	196	.11*
EBT	2	3500	548	.16	786	.22
EBR	1	1750	786	.45	739	.42
WBL	1	1750	28	.02	32	.02
WBT	3	5250	730	.15*	857	.17*
WBR	0	0	68		50	
Right Turn Adjustment			EBR	.06*		
Clearance Interval				.10*		.10*
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION				.66		.72

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	446	.13*	377	.11*
NBT	1	1750	103	.06	170	.10
NBR	1	1750	28	.02	40	.02
SBL	1	1750	46	.03	56	.03
SBT	1	1750	145	.08*	193	.11*
SBR	1	1750	233	.13	193	.11
EBL	1	1750	198	.11*	201	.11*
EBT	2	3500	659	.19	973	.28
EBR	1	1750	365	.21	552	.32
WBL	1	1750	36	.02	48	.03
WBT	2	3500	880	.25*	1231	.35*
WBR	1	1750	92	.05	53	.03
Clearance Interval				.10*	.10*	
TOTAL CAPACITY UTILIZATION				.67	.78	

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	471	.13*	680	.19*
NBT	1	1750	103	.06	179	.10
NBR	1	1750	31	.02	40	.02
SBL	1	1750	50	.03	57	.03
SBT	1	1750	149	.09*	196	.11*
SBR	1	1750	233	.13	193	.11
EBL	1	1750	198	.11*	201	.11*
EBT	2	3500	751	.21	984	.28
EBR	1	1750	690	.39	610	.35
WBL	1	1750	37	.02	48	.03
WBT	3	5250	896	.19*	1324	.26*
WBR	0	0	92		55	
Clearance Interval				.10*	.10*	
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION				.62	.77	

Interim Year w/Proj & Dockweiler Alternative						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	661	.19*	730	.21*
NBT	1	1750	103	.06	179	.10
NBR	1	1750	31	.02	40	.02
SBL	1	1750	50	.03	57	.03
SBT	1	1750	149	.09*	196	.11*
SBR	1	1750	233	.13	193	.11
EBL	1	1750	198	.11*	201	.11*
EBT	2	3500	651	.19	894	.26
EBR	1	1750	790	.45	790	.45
WBL	1	1750	37	.02	48	.03
WBT	3	5250	846	.18*	1334	.26*
WBR	0	0	92		55	
Clearance Interval				.10*	.10*	
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION				.67	.79	



56. Newhall & Lyons

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3500	565	.16*	540	.15*
NBT	1	1750	104	.06	183	.10
NBR	1	1750	16	.01	20	.01
SBL	1	1750	40	.02	47	.03
SBT	1	1750	149	.09*	203	.12*
SBR	1	1750	233	.13	193	.11
EBL	1	1750	200	.11*	201	.11*
EBT	2	3500	506	.14	567	.16
EBR	1	1750	472	.27	702	.40
WBL	1	1750	19	.01	17	.01
WBT	2	3500	643	.18*	922	.26*
WBR	1	1750	87	.05	47	.03
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.64		.74

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3500	590	.17*	843	.24*
NBT	1	1750	104	.06	192	.11
NBR	1	1750	19	.01	20	.01
SBL	1	1750	44	.03	48	.03
SBT	1	1750	153	.09*	206	.12*
SBR	1	1750	233	.13	193	.11
EBL	1	1750	200	.11*	201	.11*
EBT	2	3500	598	.17	578	.17
EBR	1	1750	797	.46	760	.43
WBL	1	1750	20	.01	17	.01
WBT	3	5250	659	.14*	1015	.20*
WBR	0	0	87		49	
Right Turn Adjustment			EBR	.05*		
Clearance Interval				.10*		.10*
Note: Assumes Right-Turn Overlap for EBR						
TOTAL CAPACITY UTILIZATION				.66		.77

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3500	321	.09*	426	.12*
NBT	1	1750	173	.10	144	.08
NBR	1	1750	64	.04	108	.06
SBL	1	1750	44	.03	87	.05
SBT	2	3500	154	.04*	185	.05*
SBR	1	1750	237	.14	197	.11
EBL	1	1750	206	.12*	206	.12*
EBT	3	5250	820	.16	1502	.29
EBR	1	1750	967	.55	731	.42
WBL	1	1750	189	.11	273	.16
WBT	3	5250	1640	.31*	1816	.35*
WBR	1	1750	71	.04	50	.03
Right Turn Adjustment			Multi	.17*	EBR	.02*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.83		.76

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	2	3500	324	.09*	447	.13*
NBT	1	1750	173	.10	147	.08
NBR	1	1750	66	.04	87	.05
SBL	1	1750	45	.03	77	.04
SBT	2	3500	154	.04*	164	.05*
SBR	1	1750	237	.14	197	.11
EBL	1	1750	205	.12*	206	.12*
EBT	3	5250	858	.16	1363	.26
EBR	1	1750	898	.51	746	.43
WBL	1	1750	257	.15	271	.15
WBT	3	5250	1500	.29*	1724	.33*
WBR	1	1750	70	.04	42	.02
Right Turn Adjustment			Multi	.19*	EBR	.03*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.83		.76

57. Valencia & Magic Mtn

Interim Year without Project (CMP Methodology)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	4	.00	19	.01
NBT	3	4800	744	.23*	1216	.38*
NBR	0	0	425	.27	791	.49
SBL	1	1600	127	.08*	213	.13*
SBT	3	4800	1212	.25	1110	.23
SBR	f		1113		702	
EBL	2	2880	356	.12	1073	.37*
EBT	2	3200	547	.17*	1036	.32
EBR	0	0	4		3	
WBL	2	2880	834	.29*	349	.12
WBT	2	3200	892	.28	699	.22*
WBR	1	1600	185	.12	248	.16
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .87 1.20

Interim Year with Project (CMP Methodology)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	4	.00	21	.01
NBT	3	4800	735	.23*	1212	.38*
NBR	0	0	416	.26	772	.48
SBL	1	1600	135	.08*	211	.13*
SBT	3	4800	1428	.30	1117	.23
SBR	f		1069		696	
EBL	2	2880	353	.12	1058	.37*
EBT	2	3200	543	.17*	1067	.33
EBR	0	0	4		3	
WBL	2	2880	835	.29*	358	.12
WBT	2	3200	897	.28	708	.22*
WBR	1	1600	189	.12	270	.17
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .87 1.20

60. San Fernando & Newhall

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	350	.20*	408	.23*
NBT	2	3500	580	.17	669	.19
NBR	0	0	0		4	
SBL	0	0	0		2	
SBT	2	3500	449	.13*	565	.16*
SBR	0	0	0		5	
EBL	0	0	3		8	
EBT	1	1750	6	.01*	5	.01
EBR	1	1750	476	.27	648	.37
WBL	0	0	0		3	
WBT	1	1750	3	.00	6	.01*
WBR	0	0	0		8	
Right Turn Adjustment			EBR	.11*	EBR	.19*
Clearance Interval				.10*		.10*

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	377	.22*	736	.42*
NBT	2	3500	610	.17	809	.23
NBR	0	0	0		4	
SBL	0	0	0		2	
SBT	2	3500	630	.18*	588	.17*
SBR	0	0	0		5	
EBL	0	0	3		8	
EBT	1	1750	6	.01*	5	.01
EBR	1	1750	821	.47	711	.41
WBL	0	0	0		3	
WBT	1	1750	3	.00	6	.01*
WBR	0	0	0		8	
Right Turn Adjustment			EBR	.29*	EBR	.08*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .55 .69

TOTAL CAPACITY UTILIZATION .80 .78

Existing plus Project with Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	377	.22*	736	.42*
NBT	2	3500	610	.17	809	.23
NBR	0	0	0		4	
SBL	0	0	0		2	
SBT	2	3500	630	.18*	588	.17*
SBR	0	0	0		5	
EBL	0	0	3		8	
EBT	1	1750	6	.01*	5	.01
EBR	1	1750	821	.47	711	.41
WBL	0	0	0		3	
WBT	1	1750	3	.00	6	.01*
WBR	0	0	0		8	
Right Turn Adjustment			EBR	.24*		
Clearance Interval				.10*		.10*
Note: Assumes Right-Turn Overlap for EBR						

TOTAL CAPACITY UTILIZATION .75 .70

60. San Fernando & Newhall

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	245	.14*	241	.14*
NBT	2	3500	555	.16	649	.19
NBR	0	0	5		9	
SBL	0	0	5		7	
SBT	2	3500	439	.13*	545	.16*
SBR	0	0	0		10	
EBL	0	0	8		14	{.01}*
EBT	1	1750	11	.01	10	.01
EBR	1	1750	380	.22	518	.30
WBL	0	0	5		8	
WBT	1	1750	8	.01*	11	.02*
WBR	0	0	5		13	
Right Turn Adjustment			EBR	.10*	EBR	.16*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.48		.59

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	272	.16*	569	.33*
NBT	2	3500	585	.17	789	.23
NBR	0	0	5		9	
SBL	0	0	5		7	
SBT	2	3500	620	.18*	568	.17*
SBR	0	0	0		10	
EBL	0	0	8		14	{.01}*
EBT	1	1750	11	.01	10	.01
EBR	1	1750	725	.41	581	.33
WBL	0	0	5		8	
WBT	1	1750	8	.01*	11	.02*
WBR	0	0	5		13	
Right Turn Adjustment			EBR	.24*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.69		.63

Note: Assumes Right-Turn Overlap for EBR

Interim Year w/Proj & Dockweiler Alternative						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	272	.16*	569	.33*
NBT	2	3500	585	.17	789	.23
NBR	0	0	5		9	
SBL	0	0	5		7	
SBT	2	3500	620	.18*	568	.17*
SBR	0	0	0		10	
EBL	0	0	8		14	{.01}*
EBT	1	1750	11	.01	10	.01
EBR	1	1750	725	.41	581	.33
WBL	0	0	5		8	
WBT	1	1750	8	.01*	11	.02*
WBR	0	0	5		13	
Right Turn Adjustment			EBR	.24*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.69		.63

Note: Assumes Right-Turn Overlap for EBR

60. San Fernando & Newhall

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1750	379	.22*	448	.26*
NBT	2	3500	785	.23	817	.24
NBR	0	0	5		9	
SBL	0	0	5		7	
SBT	2	3500	552	.16*	685	.20*
SBR	0	0	0		10	
EBL	0	0	8		14	{.01}*
EBT	1	1750	11	.01	10	.01
EBR	1	1750	503	.29	697	.40
WBL	0	0	5		8	
WBT	1	1750	8	.01*	11	.02*
WBR	0	0	5		13	
Right Turn Adjustment			EBR	.11*	EBR	.17*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .60 .76

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1750	406	.23*	776	.44*
NBT	2	3500	815	.23	957	.28
NBR	0	0	5		9	
SBL	0	0	5		7	
SBT	2	3500	733	.21*	708	.21*
SBR	0	0	0		10	
EBL	0	0	8		14	{.01}*
EBT	1	1750	11	.01	10	.01
EBR	1	1750	848	.48	760	.43
WBL	0	0	5		8	
WBT	1	1750	8	.01*	11	.02*
WBR	0	0	5		13	
Right Turn Adjustment			EBR	.24*		
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .79 .78

Note: Assumes Right-Turn Overlap for EBR

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3500	320	.09*	460	.13*
NBT	3	5250	590	.11	660	.13
NBR	0	0	5		5	
SBL	0	0	5		5	
SBT	3	5250	530	.10*	540	.10*
SBR	0	0	2		2	
EBL	1	1750	2	.00	2	.00
EBT	0	0	5		5	
EBR	2	3500	1190	.34	1110	.32
WBL	0	0	5		5	
WBT	1	1750	5	.01*	10	.01*
WBR	0	0	5		5	
Right Turn Adjustment			EBR	.26*	EBR	.21*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .56 .55

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3500	320	.09*	480	.14*
NBT	3	5250	620	.12	560	.11
NBR	0	0	5		5	
SBL	0	0	4		5	
SBT	3	5250	580	.11*	530	.10*
SBR	0	0	2		2	
EBL	1	1750	2	.00	2	.00
EBT	0	0	5		5	
EBR	2	3500	1190	.34	1120	.32
WBL	0	0	5		5	
WBT	1	1750	5	.01*	10	.01*
WBR	0	0	5		5	
Right Turn Adjustment			EBR	.26*	EBR	.20*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .57 .55

61. San Fernando & Lyons

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	236	.13*	256	.15*
NBT	2	3500	140	.04	302	.09
NBR	0	0	3		8	
SBL	1	1750	3	.00	3	.00
SBT	2	3500	415	.12*	338	.10*
SBR	1	1750	333	.19	380	.22
EBL	2	3500	212	.06*	563	.16*
EBT	1	1750	32	.02	37	.02
EBR	1	1750	87	.05	241	.14
WBL	1	1750	4	.00	6	.00
WBT	1	1750	47	.03*	65	.04*
WBR	0	0	8		4	
Right Turn Adjustment			SBR	.02*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION			.46		.55	

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	254	.15*	313	.18*
NBT	2	3500	149	.04	370	.11
NBR	0	0	6		13	
SBL	1	1750	3	.00	3	.00
SBT	2	3500	475	.14*	348	.10*
SBR	1	1750	333	.19	380	.22
EBL	2	3500	212	.06*	563	.16*
EBT	1	1750	32	.02	37	.02
EBR	1	1750	204	.12	254	.15
WBL	1	1750	5	.00	7	.00
WBT	1	1750	47	.03*	65	.04*
WBR	0	0	8		4	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION			.48		.58	

61. San Fernando & Lyons

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1750	221	.13*	260	.15*
NBT	2	3500	130	.04	282	.08
NBR	0	0	8		13	
SBL	1	1750	8	.00	8	.00
SBT	2	3500	405	.12*	318	.09*
SBR	1	1750	338	.19	402	.23
EBL	2	3500	172	.05*	466	.13*
EBT	2	3500	301	.09	553	.16
EBR	1	1750	108	.06	204	.12
WBL	1	1750	16	.01	11	.01
WBT	2	3500	415	.12*	572	.17*
WBR	0	0	13		9	
Right Turn Adjustment Clearance Interval			SBR	.03*	SBR	.04*
				.10*		.10*

TOTAL CAPACITY UTILIZATION .55 .68

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1750	239	.14*	317	.18*
NBT	2	3500	139	.04	350	.11
NBR	0	0	11		18	
SBL	1	1750	8	.00	8	.00
SBT	2	3500	465	.13*	328	.09*
SBR	1	1750	338	.19	402	.23
EBL	2	3500	172	.05*	466	.13*
EBT	2	3500	301	.09	553	.16
EBR	1	1750	225	.13	217	.12
WBL	1	1750	17	.01	12	.01
WBT	2	3500	415	.12*	572	.17*
WBR	0	0	13		9	
Right Turn Adjustment Clearance Interval			SBR	.02*	SBR	.04*
				.10*		.10*

TOTAL CAPACITY UTILIZATION .56 .71

Interim Year w/Proj & Dockweiler Alternative						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1750	339	.19*	467	.27*
NBT	2	3500	139	.04	350	.11
NBR	0	0	11		18	
SBL	1	1750	8	.00	8	.00
SBT	2	3500	465	.13*	328	.09*
SBR	1	1750	338	.19	402	.23
EBL	2	3500	172	.05*	466	.13*
EBT	2	3500	151	.04	323	.09
EBR	1	1750	275	.16	267	.15
WBL	1	1750	10	.01	10	.01
WBT	2	3500	123	.04*	372	.11*
WBR	0	0	10		5	
Right Turn Adjustment Clearance Interval			SBR	.02*	SBR	.04*
				.10*		.10*

TOTAL CAPACITY UTILIZATION .53 .74

61. San Fernando & Lyons

Interim Year without Project (CMP Methodology)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	221	.14*	260	.16*
NBT	2	3200	130	.04	282	.09
NBR	0	0	8		13	
SBL	1	1600	8	.01	8	.01
SBT	2	3200	405	.13*	318	.10*
SBR	1	1600	338	.21	402	.25
EBL	2	2880	172	.06*	466	.16*
EBT	2	3200	301	.09	553	.17
EBR	1	1600	108	.07	204	.13
WBL	1	1600	16	.01	11	.01
WBT	2	3200	415	.13*	572	.18*
WBR	0	0	13		9	
Right Turn Adjustment			SBR	.03*	SBR	.03*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.59		.73

Interim Year with Project (CMP Methodology)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	239	.15*	317	.20*
NBT	2	3200	139	.05	350	.12
NBR	0	0	11		18	
SBL	1	1600	8	.01	8	.01
SBT	2	3200	465	.15*	328	.10*
SBR	1	1600	338	.21	402	.25
EBL	2	2880	172	.06*	466	.16*
EBT	2	3200	301	.09	553	.17
EBR	1	1600	225	.14	217	.14
WBL	1	1600	17	.01	12	.01
WBT	2	3200	415	.13*	572	.18*
WBR	0	0	13		9	
Right Turn Adjustment			SBR	.01*	SBR	.03*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.60		.77



61. San Fernando & Lyons

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	320	.18*	360	.21*
NBT	2	3500	261	.08	423	.12
NBR	0	0	8		13	
SBL	1	1750	8	.00	8	.00
SBT	2	3500	423	.12*	418	.12*
SBR	1	1750	340	.19	411	.23
EBL	2	3500	184	.05*	467	.13*
EBT	2	3500	41	.01	53	.02
EBR	1	1750	185	.11	241	.14
WBL	1	1750	8	.00	11	.01
WBT	2	3500	55	.02*	72	.02*
WBR	0	0	13		9	
Right Turn Adjustment			SBR	.03*	SBR	.01*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .50 .59

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	338	.19*	417	.24*
NBT	2	3500	270	.08	491	.15
NBR	0	0	11		18	
SBL	1	1750	8	.00	8	.00
SBT	2	3500	483	.14*	428	.12*
SBR	1	1750	340	.19	411	.23
EBL	2	3500	184	.05*	467	.13*
EBT	2	3500	41	.01	53	.02
EBR	1	1750	302	.17	254	.15
WBL	1	1750	9	.01	12	.01
WBT	2	3500	55	.02*	72	.02*
WBR	0	0	13		9	
Right Turn Adjustment			SBR	.01*	SBR	.01*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .51 .62

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	335	.10*	361	.10*
NBT	3	5250	220	.04	342	.07
NBR	0	0	11		35	
SBL	2	3500	33	.01	91	.03
SBT	3	5250	552	.11*	426	.08*
SBR	1	1750	334	.19	474	.27
EBL	2	3500	131	.04*	501	.14*
EBT	2	3500	648	.19	1090	.31
EBR	1	1750	66	.04	214	.12
WBL	1	1750	54	.03	100	.06
WBT	3	5250	936	.19*	1140	.23*
WBR	0	0	40		78	
Right Turn Adjustment			SBR	.05*	SBR	.08*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .59 .73

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	334	.10*	249	.07*
NBT	3	5250	249	.05	373	.08
NBR	0	0	10		26	
SBL	2	3500	44	.01	69	.02
SBT	3	5250	503	.10*	425	.08*
SBR	1	1750	404	.23	469	.27
EBL	2	3500	133	.04	481	.14*
EBT	2	3500	686	.20*	921	.26
EBR	1	1750	67	.04	207	.12
WBL	1	1750	38	.02*	100	.06
WBT	3	5250	791	.16	1129	.22*
WBR	0	0	71		47	
Right Turn Adjustment			SBR	.08*	SBR	.08*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .60 .69

76. San Fernando & 13th

Existing Count						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1750	12	.01	6	.00
NBT	2	3500	763	.29*	1234	.41*
NBR	0	0	236		203	
SBL	1	1750	227	.13*	149	.09*
SBT	2	3500	1073	.31	992	.28
SBR	0	0	3		0	
EBL	0	0	8		0	
EBT	1	1750	3	.01	0	.00
EBR	0	0	4		0	
WBL	0	0	201		207	
WBT	1	1750	1	.17*	0	.20*
WBR	0	0	91		144	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .69 .80

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1750	12	.01	6	.00
NBT	2	3500	792	.30*	1449	.48*
NBR	0	0	242		214	
SBL	1	1750	227	.13*	149	.09*
SBT	2	3500	1320	.38	1048	.30
SBR	0	0	3		0	
EBL	0	0	8		0	
EBT	1	1750	3	.01	0	.00
EBR	0	0	4		0	
WBL	0	0	213		211	
WBT	1	1750	1	.17*	0	.20*
WBR	0	0	91		144	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .70 .87

Existing plus Project with Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1750	12	.01*	6	.00
NBT	2	3500	792	.23	1449	.41*
NBR	1	1750	242	.14	214	.12
SBL	1	1750	227	.13	149	.09*
SBT	2	3500	1320	.38*	1048	.30
SBR	0	0	3		0	
EBL	0	0	8		0	
EBT	1	1750	3	.01	0	.00
EBR	0	0	4		0	
WBL	0	0	213		211	
WBT	1	1750	1	.17*	0	.20*
WBR	0	0	91		144	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .66 .80

76. San Fernando Rd & 13th St.

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1750	12	.01	6	.00
NBT	2	3500	956	.34*	1349	.44*
NBR	0	0	241		208	
SBL	1	1750	232	.13*	154	.09*
SBT	2	3500	1093	.31	1002	.29
SBR	0	0	3		0	
EBL	0	0	8		0	
EBT	1	1750	3	.01	0	.00
EBR	0	0	4		0	
WBL	0	0	206		212	
WBT	1	1750	1	.17*	0	.21*
WBR	0	0	96		149	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .74 .84

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1750	12	.01	6	.00
NBT	2	3500	985	.28*	1564	.45*
NBR	1	1750	247	.14	219	.13
SBL	1	1750	232	.13*	154	.09*
SBT	2	3500	1340	.38	1058	.30
SBR	0	0	3		0	
EBL	0	0	8		0	
EBT	1	1750	3	.01	0	.00
EBR	0	0	4		0	
WBL	0	0	218		216	
WBT	1	1750	1	.18*	0	.21*
WBR	0	0	96		149	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .69 .85

Interim Year w/Proj & Dockweiler Alternative						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1750	12	.01	6	.00
NBT	2	3500	614	.18*	1234	.35*
NBR	1	1750	247	.14	219	.13
SBL	2	3500	507	.14*	538	.15*
SBT	2	3500	1065	.31	674	.19
SBR	0	0	3		0	
EBL	0	0	8		0	
EBT	1	1750	3	.01	0	.00
EBR	0	0	4		0	
WBL	1	1750	168	.10	141	.08
WBT	1	1750	1	.27*	0	.27*
WBR	0	0	467		479	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .69 .87

76. San Fernando Rd & 13th St.

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	12	.01	6	.00
NBT	2	3500	789	.29*	1253	.42*
NBR	0	0	231		201	
SBL	1	1750	241	.14*	159	.09*
SBT	2	3500	1049	.30	956	.27
SBR	0	0	3		0	
EBL	0	0	8		0	
EBT	1	1750	3	.01	0	.00
EBR	0	0	4		0	
WBL	0	0	204		205	
WBT	1	1750	1	.17*	0	.20*
WBR	0	0	97		152	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .70 .81

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	12	.01*	6	.00
NBT	2	3500	818	.23	1468	.42*
NBR	1	1750	237	.14	212	.12
SBL	1	1750	241	.14	159	.09*
SBT	2	3500	1296	.37*	1012	.29
SBR	0	0	3		0	
EBL	0	0	8		0	
EBT	1	1750	3	.01	0	.00
EBR	0	0	4		0	
WBL	0	0	216		209	
WBT	1	1750	1	.18*	0	.21*
WBR	0	0	97		152	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .66 .82

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	16		23	
NBT	3	5250	833	.21*	1375	.31*
NBR	0	0	248		218	
SBL	1	1750	238	.14*	137	.08*
SBT	3	5250	1139	.23	1002	.22
SBR	0	0	65		159	
EBL	1	1750	117	.07*	130	.07*
EBT	1	1750	7	.01	7	.01
EBR	0	0	5		5	
WBL	1	1750	180	.10	217	.12
WBT	1	1750	4	.07*	9	.09*
WBR	0	0	112		151	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .59 .65

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	22		43	
NBT	3	5250	790	.20*	1335	.30*
NBR	0	0	244		217	
SBL	1	1750	237	.14*	138	.08*
SBT	3	5250	1165	.23	977	.22
SBR	0	0	65		159	
EBL	1	1750	116	.07*	129	.07*
EBT	1	1750	7	.01	7	.01
EBR	0	0	5		5	
WBL	1	1750	186	.11	213	.12
WBT	1	1750	4	.06*	9	.09*
WBR	0	0	105		153	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .57 .64

77. San Fernando Rd & Market St

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	35	{.02}*	23	
NBT	2	3500	357	.11	502	.15*
NBR	0	0	4		13	
SBL	0	0	21		26	{.01}*
SBT	2	3500	490	.15*	420	.13
SBR	0	0	25		25	
EBL	0	0	22	{.01}*	48	{.03}*
EBT	1	1750	35	.04	71	.08
EBR	0	0	12		26	
WBL	0	0	2		12	
WBT	1	1750	32	.04*	61	.08*
WBR	0	0	30		71	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.32		.37

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	35	{.02}*	23	
NBT	2	3500	387	.12	642	.19*
NBR	0	0	4		13	
SBL	0	0	21		27	{.02}*
SBT	2	3500	671	.20*	443	.14
SBR	0	0	25		25	
EBL	0	0	22	{.01}*	48	{.03}*
EBT	1	1750	35	.04	71	.08
EBR	0	0	12		26	
WBL	0	0	2		12	
WBT	1	1750	32	.04*	61	.08*
WBR	0	0	31		71	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.37		.42

77. San Fernando & Market

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	35	{.02}*	23	
NBT	2	3500	337	.11	482	.15*
NBR	0	0	4		13	
SBL	0	0	21		26	{.01}*
SBT	2	3500	480	.15*	400	.13
SBR	0	0	25		25	
EBL	0	0	22	{.01}*	48	{.03}*
EBT	1	1750	35	.04	71	.08
EBR	0	0	12		26	
WBL	0	0	2		12	
WBT	1	1750	32	.04*	61	.08*
WBR	0	0	30		71	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .32 .37

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	35	{.02}*	23	
NBT	2	3500	367	.12	622	.19*
NBR	0	0	4		13	
SBL	0	0	21		27	{.02}*
SBT	2	3500	661	.20*	423	.14
SBR	0	0	25		25	
EBL	0	0	22	{.01}*	48	{.03}*
EBT	1	1750	35	.04	71	.08
EBR	0	0	12		26	
WBL	0	0	2		12	
WBT	1	1750	32	.04*	61	.08*
WBR	0	0	31		71	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .37 .42

Interim Year w/Proj & Dockweiler Alternative						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	35	{.02}*	23	
NBT	2	3500	367	.12	622	.19*
NBR	0	0	4		13	
SBL	0	0	71		77	{.04}*
SBT	2	3500	661	.22*	423	.15
SBR	0	0	25		25	
EBL	0	0	22	{.01}*	48	
EBT	1	1750	135	.10	251	.19*
EBR	0	0	12		26	
WBL	0	0	2		12	{.01}*
WBT	1	1750	222	.13*	111	.07
WBR	1	1750	131	.07	221	.13
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .48 .53

77. San Fernando & Market

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	35	{.02}*	23	
NBT	2	3500	567	.17	723	.22*
NBR	0	0	4		13	
SBL	0	0	11		23	{.01}*
SBT	2	3500	593	.18*	540	.17
SBR	0	0	25		25	
EBL	0	0	22	{.01}*	48	{.03}*
EBT	1	1750	35	.04	71	.08
EBR	0	0	12		26	
WBL	0	0	2		12	
WBT	1	1750	32	.04*	61	.08*
WBR	0	0	30		62	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.35		.44

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	35	{.02}*	23	
NBT	2	3500	597	.18	863	.26*
NBR	0	0	4		13	
SBL	0	0	11		24	{.01}*
SBT	2	3500	774	.23*	563	.17
SBR	0	0	25		25	
EBL	0	0	22	{.01}*	48	{.03}*
EBT	1	1750	35	.04	71	.08
EBR	0	0	12		26	
WBL	0	0	2		12	
WBT	1	1750	32	.04*	61	.08*
WBR	0	0	31		62	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.40		.48

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40	{.02}*	20	
NBT	2	3500	500	.16	560	.17*
NBR	0	0	5		10	
SBL	0	0	70		160	{.09}*
SBT	2	3500	550	.19*	450	.18
SBR	0	0	30		30	
EBL	0	0	20	{.01}*	50	{.03}*
EBT	1	1750	30	.03	70	.09
EBR	0	0	10		30	
WBL	0	0	5		5	
WBT	1	1750	30	.08*	60	.13*
WBR	0	0	100		160	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.40		.52

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	40	{.02}*	20	
NBT	2	3500	520	.16	460	.14*
NBR	0	0	5		10	
SBL	0	0	70		160	{.09}*
SBT	2	3500	580	.19*	430	.18
SBR	0	0	30		30	
EBL	0	0	20	{.01}*	50	{.03}*
EBT	1	1750	30	.03	70	.09
EBR	0	0	10		30	
WBL	0	0	5		5	
WBT	1	1750	30	.08*	60	.13*
WBR	0	0	100		160	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.40		.49

78. Valle Del Oro & San Fernando

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1750	117	.07*	37	.02*
SBT	0	0	0		0	
SBR	1	1750	203	.12	158	.09
EBL	1	1750	63	.04*	237	.14*
EBT	2	3500	1389	.40	1428	.41
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3500	1254	.36*	1687	.48*
WBR	1	1750	13	.01	97	.06
Right Turn Adjustment			SBR	.02*		
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .59 .74

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1750	131	.07*	39	.02*
SBT	0	0	0		0	
SBR	1	1750	360	.21	166	.09
EBL	1	1750	66	.04*	289	.17*
EBT	2	3500	1554	.44	1899	.54
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3500	1678	.48*	1827	.52*
WBR	1	1750	14	.01	115	.07
Right Turn Adjustment			SBR	.11*		
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .80 .81

Existing plus Project with Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1750	131	.07*	39	.02*
SBT	0	0	0		0	
SBR	1	1750	360	.21	166	.09
EBL	1	1750	66	.04*	289	.17*
EBT	3	5250	1554	.30	1899	.36
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1678	.32*	1827	.37*
WBR	0	0	14		115	
Right Turn Adjustment			SBR	.11*		
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .64 .66



78. Valle Del Oro & San Fernando

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1750	175	.10*	148	.08*
SBT	0	0	0		0	
SBR	1	1750	110	.06	80	.05
EBL	1	1750	12	.01	200	.11*
EBT	2	3500	1269	.36*	1259	.36
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3500	1061	.30	1462	.42*
WBR	1	1750	71	.04	122	.07
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.56		.71

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1750	189	.11*	150	.09*
SBT	0	0	0		0	
SBR	1	1750	267	.15	88	.05
EBL	1	1750	15	.01*	252	.14*
EBT	3	5250	1434	.27	1730	.33
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1485	.30*	1602	.33*
WBR	0	0	72		140	
Right Turn Adjustment			SBR	.03*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.55		.66

78. Valle Del Oro & San Fernando

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1750	175	.10*	148	.08*
SBT	0	0	0		0	
SBR	1	1750	460	.26	250	.14
EBL	1	1750	60	.03	356	.20*
EBT	2	3500	1550	.44*	1572	.45
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3500	1223	.35	1880	.54*
WBR	1	1750	61	.03	112	.06
Right Turn Adjustment			SBR	.09*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.73		.92

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1750	189	.11*	150	.09*
SBT	0	0	0		0	
SBR	1	1750	617	.35	258	.15
EBL	1	1750	63	.04*	408	.23*
EBT	3	5250	1715	.33	2043	.39
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1647	.33*	2020	.41*
WBR	0	0	62		130	
Right Turn Adjustment			SBR	.21*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.79		.83

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1750	130	.07*	140	.08*
SBT	0	0	0		0	
SBR	1	1750	240	.14	70	.04
EBL	1	1750	66	.04*	200	.11*
EBT	3	5250	1900	.36	2220	.42
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1800	.36*	1680	.39*
WBR	0	0	70		370	
Right Turn Adjustment			SBR	.04*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.61		.68

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	1	1750	130	.07*	140	.08*
SBT	0	0	0		0	
SBR	1	1750	240	.14	70	.04
EBL	1	1750	66	.04*	200	.11*
EBT	3	5250	1780	.34	1870	.36
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1900	.38*	1640	.38*
WBR	0	0	70		370	
Right Turn Adjustment			SBR	.04*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.63		.67

140. SR-14 NB Ramp & San Fernando Rd

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	2		5	
NBT	0	0	0		0	
NBR	1	1750	7	.00	22	.01
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	f		478		1151	
EBL	1.5		210	{.06}*	484	{.14}*
EBT	0.5	3500	14	.06	19	.14
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1750	18	.01*	36	.03*
WBR	0	0	2		16	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.17		.27

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	2		5	
NBT	0	0	0		0	
NBR	1	1750	7	.00	22	.01
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	f		1374		1346	
EBL	1.5		251	{.08}*	838	{.24}*
EBT	0.5	3500	14	.08	19	.24
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1750	18	.01*	36	.03*
WBR	0	0	2		16	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.19		.37

140. SR-14 NB Rmps & S Fernando

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	0	0	2		5	
NBT	0	0	0		0	
NBR	1	1750	7 .00		22 .01	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	f		553		1167	
EBL	1.5		115 {.04}*		619 {.18}*	
EBT	0.5	3500	14 .04		19 .18	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1750	18 .01*		36 .03*	
WBR	0	0	2		16	
Clearance Interval					.10*	.10*
TOTAL CAPACITY UTILIZATION					.15	.31

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR VOL V/C	PM PK HOUR VOL V/C		
NBL	0	0	2		5	
NBT	0	0	0		0	
NBR	1	1750	7 .00		22 .01	
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	f		1449		1362	
EBL	1.5		156 {.05}*		973 {.28}*	
EBT	0.5	3500	14 .05		19 .28	
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1750	18 .01*		36 .03*	
WBR	0	0	2		16	
Clearance Interval					.10*	.10*
TOTAL CAPACITY UTILIZATION					.16	.41

140. SR-15 NB Rmps & S Fernando

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	2		5	
NBT	0	0	0		0	
NBR	1	1750	7	.00	22	.01
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	f		461		1159	
EBL	1.5		177	{.05}*	625	{.18}*
EBT	0.5	3500	14	.05	19	.18
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1750	18	.01*	36	.03*
WBR	0	0	2		16	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .16 .31

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	2		5	
NBT	0	0	0		0	
NBR	1	1750	7	.00	22	.01
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	f		1357		1354	
EBL	1.5		218	{.07}*	979	{.29}*
EBT	0.5	3500	14	.07	19	.29
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1750	18	.01*	36	.03*
WBR	0	0	2		16	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .18 .42

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1750	5	.00	25	.01
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	f		1727		2420	
EBL	2	3500	563	.16*	1265	.36*
EBT	1	1750	5	.00	5	.00
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1750	18	.01*	15	.02*
WBR	0	0	5		20	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .27 .48

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	1	1750	5	.00	25	.01
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	f		1845		2330	
EBL	2	3500	443	.13*	1258	.36*
EBT	1	1750	5	.00	5	.00
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	1	1750	18	.01*	15	.02*
WBR	0	0	5		20	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .24 .48

141. SR-14 SB Ramp & San Fernando Rd

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		3		4	
SBT	0.5	1750	0	.00*	0	.00*
SBR	1	1750	406	.23	269	.15
EBL	0	0	0		0	
EBT	1.5	5250	255	.15*	554	.23
EBR	1.5		1372	.39	652	
WBL	1	1750	17	.01*	14	.01
WBT	2	3500	534	.15	1113	.32*
WBR	0	0	0		0	
Right Turn Adjustment			Multi	.46*	SBR	.15*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.72		.57

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		3		4	
SBT	0.5	1750	0	.00*	0	.00*
SBR	1	1750	467	.27	299	.17
EBL	0	0	0		0	
EBT	1.5	5250	296	.17	908	.44*
EBR	1.5		1571	.45	1427	
WBL	1	1750	17	.01	14	.01*
WBT	2	3500	1430	.41*	1308	.37
WBR	0	0	0		0	
Right Turn Adjustment			Multi	.32*	SBR	.11*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.83		.66

Existing plus Project with Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		3		4	
SBT	0	3500	0	.13*	0	{.06}*
SBR	1.5		467		299	
EBL	0	0	0		0	
EBT	1.5	5250	296	.17	908	.44*
EBR	1.5		1571	.45	1427	
WBL	1	1750	17	.01	14	.01*
WBT	2	3500	1430	.41*	1308	.37
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.05*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.69		.61

141. SR-14 SB Rmps & S Fernando

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		3		4	
SBT	0.5	1750	0	.00*	0	.00*
SBR	1	1750	458	.26	279	.16
EBL	0	0	0		0	
EBT	1.5	5250	160	.09	689	.29
EBR	1.5		1388	.40	811	
WBL	1	1750	17	.01	14	.01
WBT	2	3500	609	.17*	1129	.32*
WBR	0	0	0		0	
Right Turn Adjustment			Multi	.50*	SBR	.16*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.77		.58

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		3		4	
SBT	0	3500	0	.15*	0	{.04}*
SBR	1.5		519		309	
EBL	0	0	0		0	
EBT	1.5	5250	201	.11	1043	.50*
EBR	1.5		1587	.45	1586	
WBL	1	1750	17	.01	14	.01*
WBT	2	3500	1505	.43*	1324	.38
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.03*		
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.71		.65

141. SR-14 SB Rmps & S Fernando

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		3		4	
SBT	0.5	1750	0	.00*	0	.00*
SBR	1	1750	466	.27	435	.25
EBL	0	0	0		0	
EBT	1.5	5250	222	.13	695	.28
EBR	1.5		1351	.39	793	
WBL	1	1750	17	.01	14	.01
WBT	2	3500	517	.15*	1121	.32*
WBR	0	0	0		0	
Right Turn Adjustment			Multi	.52*	SBR	.25*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .77 .67

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		3		4	
SBT	0	3500	0	.15*	0	{.09}*
SBR	1.5		527		465	
EBL	0	0	0		0	
EBT	1.5	5250	263	.15	1049	.50*
EBR	1.5		1550	.44	1568	
WBL	1	1750	17	.01	14	.01*
WBT	2	3500	1413	.40*	1316	.38
WBR	0	0	0		0	
Right Turn Adjustment					EBR	.05*
Clearance Interval						.10*

TOTAL CAPACITY UTILIZATION .70 .70

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		5		5	
SBT	0	3500	0	.24*	0	.09*
SBR	1.5		826		305	
EBL	0	0	0		0	
EBT	3	5250	563	.11	1265	.24
EBR	f		1737		1742	
WBL	1	1750	18	.01	15	.01
WBT	3	5250	1727	.33*	2418	.46*
WBR	0	0	0		0	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .67 .65

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	0.5		5		5	
SBT	0	3500	0	.26*	0	.07*
SBR	1.5		896		231	
EBL	0	0	0		0	
EBT	3	5250	443	.08	1258	.24
EBR	f		1739		1753	
WBL	1	1750	18	.01	15	.01
WBT	3	5250	1846	.35*	2329	.44*
WBR	0	0	0		0	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .71 .61



142. Sierra Hwy & San Fernando

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	75	.04*	294	.17
NBT	2	3500	41	.02	871	.25*
NBR	0	0	24		21	
SBL	1	1750	758	.43	27	.02*
SBT	2	3500	1239	.47*	71	.04
SBR	0	0	397		204	.12
EBL	1	1750	76	.04	309	.18*
EBT	2	3500	1237	.35*	822	.23
EBR	1	1750	248	.14	106	.06
WBL	1	1750	91	.05*	66	.04
WBT	2	3500	703	.20	908	.26*
WBR	1	1750	38	.02	816	.47
Right Turn Adjustment Clearance Interval					WBR	.19*
				.10*		.10*
TOTAL CAPACITY UTILIZATION			1.01		1.00	

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	80	.05*	347	.20
NBT	2	3500	47	.03	992	.50*
NBR	0	0	180	.10	750	
SBL	1	1750	758	.43	27	.02*
SBT	2	3500	1606	.59*	119	.07
SBR	0	0	457		219	.13
EBL	1	1750	85	.05	377	.22*
EBT	2	3500	1322	.38*	1221	.35
EBR	1	1750	334	.19	112	.06
WBL	1	1750	685	.39*	203	.12
WBT	2	3500	1065	.30	997	.28*
WBR	1	1750	38	.02	816	.47
Right Turn Adjustment Clearance Interval					WBR	.18*
				.10*		.10*
TOTAL CAPACITY UTILIZATION			1.51		1.30	

Existing plus Project with Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	80	.05	347	.20
NBT	2	3500	47	.01*	992	.28*
NBR	2	3500	180	.05	750	.21
SBL	1	1750	758	.43*	27	.02*
SBT	3	5250	1606	.39	119	.03
SBR	0	0	457		219	.13
EBL	1	1750	85	.05	377	.22*
EBT	3	5250	1322	.25*	1221	.23
EBR	1	1750	334	.19	112	.06
WBL	2	3500	685	.20*	203	.06
WBT	1.5	5250	1065	.30	997	{.34}*
WBR	1.5		38		816	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION			.99		.96	

142. Sierra & San Fernando

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	80	.05*	372	.21
NBT	2	3500	56	.03	900	.29*
NBR	0	0	35		131	
SBL	1	1750	763	.44	271	.15*
SBT	2	3500	1357	.45*	123	.07
SBR	0	0	235		144	.08
EBL	1	1750	51	.03	200	.11*
EBT	2	3500	1142	.33*	762	.22
EBR	1	1750	262	.15	111	.06
WBL	1	1750	91	.05*	82	.05
WBT	2	3500	715	.20	913	.26*
WBR	1	1750	153	.09	821	.47
Right Turn Adjustment					WBR	.10*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .98 1.01

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	85	.05	425	.24
NBT	2	3500	62	.02*	1021	.29*
NBR	2	3500	191	.05	860	.25
SBL	1	1750	763	.44*	271	.15*
SBT	3	5250	1724	.38	171	.05
SBR	0	0	295		159	.09
EBL	1	1750	60	.03	268	.15*
EBT	3	5250	1227	.23*	1161	.22
EBR	1	1750	348	.20	117	.07
WBL	2	3500	685	.20*	219	.06
WBT	1.5	5250	1077	.31	1002	{.31}*
WBR	1.5		153		821	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .99 1.00

Interim Year with Project with Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	85	.05*	425	.24
NBT	2	3500	62	.02	1021	.29*
NBR	2	3500	191	.05	860	.25
SBL	2	3500	763	.22	271	.08*
SBT	3	5250	1724	.38*	171	.05
SBR	0	0	295		159	.09
EBL	1	1750	60	.03	268	.15*
EBT	3	5250	1227	.23*	1161	.22
EBR	1	1750	348	.20	117	.07
WBL	2	3500	685	.20*	219	.06
WBT	2.5	7000	1077	.21	1002	{.25}*
WBR	1.5		153		821	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .96 .87

Note: Assumes Right-Turn Overlap for NBR

142. Sierra & San Fernando

Interim Year without Project (CMP Methodology)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	80	.05*	372	.23
NBT	2	3200	56	.03	900	.32*
NBR	0	0	35		131	
SBL	1	1600	763	.48	271	.17*
SBT	2	3200	1357	.50*	123	.08
SBR	0	0	235		144	.09
EBL	1	1600	51	.03	200	.13*
EBT	2	3200	1142	.36*	762	.24
EBR	1	1600	262	.16	111	.07
WBL	1	1600	91	.06*	82	.05
WBT	2	3200	715	.22	913	.29*
WBR	1	1600	153	.10	821	.51
Right Turn Adjustment					WBR	.09*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION      1.07      1.10

Interim Year with Project (CMP Methodology)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	85	.05	425	.27
NBT	2	3200	62	.02*	1021	.32*
NBR	2	3200	191	.06	860	.27
SBL	1	1600	763	.48*	271	.17*
SBT	3	4800	1724	.42	171	.05
SBR	0	0	295		159	.10
EBL	1	1600	60	.04	268	.17*
EBT	3	4800	1227	.26*	1161	.24
EBR	1	1600	348	.22	117	.07
WBL	2	2880	685	.24*	219	.08
WBT	1.5	4800	1077	.34	1002	{.34}*
WBR	1.5		153		821	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION      1.10      1.10

Interim Year with Mitigation (CMP Methodology)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	85	.05*	425	.27
NBT	2	3200	62	.02	1021	.32*
NBR	2	3200	191	.06	860	.27
SBL	2	2880	763	.26	271	.09*
SBT	3	4800	1724	.42*	171	.05
SBR	0	0	295		159	.10
EBL	1	1600	60	.04	268	.17*
EBT	3	4800	1227	.26*	1161	.24
EBR	1	1600	348	.22	117	.07
WBL	2	2880	685	.24*	219	.08
WBT	2.5	6400	1077	.22	1002	{.27}*
WBR	1.5		153		821	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION      1.07      .95

Note: Assumes Right-Turn Overlap for NBR

142. Sierra & San Fernando

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	102	.06*	371	.21
NBT	2	3500	13	.01	839	.28*
NBR	0	0	35	.02	131	
SBL	1	1750	664	.38	33	.02*
SBT	2	3500	1357	.46*	123	.07
SBR	0	0	242		253	.14
EBL	1	1750	120	.07	281	.16*
EBT	2	3500	1354	.39*	985	.28
EBR	1	1750	262	.15	111	.06
WBL	1	1750	91	.05*	82	.05
WBT	2	3500	840	.24	1062	.30*
WBR	1	1750	53	.03	821	.47
Right Turn Adjustment					WBR	.15*
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION 1.06 1.01

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	107	.06*	424	.24
NBT	2	3500	19	.01	960	.27*
NBR	2	3500	191	.05	860	.25
SBL	1	1750	664	.38	33	.02*
SBT	3	5250	1724	.39*	171	.05
SBR	0	0	302		268	.15
EBL	1	1750	129	.07	349	.20*
EBT	3	5250	1439	.27*	1384	.26
EBR	1	1750	348	.20	117	.07
WBL	2	3500	685	.20*	219	.06
WBT	1.5	5250	1202	.34	1151	{.37}*
WBR	1.5		53		821	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION 1.02 .96

Interim Year w/Proj w/o Dkweiler w/Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	107	.06*	424	.24*
NBT	2	3500	19	.01	960	.27
NBR	2	3500	191	.05	860	.25
SBL	2	3500	664	.19	33	.01
SBT	3	5250	1724	.39*	171	.05*
SBR	0	0	302		268	.15
EBL	1	1750	129	.07	349	.20*
EBT	3	5250	1439	.27*	1384	.26
EBR	1	1750	348	.20	117	.07
WBL	2	3500	685	.20*	219	.06
WBT	2.5	7000	1202	.23	1151	.28*
WBR	1.5		53		821	
Clearance Interval				.10*		.10*
Note: Assumes Right-Turn Overlap for NBR						

TOTAL CAPACITY UTILIZATION 1.02 .87

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	90	.03*	430	.12
NBT	3	5250	74	.01	884	.17*
NBR	2	3500	150	.04	705	.20
SBL	2	3500	782	.22	350	.10*
SBT	3	5250	1201	.23*	122	.02
SBR	1	1750	529	.30	359	.21
EBL	2	3500	77	.02	256	.07
EBT	3	5250	1364	.26*	1951	.37*
EBR	1	1750	419	.24	159	.09
WBL	2	3500	599	.17*	246	.07*
WBT	3	5250	1476	.28	1460	.28
WBR	2	3500	479	.14	1018	.29
Clearance Interval				.10*		.10*
Note: Assumes Right-Turn Overlap for WBR NBR						

TOTAL CAPACITY UTILIZATION .79 .81

142. Sierra & San Fernando

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	2	3500	137	.04*	614	.18
NBT	3	5250	82	.02	999	.19*
NBR	2	3500	207	.06	981	.28
SBL	2	3500	770	.22	297	.08*
SBT	3	5250	1467	.28*	104	.02
SBR	1	1750	463	.26	293	.17
EBL	2	3500	73	.02	181	.05
EBT	3	5250	1206	.23*	1731	.33*
EBR	1	1750	431	.25	165	.09
WBL	2	3500	795	.23*	241	.07*
WBT	3	5250	1563	.30	1306	.25
WBR	2	3500	385	.11	1013	.29
Right Turn Adjustment					NBR	.02*
Clearance Interval				.10*		.10*
Note: Assumes Right-Turn Overlap for WBR NBR.						
TOTAL CAPACITY UTILIZATION				.88		.79

145. Sierra Hwy & Placerita Cyn

Existing Count						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1750	6	.00	7	.00
NBT	2	3500	119	.04	1877	.65*
NBR	0	0	18		394	
SBL	1	1750	104	.06	7	.00
SBT	2	3500	1769	.51*	310	.09
SBR	0	0	15		10	
EBL	1	1750	6	.00	15	.01
EBT	2	3500	26	.01*	21	.01*
EBR	0	0	13		9	
WBL	1	1750	73	.04*	30	.02*
WBT	2	3500	11	.01	15	.01
WBR	0	0	148	.08	141	.08
Right Turn Adjustment Clearance Interval				.10*	WBR	.06*
						.10*

TOTAL CAPACITY UTILIZATION .66 .84

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1750	6	.00	9	.01
NBT	2	3500	126	.04	2021	.71*
NBR	0	0	24		464	
SBL	1	1750	104	.06	7	.00
SBT	2	3500	2313	.67*	348	.10
SBR	0	0	15		10	
EBL	1	1750	6	.00	15	.01
EBT	2	3500	26	.01*	21	.01*
EBR	0	0	17		9	
WBL	1	1750	90	.05*	54	.03*
WBT	2	3500	11	.01	16	.01
WBR	0	0	148	.08	142	.08
Right Turn Adjustment Clearance Interval				.10*	WBR	.05*
						.10*

TOTAL CAPACITY UTILIZATION .83 .90

Existing plus Project with Mitigation						
	LANES	CAPACITY	AM PK HOUR VOL	AM PK HOUR V/C	PM PK HOUR VOL	PM PK HOUR V/C
NBL	1	1750	6	.00	9	.01
NBT	2	3500	126	.04	2021	.58*
NBR	1	1750	24	.01	464	.27
SBL	1	1750	104	.06	7	.00
SBT	3	5250	2313	.44*	348	.07
SBR	0	0	15		10	
EBL	1	1750	6	.00	15	.01
EBT	2	3500	26	.01*	21	.01*
EBR	0	0	17		9	
WBL	1	1750	90	.05*	54	.03*
WBT	2	3500	11	.01	16	.01
WBR	0	0	148	.08	142	.08
Right Turn Adjustment Clearance Interval				.10*	WBR	.05*
						.10*

TOTAL CAPACITY UTILIZATION .60 .77

145. Sierra & Placerita Canyon

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1750	11	.01*	7	.00
NBT	2	3500	137	.08	1882	.69*
NBR	0	0	222	.13	534	
SBL	1	1750	286	.16	62	.04*
SBT	2	3500	1774	.51*	608	.18
SBR	0	0	15		10	
EBL	1	1750	10	.01	17	.01
EBT	2	3500	14	.01*	17	.01*
EBR	0	0	25	.01	13	
WBL	1	1750	238	.14*	190	.11*
WBT	2	3500	11	.01	15	.01
WBR	0	0	302	.17	146	.08
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .77 .95

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1750	11	.01*	9	.01
NBT	2	3500	144	.04	2026	.58*
NBR	1	1750	228	.13	604	.35
SBL	1	1750	286	.16	62	.04*
SBT	3	5250	2318	.44*	646	.12
SBR	0	0	15		10	
EBL	1	1750	10	.01	17	.01
EBT	2	3500	14	.01*	17	.01*
EBR	0	0	29	.02	13	
WBL	1	1750	255	.15*	214	.12*
WBT	2	3500	11	.01	16	.01
WBR	0	0	302	.17	147	.08
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .71 .85

145. Sierra & Placerita Canyon

Interim Year without Project (CMP Methodology)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	11	.01*	7	.00
NBT	2	3200	137	.09	1882	.76*
NBR	0	0	222	.14	534	
SBL	1	1600	286	.18	62	.04*
SBT	2	3200	1774	.56*	608	.19
SBR	0	0	15		10	
EBL	1	1600	10	.01	17	.01
EBT	2	3200	14	.01*	17	.01*
EBR	0	0	25	.02	13	
WBL	1	1600	238	.15*	190	.12*
WBT	2	3200	11	.01	15	.01
WBR	0	0	302	.19	146	.09
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .83 1.03

Interim Year with Project (CMP Methodology)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1600	11	.01*	9	.01
NBT	2	3200	144	.05	2026	.63*
NBR	1	1600	228	.14	604	.38
SBL	1	1600	286	.18	62	.04*
SBT	3	4800	2318	.49*	646	.14
SBR	0	0	15		10	
EBL	1	1600	10	.01	17	.01
EBT	2	3200	14	.01*	17	.01*
EBR	0	0	29	.02	13	
WBL	1	1600	255	.16*	214	.13*
WBT	2	3200	11	.01	16	.01
WBR	0	0	302	.19	147	.09
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .77 .91



145. Sierra & Placerita Canyon

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1750	9	.01*	5	.00
NBT	2	3500	114	.04	1849	.56*
NBR	0	0	22		102	
SBL	1	1750	286	.16	68	.04*
SBT	2	3500	1449	.42*	206	.06
SBR	0	0	17		12	
EBL	1	1750	12	.01	17	.01
EBT	2	3500	14	.01*	17	.01*
EBR	0	0	24	.01	12	
WBL	1	1750	80	.05*	102	.06*
WBT	2	3500	11	.01	15	.01
WBR	0	0	304	.17	147	.08
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .59 .77

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1750	9	.01*	7	.00
NBT	2	3500	121	.03	1993	.57*
NBR	1	1750	28	.02	172	.10
SBL	1	1750	286	.16	68	.04*
SBT	3	5250	1993	.38*	244	.05
SBR	0	0	17		12	
EBL	1	1750	12	.01	17	.01
EBT	2	3500	14	.01*	17	.01*
EBR	0	0	28	.02	12	
WBL	1	1750	97	.06*	126	.07*
WBT	2	3500	11	.01	16	.01
WBR	0	0	304	.17	148	.08
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .56 .79

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3500	267	.08*	429	.12
NBT	3	5250	395	.08	1898	.36*
NBR	1	1750	383	.22	609	.35
SBL	1	1750	109	.06	74	.04*
SBT	3	5250	2497	.48*	1494	.28
SBR	1	1750	157	.09	480	.27
EBL	3	5250	624	.12*	542	.10*
EBT	3	5250	502	.13	377	.11
EBR	0	0	190		175	
WBL	1	1750	135	.08	83	.05
WBT	3	5250	473	.09*	674	.13*
WBR	1	1750	104	.06	179	.10
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .87 .73

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	2	3500	255	.07*	434	.12
NBT	3	5250	394	.08	1963	.37*
NBR	1	1750	407	.23	508	.29
SBL	1	1750	108	.06	74	.04*
SBT	3	5250	2479	.47*	1462	.28
SBR	1	1750	253	.14	466	.27
EBL	3	5250	624	.12*	529	.10*
EBT	3	5250	502	.14	366	.10
EBR	0	0	233		155	
WBL	1	1750	128	.07	83	.05
WBT	3	5250	478	.09*	696	.13*
WBR	1	1750	106	.06	135	.08
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .85 .74

Interim Year without Project (CMP Methodology)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2.5		235		348	.11
NBT	1.5	6400	107	.05*	373	.12*
NBR	1	1600	267	.17	938	.59
SBL	1.5		93	.06	85	.05
SBT	1.5	4800	400	.13*	228	.07*
SBR	1	1600	715	.45	310	.19
EBL	2	2880	123	.04	691	.24
EBT	2	3200	636	.20*	1335	.42*
EBR	f		166		227	
WBL	2	2880	848	.29*	293	.10*
WBT	3	4800	1274	.27	940	.22
WBR	0	0	36		114	
Right Turn Adjustment			SBR	.16*	NBR	.39*
Clearance Interval				.10*		.10*
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION .93 1.20

Interim Year with Project (CMP Methodology)						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2.5		231		355	.11
NBT	1.5	6400	107	.05*	398	.12*
NBR	1	1600	261	.16	973	.61
SBL	1.5		90	.06	85	.05
SBT	1.5	4800	433	.14*	230	.07*
SBR	1	1600	712	.45	309	.19
EBL	2	2880	122	.04	685	.24
EBT	2	3200	630	.20*	1324	.41*
EBR	f		178		223	
WBL	2	2880	888	.31*	293	.10*
WBT	3	4800	1262	.27	937	.22
WBR	0	0	34		112	
Right Turn Adjustment			SBR	.13*	NBR	.41*
Clearance Interval				.10*		.10*
Note: Assumes N/S Split Phasing						

TOTAL CAPACITY UTILIZATION .93 1.21

179. Sierra Hwy & Dockweiler Dr

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	19	.01*	63	.04
NBT	3	5250	128	.02	975	.19*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5250	1217	.23*	288	.05
SBR	1	1750	25	.01	59	.03
EBL	1.5		30	.02*	40	.01*
EBT	0	5250	0		0	
EBR	1.5		115	.03	61	{.00}
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.36		.30

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	23	.01*	67	.04
NBT	3	5250	139	.03	1159	.22*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	3	5250	1640	.31*	346	.07
SBR	1	1750	166	.09	63	.04
EBL	1.5		32	.02*	73	.02*
EBT	0	5250	0		0	
EBR	1.5		119	.03	65	{.00}
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.44		.34

179. Sierra Hwy & Dockweiler

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1750	154	.09*	68	.04
NBT	3	5250	103	.02	895	.17*
NBR	0	0	0		0	
SBL	0	0	0		1	
SBT	3	5250	1067	.20*	272	.05
SBR	1	1750	699	.40	688	.39
EBL	1.5		282	.08*	290	{.08}*
EBT	0	5250	0		0	{.08}
EBR	1.5		230	{.06}	313	
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment Clearance Interval			SBR	.14*	SBR	.20*
				.10*		.10*

TOTAL CAPACITY UTILIZATION .61 .55

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1750	158	.09*	72	.04
NBT	3	5250	114	.02	1079	.21*
NBR	0	0	0		0	
SBL	0	0	0		1	
SBT	3	5250	1490	.28*	330	.06
SBR	1	1750	840	.48	692	.40
EBL	1.5		284	.08*	323	.09*
EBT	0	5250	0		0	
EBR	1.5		234	{.07}	317	{.07}
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment Clearance Interval			SBR	.14*	SBR	.16*
				.10*		.10*

TOTAL CAPACITY UTILIZATION .69 .56

179. Sierra Hwy & Dockweiler

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	12	.01*	68	.04
NBT	3	5250	171	.03	915	.17*
NBR	0	0	0		0	
SBL	0	0	0		1	
SBT	3	5250	1085	.21*	383	.07
SBR	1	1750	194	.11	87	.05
EBL	1.5		32	.02*	50	.01*
EBT	0	5250	0		0	
EBR	1.5		120	.03	93	{.00}
WBL	0	0	1		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.34		.28

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	16	.01*	72	.04
NBT	3	5250	182	.03	1099	.21*
NBR	0	0	0		0	
SBL	0	0	0		1	
SBT	3	5250	1508	.29*	441	.08
SBR	1	1750	335	.19	91	.05
EBL	1.5		34	.02*	83	.02*
EBT	0	5250	0		0	
EBR	1.5		124	.04	97	{.00}
WBL	0	0	1		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Right Turn Adjustment					EBR	.01*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.43		.33

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	217	.06*	215	.06
NBT	3	5250	313	.07	1689	.36*
NBR	0	0	69		182	
SBL	1	1750	50	.03	188	.11*
SBT	3	5250	2027	.39*	392	.07
SBR	f		714		1078	
EBL	3	5250	631	.12*	970	.18
EBT	1	1750	53	.08	142	.19*
EBR	0	0	95		195	
WBL	1	1750	72	.04	168	.10*
WBT	2	3500	53	.03*	139	.08
WBR	0	0	78	.04	182	.10
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.70		.86

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	138	.04*	191	.05
NBT	3	5250	309	.07	1748	.37*
NBR	0	0	62		182	
SBL	1	1750	55	.03	189	.11*
SBT	3	5250	2188	.42*	333	.06
SBR	f		564		1085	
EBL	3	5250	650	.12*	876	.17*
EBT	1	1750	54	.10	141	.15
EBR	0	0	119		126	
WBL	1	1750	74	.04	164	.09
WBT	2	3500	52	.03*	141	.08*
WBR	0	0	77	.04	184	.11
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.71		.83

214. Railroad Ave & San Fernando Rd

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3500	493	.14*	647	.18*
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3500	980	.28*	1487	.42*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3500	909	.26	1350	.39
WBR	f		500		1039	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.52		.70

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3500	701	.20*	701	.20*
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3500	1512	.43*	1574	.45
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3500	966	.28	1822	.52*
WBR	f		526		1269	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.73		.82

Existing plus Project with Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3500	701	.20*	701	.20*
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5250	1512	.29*	1574	.30
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	966	.18	1822	.35*
WBR	f		526		1269	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.59		.65

214. Railroad Ave & San Fernando Rd

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3500	428	.12*	591	.17*
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3500	874	.25*	1337	.38*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3500	784	.22	1163	.33
WBR	f		339		923	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.47		.65

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3500	636	.18*	645	.18*
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5250	1406	.27*	1424	.27
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	841	.16	1635	.31*
WBR	f		365		1153	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.55		.59

Interim Year w/Proj & Dockweiler Alternative						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3500	636	.18*	645	.18*
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5250	1406	.27*	1424	.27
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	841	.16	1635	.31*
WBR	f		365		1153	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.55		.59

214. Railroad & San Fernando

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3500	523	.15*	741	.21*
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3500	1108	.32	1656	.47*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	2	3500	1148	.33*	1538	.44
WBR	f		487		1135	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .58 .78

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3500	731	.21*	795	.23*
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5250	1640	.31*	1743	.33
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	1205	.23	2010	.38*
WBR	f		513		1365	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .62 .71

Long Range General Plan						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3500	520	.15*	600	.17*
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5250	1720	.33*	1660	.32*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	720	.14	1130	.22
WBR	f		500		900	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .58 .59

Long Range with Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	0	0	0		0	
NBT	0	0	0		0	
NBR	0	0	0		0	
SBL	2	3500	520	.15*	600	.17*
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5250	1770	.34*	1650	.31*
EBR	0	0	0		0	
WBL	0	0	0		0	
WBT	3	5250	940	.18	1040	.20
WBR	f		500		900	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .59 .58



215. Pine St & San Fernando Rd

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	13	{.01}*	41	
NBT	1	1750	2	.02	2	.06*
NBR	0	0	12		66	
SBL	0	0	12		17	{.01}*
SBT	1	1750	1	.02*	0	.02
SBR	0	0	16		13	
EBL	1	1750	6	.00	15	.01*
EBT	2	3500	1454	.42*	1520	.44
EBR	0	0	27		18	
WBL	1	1750	30	.02*	28	.02
WBT	2	3500	1386	.40	1760	.51*
WBR	0	0	14		28	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .57 .69

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	28	{.02}*	152	
NBT	1	1750	2	.03	2	.17*
NBR	0	0	30		151	
SBL	0	0	12		17	{.01}*
SBT	1	1750	1	.02*	0	.02
SBR	0	0	16		13	
EBL	1	1750	6	.00	15	.01*
EBT	2	3500	2084	.63*	1637	.48
EBR	0	0	137		42	
WBL	1	1750	135	.08*	47	.03
WBT	2	3500	1454	.42	2351	.68*
WBR	0	0	14		28	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .85 .97

Existing plus Project with Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	28	.02*	152	.09*
NBT	1	1750	2	.02	2	.09
NBR	0	0	30		151	
SBL	0	0	12		17	
SBT	1	1750	1	.02*	0	.02*
SBR	0	0	16		13	
EBL	1	1750	6	.00	15	.01*
EBT	3	5250	2084	.42*	1637	.32
EBR	0	0	137		42	
WBL	1	1750	135	.08*	47	.03
WBT	3	5250	1454	.28	2351	.45*
WBR	0	0	14		28	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .64 .67

215. Pine St & San Fernando Rd

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	13	{.01}*	41	
NBT	1	1750	2	.02	2	.06*
NBR	0	0	12		66	
SBL	0	0	12		17	{.01}*
SBT	1	1750	1	.02*	0	.02
SBR	0	0	16		13	
EBL	1	1750	6	.00	15	.01*
EBT	2	3500	1283	.37*	1314	.38
EBR	0	0	27		18	
WBL	1	1750	30	.02*	28	.02
WBT	2	3500	1100	.32	1457	.42*
WBR	0	0	14		28	
Clearance Interval				.10*	.10*	
TOTAL CAPACITY UTILIZATION				.52	.60	

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	28	.02*	152	.09*
NBT	1	1750	2	.02	2	.09
NBR	0	0	30		151	
SBL	0	0	12		17	
SBT	1	1750	1	.02*	0	.02*
SBR	0	0	16		13	
EBL	1	1750	6	.00	15	.01*
EBT	3	5250	1913	.39*	1431	.28
EBR	0	0	137		42	
WBL	1	1750	135	.08*	47	.03
WBT	3	5250	1168	.23	2048	.40*
WBR	0	0	14		28	
Clearance Interval				.10*	.10*	
TOTAL CAPACITY UTILIZATION				.61	.62	

215. Pine St & San Fernando Rd

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	0	0	13	{.01}*	41	
NBT	1	1750	2	.02	2	.06*
NBR	0	0	12		66	
SBL	0	0	12		17	{.01}*
SBT	1	1750	1	.02*	0	.02
SBR	0	0	16		13	
EBL	1	1750	6	.00	15	.01*
EBT	2	3500	1612	.47*	1783	.51
EBR	0	0	27		18	
WBL	1	1750	30	.02*	28	.02
WBT	2	3500	1612	.46	2045	.59*
WBR	0	0	14		28	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION			.62		.77	

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	28	.02*	152	.09*
NBT	1	1750	2	.02	2	.09
NBR	0	0	30		151	
SBL	0	0	12		17	
SBT	1	1750	1	.02*	0	.02*
SBR	0	0	16		13	
EBL	1	1750	6	.00	15	.01*
EBT	3	5250	2242	.45*	1900	.37
EBR	0	0	137		42	
WBL	1	1750	135	.08*	47	.03
WBT	3	5250	1680	.32	2636	.51*
WBR	0	0	14		28	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION			.67		.73	

216. "A" St & San Fernando

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	0	.00	0	.00
NBT	0	0	0		0	
NBR	1	1750	0	.00	0	.00
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3500	1478	.42*	1603	.46
EBR	1	1750	0	.00	0	.00
WBL	2	3500	0	.00	0	.00
WBT	2	3500	1430	.41	1816	.52*
WBR	0	0	0		0	
Clearance Interval				.10*	.10*	
TOTAL CAPACITY UTILIZATION				.52	.62	

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	68	.02*	557	.16*
NBT	0	0	0		0	
NBR	1	1750	79	.05	437	.25
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3500	1567	.45*	1688	.48
EBR	1	1750	559	.32	117	.07
WBL	2	3500	475	.14*	94	.03
WBT	2	3500	1535	.44	1869	.53*
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.05*
Clearance Interval				.10*	.10*	
TOTAL CAPACITY UTILIZATION				.71	.84	

Existing plus Project with Mitigation						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	68	.02*	557	.16*
NBT	0	0	0		0	
NBR	1	1750	79	.05	437	.25
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5250	1567	.30*	1688	.32
EBR	1	1750	559	.32	117	.07
WBL	2	3500	475	.14*	94	.03
WBT	3	5250	1535	.29	1869	.36*
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.06*
Clearance Interval				.10*	.10*	
TOTAL CAPACITY UTILIZATION				.56	.68	

216. "A" St & San Fernando

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	0	.00	0	.00
NBT	0	0	0		0	
NBR	1	1750	0	.00	0	.00
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3500	1307	.37*	1397	.40
EBR	1	1750	0	.00	0	.00
WBL	2	3500	0	.00	0	.00
WBT	2	3500	1144	.33	1513	.43*
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.47		.53

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	68	.02*	557	.16*
NBT	0	0	0		0	
NBR	1	1750	79	.05	437	.25
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5250	1396	.27*	1482	.28*
EBR	1	1750	559	.32	117	.07
WBL	2	3500	475	.14*	94	.03*
WBT	3	5250	1249	.24	1566	.30
WBR	0	0	0		0	
Right Turn Adjustment			EBR	.03*	NBR	.07*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.56		.64

216. "A" St & San Fernando

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	0	.00	0	.00
NBT	0	0	0		0	
NBR	1	1750	0	.00	0	.00
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	2	3500	1636	.47	1866	.53
EBR	1	1750	0	.00	0	.00
WBL	2	3500	0	.00	0	.00
WBT	2	3500	1656	.47*	2101	.60*
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.57		.70

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	2	3500	68	.02*	557	.16*
NBT	0	0	0		0	
NBR	1	1750	79	.05	437	.25
SBL	0	0	0		0	
SBT	0	0	0		0	
SBR	0	0	0		0	
EBL	0	0	0		0	
EBT	3	5250	1725	.33*	1951	.37
EBR	1	1750	559	.32	117	.07
WBL	2	3500	475	.14*	94	.03
WBT	3	5250	1761	.34	2154	.41*
WBR	0	0	0		0	
Right Turn Adjustment					NBR	.06*
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.59		.73

217. Sierra & "A" St

Existing Count						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1750	0	.00	0	.00
NBT	2	3500	140	.04	1186	.34*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3500	1578	.45*	243	.07
SBR	f		0		0	
EBL	2	3500	0	.00	0	.00
EBT	0	0	0		0	
EBR	1	1750	0	.00	0	.00
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .55 .44

Existing plus Project						
	LANES	CAPACITY	AM PK VOL	HOUR V/C	PM PK VOL	HOUR V/C
NBL	1	1750	46	.03*	10	.01
NBT	2	3500	210	.06	1569	.45*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3500	2022	.58*	332	.09
SBR	f		603		101	
EBL	2	3500	94	.03*	519	.15*
EBT	0	0	0		0	
EBR	1	1750	8	.00	41	.02
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .74 .70

217. Sierra & "A" St

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1750	0	.00	0	.00
NBT	2	3500	170	.05	1403	.40*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3500	1708	.49*	316	.09
SBR	f		0		0	
EBL	2	3500	0	.00	0	.00
EBT	0	0	0		0	
EBR	1	1750	0	.00	0	.00
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.59		.50

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1750	46	.03*	10	.01
NBT	2	3500	240	.07	1786	.51*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3500	2152	.61*	405	.12
SBR	f		603		101	
EBL	2	3500	94	.03*	519	.15*
EBT	0	0	0		0	
EBR	1	1750	8	.00	41	.02
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.77		.76



217. Sierra & "A" St

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	0	.00	0	.00
NBT	2	3500	149	.04	1341	.38*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3500	1708	.49*	316	.09
SBR	f		0		0	
EBL	2	3500	0	.00	0	.00
EBT	0	0	0		0	
EBR	1	1750	0	.00	0	.00
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.59		.48

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	46	.03*	10	.01
NBT	2	3500	219	.06	1724	.49*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3500	2152	.61*	405	.12
SBR	f		603		101	
EBL	2	3500	94	.03*	519	.15*
EBT	0	0	0		0	
EBR	1	1750	8	.00	41	.02
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.77		.74

218. Sierra & "C" St

Existing Count						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	0	.00	0	.00
NBT	2	3500	140	.04	1186	.34*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3500	1578	.45*	243	.07
SBR	1	1750	0	.00	0	.00
EBL	2	3500	0	.00	0	.00
EBT	0	0	0		0	
EBR	1	1750	0	.00	0	.00
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .55 .44

Existing plus Project						
	LANES	CAPACITY	AM PK HOUR		PM PK HOUR	
			VOL	V/C	VOL	V/C
NBL	1	1750	33	.02*	9	.01
NBT	2	3500	189	.05	1196	.34*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3500	1586	.45*	287	.08
SBR	1	1750	444	.25	86	.05
EBL	2	3500	67	.02*	383	.11*
EBT	0	0	0		0	
EBR	1	1750	5	.00	29	.02
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*

TOTAL CAPACITY UTILIZATION .59 .55

218. Sierra & "C" St

Interim Year without Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1750	0	.00	0	.00
NBT	2	3500	170	.05	1403	.40*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3500	1708	.49*	316	.09
SBR	1	1750	0	.00	0	.00
EBL	2	3500	0	.00	0	.00
EBT	0	0	0		0	
EBR	1	1750	0	.00	0	.00
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.59		.50

Interim Year with Project						
	LANES	CAPACITY	AM PK HOUR VOL	HOUR V/C	PM PK HOUR VOL	HOUR V/C
NBL	1	1750	33	.02*	9	.01
NBT	2	3500	219	.06	1413	.40*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3500	1716	.49*	360	.10
SBR	1	1750	444	.25	86	.05
EBL	2	3500	67	.02*	383	.11*
EBT	0	0	0		0	
EBR	1	1750	5	.00	29	.02
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.63		.61

218. Sierra & "C" St.

Interim Year w/o Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1750	0	.00	0	.00
NBT	2	3500	149	.04	1341	.38*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3500	1708	.49*	316	.09
SBR	1	1750	0	.00	0	.00
EBL	2	3500	0	.00	0	.00
EBT	0	0	0		0	
EBR	1	1750	0	.00	0	.00
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.59		.48

Interim Year w/Project w/o Dockweiler						
	LANES	CAPACITY	AM PK HOUR VOL	V/C	PM PK HOUR VOL	V/C
NBL	1	1750	33	.02*	9	.01
NBT	2	3500	198	.06	1351	.39*
NBR	0	0	0		0	
SBL	0	0	0		0	
SBT	2	3500	1716	.49*	360	.10
SBR	1	1750	444	.25	86	.05
EBL	2	3500	67	.02*	383	.11*
EBT	0	0	0		0	
EBR	1	1750	5	.00	29	.02
WBL	0	0	0		0	
WBT	0	0	0		0	
WBR	0	0	0		0	
Clearance Interval				.10*		.10*
TOTAL CAPACITY UTILIZATION				.63		.60



# **Appendix E**

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## **Biological Resource Information**

JIM JENNINGS  
Independent Biological Consultant

501 GLENOAKS BLVD., PMB 141  
GLENDALE, CA 91202

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## Coastal California Gnatcatcher (*Polioptila californica californica*) Survey Report

Project: Needham Ranch

Location: Los Angeles County, Santa Clarita (Map Included)

Surveyed For: RAMCO Environmental

Surveyed By: Jim Jennings

Permit Number: PRT-832515

### Methods

Surveys were conducted by myself. Surveys were conducted according to U.S. Fish and Wildlife Service protocols. The area surveyed was less than 80 acres. Surveys were conducted on May 23 and 31; June 8, 15, 22 and 29, 2001.

### Plant Community Description

The vegetation of the area surveyed for coastal California gnatcatcher on this site is primarily coastal sage scrub. The project site also includes oak woodland, mixed scrub, non-native grassland, and a large area which was burned over recently (do not know how long ago burn occurred) and is now dominated by deerweed (*Lotus scoparius*). The coastal sage scrub on the site consists mostly of purple sage (*Salvia leucophylla*), coastal sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum foliolosum*), and deerweed. Taller shrubs include blue elderberry (*Sambucus mexicanus*), bush mallow (*Malacothamnus fasciculatus*), and chamise (*Adenostoma fasciculatum*).

### Results


No coastal California gnatcatchers were found on the project site.

cc: RAMCO Environmental



## MEMORANDUM FROM RAMCO

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*Date:* May 1, 01      *Project:* NRD  
*Generator:* Alex Palmer       *E-file:* D:\Projects\Gates\Needham\Memos & Ltrs\05-01-01 NRD.wpd  
*To:* Mark Gates, \file

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*Subject:* **Quino Checkerspot Butterfly**

1. I met with Karl Benz, US Fish & Wildlife (Ventura Office), today at 2:35 PM. We were joined by telephone with Allison Anderson, US Fish & Wildlife (Carlsbad Office, telephone 760.431.9440.) Anderson wrote the survey protocols for the Quino and heads up the Quino Monitoring Program.
2. Anderson recommended against doing a survey for the Quino on the Needham Ranch Development site. Additionally, Anderson has not recommended a Quino survey in Los Angeles County since 1999.
3. As for the survey season, the season ended a month ago for elevations less than 2,000 feet above mean sea level. The survey season is just starting on elevations greater than 2,000 ft.
4. In view of the US Fish & Wildlife position, I recommend against doing a Quino survey at this time. However, you should be prepared to provide this as documentation of your effort to clear the site for Quino habitat.



# Robert L. Tate Associates, Inc.

Consultants to Urban and Utility Arboriculture

235 Hollow Oak Drive  
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Phone: (530) 892-1110  
Fax: (530) 892-1006  
E-mail: rtate@wcisa.net

May 24, 2001

City of Santa Clarita  
23920 Valencia Blvd.  
Suite 300  
Valencia, CA 91355

Attn. Mr. Jeff Hogan  
Re: Oak Tree Analysis for Needham Ranch  
Tentative Track No. 50283

Dear Mr. Hogan:

The narratives and reports that are found in the enclosed document refer to:

1. Information about and discussion of several items in the memo dated 4/25/01 from Mr. Jason Kirschenstein of Rincon Consultants Inc.
2. The determination of tree density and monetary value of trees in proposed park site.
3. An explanation of the methodology used to arrive at the monetary value of the two species of oak trees growing in the proposed development area and the actual monetary values of the two species of oak trees growing in the proposed development area.
4. An example of the trunk formula appraisal work sheet used.
5. A spreadsheet illustrating the data used to arrive at a monetary value
6. A copy of a memo sent to Ms. Kay Greeley regarding the methodology used to assess the condition of the oak trees damaged and/or killed by the 1997 fire.
7. A description of the information obtained in an inventory to provide data that was used to determine the condition of the oak trees for appraisal purposes.
8. The monetary values of the 64 oak trees illegally removed in 1997.
9. Discussion of the oak tree bank.
10. Mitigation issues.

If you have any questions or would like to discuss any items in the following document, please feel free to contact me.

Sincerely,



Robert L. Tate, Ph. D

c. Joe Powers, Rincon Consultants  
Mark Gates

NEEDHAM RANCH MONETARY TREE APPRAISAL, CLARIFICATION OF RINCON CONSULTANTS MEMO AS TO OAK REGENERATION, CREATION OF OAK TREE BANK AND MITIGATION ISSUES AS REGARDS TO REMOVED TREES.

**1. Rincon Memo**

This is my clarification about the fire damage issue in the Rincon memo (Number 1 in the memo). There was never any doubt that some of the burned oaks would regenerate foliage as time goes on. I examined the trees at a given point in time. Some may reestablish foliage over the short run and then die when we have the next drought or disease problem. Others that have foliage now may die back in the future. Frankly, we could reexamine them now, and then reexamine them next year and every year in the future and probably get different results. The pertinent issues here are the trees' ornamental and landscape value, and their future liability to life and property, not their stage of regeneration.

Page number 3, Number 3, (first bullet) in the Rincon memo mentions that fire damaged trees are regenerating and that they "...may provide substantial habitat for wildlife (dead snags with hollow cavities and fire scars etc.)." True, but leaving dead or severely damaged trees standing in a developed area with prior knowledge of their weakened structural condition would predispose Mr. Gates into a liability situation if one of them (or parts of them) would fall on persons and/property. Functioning crowns have little to do with the degree of liability in landscape situations. I believe Rincon doesn't understand that Mr. Gates is operating under city guidelines that require the trees to be treated as landscape and/or ornamental trees. Fire damaged trees that are in the area to be developed will be potential hazards because of their dead foliage and the their proximity to targets (people and structures) when the development is completed unless the fire damage is mitigated by pruning and/or removal. Some of the trees' crowns are burned more than half way down into the crown. To prune them would be to top them. Topping is not an approved arboricultural practice. Topping them would bring about the formation of weak-wood branch sprouting in the topped crowns.

I disagree with Rincon's statement of multi-stemmed trees (second to last paragraph on the same page, second bullet). Rincon asserts that multi-stemmed trees arising from the same root system below 4.5 feet above ground are separate trees. Even though the ISA plant appraisal guide deals with multi-stemmed trunks, it counts them as one tree. We followed the guide in using each stem cross-sectional area as part of the methodology to determine the total value of each multi-stemmed tree. If one counted each multi-stemmed tree as multiple trees, we would have many more than final number of trees found of the property. The inventory counts the stems that originate from the same root system but does not consider them as multiple trees. Stems arising from the same root system are not counted as multiple trees in forestry, arboricultural, and botanical disciplines.

**2. Proposed Park Site Tree Density:**

The methodology used by Sikand Engineering Associates to determine the density of trees growing in the proposed park site (see Oak Tree Report dated 9/22/2000) is current with accepted forestry practices of estimating the number of stems per acre on a forested site. Several areas of varying sizes with known densities of trees determined by an oak tree survey (see Needham Ranch Oak Tree Survey dated 9/11/2000) were compared with areas of similar sizes located in the proposed park area. Aerial photos were used to determine the number of stems in the proposed park site. The sample areas in the surveyed part of the property were overlaid on the proposed park site photos and compared. The stem count closely agreed in both areas. The numerical analysis of the density of stems in the proposed park site is statistically valid and has a high degree of significance. Using the methodology described above, it is estimated that 8,412 trees are growing on the land proposed to be a park. Some of these oaks are undoubtedly scrub oaks (*Quercus berberidifolia*). Twenty-four percent of the oaks in the areas to be graded in the proposed development were found to be scrub oaks. Using the same proportion of

species in the proposed park area, it is estimated that 6,393 of the trees are coast live oaks (*Quercus agrifolia*) and 2,019 of the trees are scrub oaks.

#### Monetary Value of Trees Located in Proposed Park Site:

Since both areas of the total land area (proposed park site and proposed area to be developed) are environmentally similar, are contiguous and have similar soil types and tree species, we used the average value per tree determined by the methodology set forth in the *Guide for Plant Appraisal*, 9<sup>th</sup> edition and *Species Classification and Group Assignment* presently used by the City of Santa Clarita for oak tree appraisals within the city. This appraisal value method assigned to the oaks in the proposed development was applied to trees growing on the proposed park site. The average appraised value of a coast live oak was \$2,430, and the average appraised value of a scrub oak was \$170 in the development area. Therefore, the monetary value of the coast live oaks and the scrub oaks on the proposed park is as follows: 6,393 coast live oaks times \$2,430 equals \$15,534,990; 2,019 scrub oaks times \$170 equals \$343,230. The total monetary value for both species is \$15,878,220.

This estimated appraised value, while highly defensible, is significantly lower than it would be if the trees on the proposed park site were actually inventoried individually as were the trees in the proposed development area. The absence of recent fires and my numerous visits to the site would strongly lead me to assert that the average coast live oak on this site is larger and in better condition than those found growing at the other site. Both of these factors (which are used in the trunk methodology of appraisal) would lead to a larger appraisal value of the oaks growing in the proposed park.

### 3. Explanation of methodology used to assign the monetary value of living oak trees to be removed in the proposed development area and the total value of the trees found there.

The methodology used to assign monetary value of the live oak trees in the development area is found in the *Guide for Plant Appraisal*, 9<sup>th</sup> edition. (Council Of Tree & Landscape Appraisers) Published by International Society of Arboriculture and the *Species Classification and Group Assignment* published by the Western Chapter International Society of Arboriculture. The specific method used was the Cost Method (Trunk Formula procedure). This is also the method used by the City of Santa Clarita for oak tree appraisals.

The value of a tree using the methodology referenced above is dependent on four factors: its size, its species, its condition, and its location. Size was determined by field measurements. Species was determined by observation. Condition was determined by observation. Location was determined by observation. The species value was determined by a percentage rating given to Coast Live Oak found in the *Species Classification and Group Assignment*. The size of the tree is expressed as the cross-sectional area of its trunk and is calculated by measuring the tree at 4.5 feet above grade. If trees had multiple stems (most did) that contributed to the value of the tree, the area of each stem was calculated and used to determine the trees' sizes. Condition was determined by evaluation of the tree's existing structure and health and given a percentage value. Condition varied from a low of 50 percent on some trees to a high of 90 percent on others. Location considers the site on which the tree was growing, the contribution of the tree to the location, and the placement of the tree and its effectiveness in providing its functional and aesthetic benefits. Location is given a percentage value and was determined to be 60 percent for each tree as follows: (site) the site was undeveloped, the trees had not been maintained for ornamental and/landscape purposes; (contribution) the trees had no historic significance, they were not rare, and they did not have screening, privacy control, or energy-saving qualities at this time because the buildings and exact layout of the streets have not been determined have not been sited as yet; (placement) similar to contribution value in this case because it cannot be determined how effective the trees will be in providing their functional and aesthetic attributes until the buildings and roads are located.

The Trunk Formula is also dependent on the value of a replacement tree. In this case, the purchase, replanting, and 2-year post planting maintenance cost of a 2-inch diameter (24 inch boxed) coast live oak replacement tree was determined to be approximately \$570. It has been found that trees of this size have a high survival rate and will attain a size nearly equal to a larger 48 inch boxed tree in a few years because of the smaller tree's more rapid growth rate and better root system establishment. The smaller replacement tree will actually outgrow the larger tree and be taller with a greater crown spread at the end of a given time period.

A Trunk Formula Method Work Sheet developed by the Council Of Tree & Landscape Appraisers was used to arrive at the value of each tree (an example of a work sheet can be found at the end of this report). The information and calculations derived from the work sheets were entered into an Excel spreadsheet (copies of the completed spreadsheet can be provided upon request).

A total of 1,000 trees that are located in the proposed graded areas were appraised. Two species of oaks made up the total as follows: 696 coast live oaks (*Quercus agrifolia*) and 304 scrub oaks (*Quercus berberidifolia*). These trees were minimally damaged or suffered no damage by the recent fire. Trees severely damaged or killed by the same fire in the proposed graded areas were not appraised in this report.

The Cost of Repair method was used to determine the values of and the mitigation measures recommended to be applied to the burned trees. This report on the burned trees was given to the City earlier (see memo from Mr. Gates to Mr. Jeff Lambert dated 9/9/99). Ms. Kay Greeley (Oak Tree Consultant at that time) agreed to the method and the general conclusions of the report. The memo to Ms. Greeley is included in this document.

The appraised value of the 1,000 unburned trees is \$1,742,400. The Coast Live Oaks comprise 97 percent of the total value. Scrub oaks are considered to be non-ornamental/landscape species. This species is not found in the above mentioned species guide, it is not available from commercial tree nurseries, and is not used as an ornamental or landscape plant. The appraised value of these 304 oaks is \$52,700. The average value of each scrub oak is \$170. The total value of the 696 live oaks is \$1,689,730. The average value of each live oak is \$2,430. The average value of the total number of trees in the development area is \$1,795,100. The total number of trees may change slightly as the development time grows nearer. An establishment of an oak tree bank of 100 trees will aid in providing continuity and ultimately will insure survival of some trees that may be impacted by the effects of grading and soil compaction that we cannot predict at this time. A discussion of the oak tree bank follows later in the report.

We are proposing to use 24 inch container-grown replacement trees at a total cost of \$570 per tree as follows: \$140 purchase price, \$280 replanting cost, \$150 2-year post planting maintenance cost for the cost of replacement trees.

#### 4. Example of Trunk Formula Method Work Sheet

Case # \_\_\_\_\_ Property \_\_\_\_\_ Date \_\_\_\_\_

Appraiser \_\_\_\_\_

##### Field Observations:

1. Species \_\_\_\_\_
2. Condition \_\_\_\_\_ %
3. Diameter \_\_\_\_\_ in./cm                      Trunk Circumference \_\_\_\_\_ in./cm

4. Location % =  $\frac{[\text{Site} \underline{\hspace{2cm}} \% + \text{Contribution} \underline{\hspace{2cm}} \% + \text{Placement} \underline{\hspace{2cm}} \%]}{\div 3} = \underline{\hspace{2cm}} \%$

*Regional Plant Appraisal Committee and/or Appraiser-Developed or Modified Information*

5. Species rating  $\underline{\hspace{2cm}} \%$

6. Replacement Tree Size (diameter)  $\underline{\hspace{2cm}}$  in./cm  
 (Trunk Area)  $\underline{\hspace{2cm}}$  in<sup>2</sup>/cm<sup>2</sup> TA<sub>R</sub>

7. Replacement Tree Cost \$  $\underline{\hspace{2cm}}$   
 (See Regional Information to use Cost selected)

8. Installation Cost \$  $\underline{\hspace{2cm}}$

9. Installed Tree Cost (#7 + #8) \$  $\underline{\hspace{2cm}}$

10. Unit Tree Cost \$  $\underline{\hspace{2cm}}$  per in<sup>2</sup>/cm<sup>2</sup>  
 (See Regional Information to use Cost selected)

*Calculations by Appraiser using Field and Regional Information*

11. Appraised Trunk Area:  
 (TA<sub>A</sub> or ATA<sub>A</sub>; use Tables 4.4-4.7)  
 Or c<sup>2</sup> (#3)  $\underline{\hspace{2cm}}$  x 0.08 =  $\underline{\hspace{2cm}}$  in<sup>2</sup>/cm<sup>2</sup>  
 Or d<sup>2</sup> (#3)  $\underline{\hspace{2cm}}$  x 0.785 =  $\underline{\hspace{2cm}}$  in<sup>2</sup>/cm<sup>2</sup>

12. Appraised Tree Trunk Increase (TA<sub>INCR</sub>)  
 TA<sub>A</sub> or ATA<sub>A</sub>  $\underline{\hspace{2cm}}$  in<sup>2</sup>/cm<sup>2</sup> (#11) - TA<sub>R</sub>  $\underline{\hspace{2cm}}$  in<sup>2</sup>/cm<sup>2</sup> (#6)  
 =  $\underline{\hspace{2cm}}$  in<sup>2</sup>/cm<sup>2</sup>

13. Basic Tree Cost = TA<sub>INCR</sub> (#12)  $\underline{\hspace{2cm}}$  in<sup>2</sup>/cm<sup>2</sup> x Unit Tree Cost (#10)  
 \$  $\underline{\hspace{2cm}}$   
 Per in<sup>2</sup>/cm<sup>2</sup> + Installed tree Cost (#9) \$  $\underline{\hspace{2cm}}$  = \$  $\underline{\hspace{2cm}}$

14. Appraised Value = Basic Tree Cost (#13) \$  $\underline{\hspace{2cm}}$  x Species Rating  
 (#5)  $\underline{\hspace{2cm}} \%$  x Condition (#2)  $\underline{\hspace{2cm}} \%$  x Location (#4)  $\underline{\hspace{2cm}} \%$  = \$  $\underline{\hspace{2cm}}$

15. If the **Appraised Value** is \$5,000 or more, round it to the nearest \$100; if it is less, round to the nearest \$10.

16. Appraised Value = (#14) \$  $\underline{\hspace{2cm}}$

The Regional Plant Appraisal Committee determines items 5 through 10. The Wholesale Replacement Tree Cost, the Retail Replacement Tree Cost, or the Installed Tree Cost (#9) divided by the Replacement Tree Size (#6) can be used for the Unit Tree Cost (#10), or the Regional Plant Appraisal Committee can set it.

5. Example of spreadsheet data used for appraisal

Tree Number	Condition Percent	Circumference Inches trunk 1	Circumference Inches trunk 2	Circumference Inches trunk 3	Circumference Inches trunk 4	Circumference Inches trunk 5	Appraised Tree Value
4252	80	110.00	0.00	0.00	0.00	0.00	\$13,800
4361	80	15.00	15.00	14.00	13.00	13.00	\$1,200
4357B	80	18.00	17.00	16.00	13.00	15.00	\$1,520
4325	80	16.00	16.00	15.00	12.00	0.00	\$1,090
4326	80	14.00	13.00	8.00	6.00	5.00	\$640
4303	75	14.00	8.00	5.00	0.00	0.00	\$380
4309	75	8.00	8.00	7.00	7.00	7.00	\$370
4310	75	13.00	10.00	10.00	9.00	6.00	\$600
4307	75	9.00	5.00	5.00	4.00	3.00	\$250
4311	75	14.00	13.00	12.00	9.00	8.00	\$780
4312	75	11.00	9.00	8.00	6.00	0.00	\$400
4318	80	20.00	11.00	11.00	0.00	0.00	\$820
4316	75	8.00	7.00	7.00	7.00	7.00	\$360
4315	75	13.00	13.00	10.00	9.00	8.00	\$700
4304	75	14.00	10.00	11.00	9.00	9.00	\$700
4288	75	8.00	8.00	7.00	7.00	6.00	\$360
4289	75	12.00	9.00	10.00	7.00	0.00	\$480
4286	75	7.00	8.00	6.00	6.00	5.00	\$310
4285	75	11.00	7.00	7.00	12.00	8.00	\$540
4284	80	13.00	8.00	8.00	7.00	6.00	\$520
4289A	75	12.00	9.00	10.00	7.00	0.00	\$480
4271	75	11.00	11.00	11.00	10.00	12.00	\$730
4272	75	7.00	7.00	7.00	0.00	0.00	\$240
4273	75	14.00	12.00	0.00	0.00	0.00	\$440
4274	75	28.00	4.00	7.00	0.00	0.00	\$980
4327	85	15.00	15.00	15.00	12.00	8.00	\$1,160
4357	80	18.00	17.00	16.00	13.00	15.00	\$1,520
4355	80	18.00	16.00	12.00	12.00	11.00	\$1,210
4324	85	14.00	14.00	13.00	12.00	13.00	\$1,150
4323	85	11.00	11.00	11.00	10.00	8.00	\$730

6. To: Kay Greeley  
From: Bob Tate  
Date: 5-25-99  
Subject: Needham Ranch Tree evaluation

This is my recollection of our meeting regarding fire-damaged trees at the Needham Ranch on Thursday May 20, 1999.

I outlined the methodology I am using to assess the condition of the trees damaged and killed as a result of the fire allegedly caused by a CALTRANS contractor as follows:

- 1) A tree damaged by fire on which the overall natural shape of the crown can be restored by extensive, medium, or light crown pruning. In these cases, the following criteria were used: a) foliage was evenly distributed throughout the crown, b) crown foliage die back did not exceed one-third of the original (pre-burned) crown foliage, c) there would be minimum sprouting at the cut ends, d) the tree would retain sufficient foliage to produce enough photosynthetic for it to survive the environmental conditions found at the site.
- 2) A tree damaged by fire on which the natural shape of the crown cannot be restored by pruning. Removal is recommended. In these cases, the following criteria were used: a) foliage was unevenly distributed throughout the crown, pruning it would leave it unbalanced and unsightly. Because of the large diameter of the cuts and the length of time required for them to callus over, the likelihood of fungal stem decay organisms causing heartwood cavities would be increased, b) crown foliage die back exceeded one-third of the original (pre-burned) crown. Pruning a tree back to live foliage in a situation such as this would amount to topping it. Topping, as you know, is an improper arboricultural practice and would encourage sprouting at the terminal cuts. Generally sprouts at cut ends are weakly attached. As the sprouts grow, I would expect failures at the attachments.
- 3) A tree that is dead and removal is recommended. In these cases, the following criteria were used: a) no epicormic sprouting was observed above the lowermost crotch, and/or b) the tree had no foliage in the crown. No distinction was made between trees with basal sprouting and those without. While, technically, a tree with basal sprouting is not dead, and may ultimately survive, its value in this situation is nil

After we discussed this methodology, you agreed: 1) that it was a proper one to use for evaluating fire-damaged trees and 2) that my proposed mitigation procedures of pruning and removing trees were appropriate to this situation. Moreover, you agreed to support my findings in matters regarding the tree damage and mitigation pertaining to the fire.

If you would like to discuss any of the subjects addressed in this memo, please let me know.

c Mark Gates

## 7. Needham Ranch Tree Inventory

**This explanation describes information collected during the Needham Ranch tree inventory.**

A description of the fields is as follows:

Field No. 1: **Inventory Tree Number** – Each tree was assigned a number. The number corresponds to a number stamped on a metal tag affixed to the tree.

Field No. 2: **Species** – Two oak species were inventoried: the Coast Live Oak (*Quercus agrifolia*) and the Scrub Oak (*Quercus berberidfolia*).

Field No. 3: **Heritage Tree** – Oak trees that measured 108 inches or greater in circumference or where trees with multiple trunks had two or more trunks measuring 72 inches or greater measured 4.5 feet from the ground.

Field No. 4: **Caltrans Fire Damage** – This is a description of damage to the tree from the "Caltrans" fire in 1997.

### **Tree Damage Rating Codes (CalTrans Fire)**

**Code C-**: A tree damaged by fire on which the overall natural shape of the crown can be restored by extensive, medium, or light crown pruning. In these cases, the following criteria were used: a) foliage was evenly distributed throughout the crown, b) crown foliage die back did not exceed one-third of the original (pre-burned) crown foliage, c) there would be minimum sprouting at the cut ends, d) the tree would retain sufficient foliage to produce enough photosynthates for it to survive the environmental conditions found at the site.

**Code D**: A tree damaged by fire on which the natural shape of the crown cannot be restored by pruning and removal is recommended. In these cases, the following criteria were used: a) foliage was unevenly distributed throughout the crown, pruning it would leave it unbalanced and unsightly. Because of the large diameter of the cuts and the length of time required for them to callus over, the likelihood of fungal stem decay organisms causing heartwood cavities would be increased, b) crown foliage die back exceeded one-third of the original (pre-burned) crown. Pruning a tree back to live foliage in a situation such as this would amount to topping it. Topping is an improper arboricultural practice and would encourage sprouting at the terminal cuts. Generally sprouts at cut ends are weakly attached. As the sprouts grow, expect failures at the attachments. Removal recommended.

**Code F**: A tree that has no foliage in the crown. It may have foliage sprouting from buds at the base of the tree (stump sprouts). It is not biologically dead but removal is recommended. In these cases, the following criteria were used: a) no epicormic sprouting was observed above the lowermost crotch, and/or b) the tree had no foliage in the crown. No distinction was made between trees with basal sprouting and those without. While, technically, a tree with basal sprouting is not dead, and may ultimately survive, its value in this situation as a landscape or ornamental tree is practically zero. It may even have a negative value because of the cost required to remove it. Removal recommended.

Field No. 5: **Caltrans Fire Damage Code** – This is a letter code given to the damaged trees which roughly corresponds to the City of Santa Clara *Tree Preservation and Protection Guideline Oak Tree Rating System*. See above for description.



Field No. 6: **Rating Grade Before Fire**— This is a one or two word description of each trees condition that corresponds to the City of Santa Clarita **Tree Preservation and Protection Guideline Oak Tree Rating System** listed below:

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### Oak Tree Rating System

In rating oak trees, the following system will be used to describe their condition.

- a. "A" = Outstanding:  
A healthy and vigorous tree characteristic of its species and reasonably free of any visible signs of stress, disease or pest infestation.
  - b. "B" = Above Average:  
A health and vigorous tree with minor visible signs of stress, disease and/or pest infestation.
  - c. "C" = Average:  
Although healthy in overall appearance there is an abnormal amount of stress or disease and/or pest infestation.
  - d. "D" = Below Average / Poor:  
This tree is characterized by exhibiting a greater degree of stress, disease and/or pest infestation than normal and appears to be in a state of rapid decline. The degree of decline may vary greatly in signs of dieback; disease and pest infestation ad appears to be in an advanced state of decline.
  - e. "F" = Dead:  
This tree exhibits no signs of life whatsoever.
- 

Field No. 7: **Rating Grade Code Before Fire** – This is a letter code describing the condition of the tree.

Field No. 8: **dbh** – This is the diameter converted from its circumference of the tree in inches measured 4.5ft above the ground level. The dbh field was developed in order to view each tree from a measurement more commonly used and identified in arboriculture/ Forestry inventories.

Field No. 9: **dbh range** – This is the diameter of each tree placed in its appropriate diameter class. For example, trees with diameters measuring from 6 inches to and including 12 inches would be placed into this diameter class. Diameter classes/ranges were converted from circumference measurements. The dbh range field was developed in order to facilitate future maintenance requirements.

Field No. 10: **Diameter Range code** – This is a number code that corresponds to the dbh range.

Field No. 11: **Multi stem** – This indicates if the tree has one or more stems.

Field No. 12 – 16: **Trunk circumference** – These fields display the circumference in inches of each trunk measured at 4.5ft above the ground level up to 5 separate trunks.

Field No. 17: **Crown diameter** – This is a measure, in feet, of the maximum diameter of the outer edge of the foliage. Crown diameter is roughly equivalent to a circle often called "the dripline".

Field No. 18: **Tree height** – This is the estimated height of the tree in feet.

Field No. 19: **Trunk Grade** – This is an estimate of the general quality of the trunk.

Field No. 20: **Trunk Grade code** – This is a letter code that corresponds to trunk quality described in (Field Number 19).

Field No. 21: **Trunk orientation** – This indicates if the tree is listing.

Field No. 22: **Direction of the listing** – This indicates, in what direction, the tree is listing to one of eight compass points.

Field No. 23 - 24: **Past Trunk fire damage** – This is an observation of past fire damage. It does not include damage from the most recent fire.

Field No. 25: **Trunk rot** – This is a description of the presence of fungal decay of the main stem (trunk). The description is graded as 0=none, 1=minor, 2=moderate, 3=heavy.

Field No. 26: **Branch rot** – This is a description of the presence of fungal decay on one or more of the main (scaffold) branches. The description is graded the same as in Field No. 25.

Field No. 27: **Foliage** – This describes the condition of the foliage. It relates to an estimated vigor of the tree.

Field No. 28: **Foliage code** – This is a letter code that corresponds to foliage quality described in Field No. 27.

Grade code	Description
A	Exceptional
B	Very Good
C	Average
D	Declining
F	Dead

Field No. 29: **Leaf size** – This is an estimate of the size of the “average” leaf. Generally when most of the leaves are smaller than normal, when compared to leaves of other trees, this could be an indication of lower vigor.

Grade code	Description
1	Large
2	Normal
3	Small

Field No. 30: **Canopy Leaf Vigor** – This is an estimate of the health of the crown. It is a result of the condition of the foliage, leaf size and dieback.

Field No. 31: **Canopy Leaf Vigor code** – This is a letter code that corresponds to the Canopy Leaf Vigor. Described in Field No. 30.

Grade code	Description
A	Exceptional
B	Very Good
C	Average
D	Declining
F	Dead

Field No. 32: **Galls** – This shows if a tree has Galls or Nipple Galls.

Field No. 33: **Insects** – This describes the presence of the oak twig girdler (*Agrilus angelicus*), which causes a dieback of twigs and leaves in a patchwork pattern throughout the crown.

Field No. 34 - 35: **Shape and Shape 2** – This describes the shape(s) of the crown(s).

Field No. 36 – 39: **Crowded tree** – This shows what trees (by number) are around the crowded tree. Up to 4 can be represented.

Field No. 40: **Symmetry** – This shows if the tree crown is symmetrical.

## 8. Determination of the monetary value of 64 oak trees illegally removed from Needham Ranch in 1997.

The trunk formula method was used to assign the monetary values to the trees (See the discussion of the trunk formula used to assign values to the trees in proposed development area found in this report). Size (diameter), condition, species and location factors were obtained from an inventory conducted prior to the removal date. The size, condition, species, and location variables were entered onto a Trunk Formula Method Work Sheet for each tree. Twenty-four inch-boxed trees were used in the equation for replacements (\$570 per replacement tree).

The total value of the 64 trees removed in 1997 is \$227,800.00

## 9. Discussion of the oak tree bank.

The concept of an oak tree bank of 100 live oak trees is proposed to allow for a degree of flexibility in the development of the project. Because of the size of the project, there will undoubtedly be situations arising in which the retention or removal of an oak tree or trees will be desirable. Applying for an oak permit for each tree under these circumstances could substantially delay the project. For example, if additional trees are weakened or damaged because of unforeseen circumstances, not anticipated in the grading plan, such as root damage due to grading and/or filling and the tree/s will decline, die or become hazardous, and must be removed, the value of these trees will be determined using the trunk formula method described in this report. This value will then be credited against the balance of the total oak tree values in the bank. The initial balance in the oak tree bank will be \$243,000 (100 oaks times the average value of \$2,430 as determined by the appraisal set forth in this report). It is understood that no heritage oak trees can be removed and its value credited against the oak tree bank. The mitigation for the oak tree bank will be included with the mitigation for the oaks scheduled for removal under the current grading plan.

## 10. Mitigation Issues

It is my understanding that consistent with the Memorandum of Understanding dated October 15, 1999, and the letter sent to Jeff Lambert by Mark Gates dated September 9, 1999, mitigation for the oaks to be removed in connection with the development of the project along with the 64 oaks previously removed without a permit will be as follows:

1. The appraised value of the transfer in fee to the City of Santa Clarita (or its designee) of 150+ acres of residentially zoned and open space property,
2. The appraised value of the oak trees located on the property transferred in fee to the City of Santa Clarita.
3. The appraised value of property set aside as easements or transferred in fee for public trails and a wildlife corridor on property currently zoned IC, CC and OS.

Based on the appraisal drafts it appears that the value of the property and the trees to be set aside as easements or transferred in fee will more than offset the value of the oak trees previously removed or to be removed in the future. However, while it appears that the owners of the property are under no obligation to do so, it is my understanding that their current intent, as part of the Development Agreement, is to plant 500 live oak trees on the highly visible graded slopes and massing them on the slopes below roadways to provide a more natural look to the project. The precise location of these plantings would be provided in the final landscaping plan. The trees to be planted have been grown from acorns found on the site (or nearby) and are now in a nursery site located on the property. The trees will be transferred from smaller containers to 24-inch boxes in the near future. The purchase, replanting, and 2-year post planting maintenance cost of a 2-inch diameter (24 inch boxed) coast live oak replacement tree is approximately \$570. This value of this replanting program is equivalent to a cost of \$285,000 that is being absorbed by the property owners. Trees that are in 24-inch boxes have a high survival rate and will attain a size nearly equal to a larger 48 inch boxed tree in a few years because of the smaller tree's more rapid growth rate and better root system establishment. The smaller replacement tree will actually outgrow the larger tree and be taller with a greater crown spread at the end of a given time period.

# **INDEPENDENT ENVIRONMENTAL CONSULTANTS**

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## **EXAMINATION OF POTENTIAL ANIMAL CORRIDORS BETWEEN THE SAN GABRIEL MOUNTAINS AND THE SANTA SUSANA MOUNTAINS WITH EMPHASIS ON THE CROSSING THROUGH STATE HWY 14, INTERSTATE 5 AND LOS PINETOS ROAD**

Prepared for: Mr. Mark Gates  
The Needam Ranch

By: James Henrickson Ph.D.  
Independent Environmental Consultants  
(323-)343-2057

May 14, 1993

# INDEPENDENT ENVIRONMENTAL CONSULTANTS

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(A reprint of 1993 report.)

## **Introduction**

In recent years there has come a realization among biologists that highways, freeways and continued urban development are fragmenting areas of natural environments, creating isolated pockets of habitat that exist as islands. The developments and roadways block migration of many animal species between these isolated areas of habitat much as the oceans limit migration between islands (Diamond 1975, Terborgh 1976). While some of these islands of habitat are very large, others are much smaller and development continues to fragment the larger habitats into smaller units and to add to the isolation of these fragments. It has been shown that the larger islands of habitat will maintain a greater number of species while smaller fragments of habitat will, through time, lose species diversity until an equilibrium is met with species diversity reflecting size and diversity of habitats available. In other words, the smaller fragments of habitat lose their diversity through time in what is known as relaxation time (Diamond 1975). In these smaller areas of habitat, as populations drop below critical numbers, the populations are extremely vulnerable to natural and human disturbances, resulting in their local extinction. The time frame involved in the relaxation time (i.e. reduction of species diversity) will be effected by many components and may be measured in years or decades, but in time small habitats lose their diversity and remain with depauperate floras and faunas. But the rate of loss of diversity can be reduced by migration of individuals into these smaller islands of habitat. MacArthur and Wilson (1976) were the first to discuss this in their Theory of Island Biogeography and many researchers have continued to obtain data to support the concept.

It has been found, however, that local extinction of species can be reduced and mitigated by immigration of individuals from adjacent areas. For this to happen, areas of suitable habitat must be made available to allow for the migration of terrestrial animals from source areas (the larger habitats) to a receiver areas (the small habitats). These migration zones, known as corridors, are strips of land or passages between larger areas of habitat. Ideally such corridors will be sufficiently broad and contain a diversity of habitats that they will be used by a diversity of animals and contain a diversity of plant species. One of the goals of such corridors is to keep the isolated small populations from losing their genetic diversity through inbreeding and small population size so they can meet the challenges of their environment.

**The Santa Clarita Valley:** The Santa Clarita Valley area is an important zone in Southern California as its southwestern portion lies between a major source area, the San Gabriel Mountains and smaller isolated receiver areas to the west: the Santa Susana Mountains, Simi Hills and the Santa Monica Mountains (Briley 1991, Envicom 1993, Lieberstein 1989) (Fig. 1). Unfortunately the San Gabriel Mountains are strongly isolated from the receiver areas by the

Antelope Valley Freeway (State Highway 14, completed in the 1970's) and the Golden State Freeway (Interstate 5) (Fig. 2). The small wedge of habitat between these major freeways, herein called the South Newhall Wedge, is a much smaller island of habitat that is important as it serves as a connecting piece between the San Gabriels and the adjacent Santa Susana Mountains. While the South Newhall Wedge is moderately small in size (estimated at 4 sq. miles of usable natural habitat), it has considerable topographic diversity, a well developed and highly diverse flora responding to the topographic diversity and appears, at present, to have retained a diverse fauna. This area has been strongly impacted by development from the north along Calgrove Avenue and San Fernando Road and will be further impacted with the proposed Valley Gateway and Needham Ranch projects from the west. Other developments have been proposed in the southern portion of this tract near the junctions of the freeways. If this highly diverse wedge of land is developed, it will strongly limit the flow of animals between the San Gabriel Mountains and the Santa Susana Mountains and other ranges to the west.

**Biological Resources Present:** Portions of the ca. 4 square mile South Newhall Wedge show considerable topographic diversity with elevations varying from 2230 to 1320 ft. The highest crest in the site lies north and east of Interstate 5 (the interstate follows Weldon and Gavin Canyons) and most of the area drains through a series of canyons to the north or west. While the area is moderately small, the high topographic diversity greatly increases the overall surface land available as habitat to wildlife and increases the plant and wildlife habitat diversity encountered. As the site is largely under private ownership, it has remained relatively free of human interactions such as hunting. Two electrical transmission corridors pass through the area, and the Southern Pacific Railroad passes through the site tunneling under the crest on its way to the Los Angeles Basin (Fig. 2). One ranch in the center of the site raises goats that have greatly impacted local areas of vegetation, and developments and estate homes are impacting the region from the northwest, but the core of the area remains mostly undisturbed.

The flora ranges from areas of dense Chaparral (with some extensive stands of overmature California lilac (*Ceanothus crassifolius*) and Chamise (*Adenostoma fasciculatum*), open and dense Coastal sage scrub, extensive, stands of Coastal live oak (*Quercus agrifolia*), local pockets of Big-cone Douglas fir (*Pseudotsuga macrocarpa*), sandstone cliffs and bluffs, open grassy meadows, and a myriad of habitat interfaces that make for a rich and diverse habitat for wildlife. The wedge area contains the same diversity of habitats as is present in the adjacent San Gabriel Mountain source area and the Santa Susana Mountain receiver area, and thus serves well as a corridor between these two habitat areas.

Mountain lion, Bobcat, Mule deer, Coyote, Raccoon, Long-tailed weasel, Gray fox, skunks, Virginia opossum, are all known from the area. In size alone, the Wedge area is too small to continually support the largest predators among these wildlife resources, but the high diversity of portions of the habitat, and the potential for migration of animals into this area from adjacent source areas are features that would be expected to help maintain a strong wildlife diversity in this area. However, some wildlife elements may already be missing from this area (i.e. American Badger) and the understory flora is, at present, completely dominated by the non-native Ripgut grasses (*Bromus diandrus*) to the detriment of other native wildflower species. Whether this is evidence of reduced plant diversity or a reflection of this year's heavy winter rains is unknown.

**The Effect of Freeways and Development:** The freeways, with their marginal 6 ft high chain-link fences, 70-120 ft-wide concrete floors, continuous center dividers, and nearly around-the-clock traffic present formidable barriers to terrestrial wildlife movement. The only areas presently available for wildlife movement through these barriers are through underpasses and overpasses, none of which were designed as animal corridors or located in areas where historical corridors occurred. The underpasses mostly consist of highway interchanges with crossing roadways or drainage tunnels allowing movement of adjacent streams under the freeway. The tunnels are in all cases channelized, creating artificial urban-like local areas that may be highly intimidating to wildlife. Some animals show avoidance to such urban encroachments such as lights, noise, structures, domestic animals, and shy away from margins of natural areas. If corridors or natural areas are too narrow, animals may avoid these areas all together resulting in some species not migrating into receiver areas resulting in a potential imbalance in the fauna.

The effect of housing in natural areas may have varied impacts on adjacent wildlife. Housing developments may effectively block wildlife corridors the same as freeways. The presence of lights attract certain insects away from adjacent native habitats where they serve as food for birds. Domestic animals (dogs and cats as well as children) may hunt in adjacent native habitat areas and strongly intimidate or reduce adjacent wildlife. However, the preliminary work of Sauvajot and Buechner (in press) indicates, that in the Santa Monica Mountains, native chaparral areas directly adjacent to home developments often did not show significant alteration in wildlife (birds and small mammals), though other areas where chaparral vegetation was disturbed did show altered and reduced wildlife usage. They, however, indicate that the high numbers of native predators, such as bobcats and coyotes, may actually serve to reduce the influences of domestic cats and dogs that normally prey on these smaller animals. Alternatively, the areas adjacent to housing may replace lost fauna via strong immigration from adjacent source areas.

**The Usage of Artificial Wildlife Corridors:** Wildlife species vary in their ability to use highway underpasses and drainage ditches as corridors. The larger predators, such as Coyote and Mountain lion exhibit high vagility and can actively search out ways to cross freeways, sometimes resorting to direct crossings that may result in their deaths from vehicle-wildlife collisions. Mule deer will also become accustomed to man's activities and can cross roads and freeways. It is estimated that between 200,000 and 350,000 deer are killed in the United States each year by vehicles, resulting in damages to property and vehicles of \$400-700 million (Gates 1992). Bobcat, Gray fox, Raccoon, skunks, Badger, and Opossum, may also be willing migrants, but their smaller size may limit their abilities to physically cross some barriers. However, species such as Coyote, Raccoon, Opossums, skunks, and sometimes deer can become tolerant of man's presence and use urban areas for corridors--areas that are largely unavailable to other more cautious species such as Bobcat, Mountain lion, Gray fox etc.

When considering corridors it is important to consider which species are expected to use the crossings, that is one chooses certain target species and designs the corridors to meet the needs of these species. The species usually considered important in relation to wildlife corridors in Southern California are Mountain lion, Bobcat, Gray fox, Mule deer, American badger and sometimes Coyote. It is considered that if corridors are established for these target species, other associated species will also use these corridors. The target species all tend to be rare, have low



reproductive rates, and most need broad ranges for daily and seasonal foraging and breeding needs.

Target species tend to follow historical pathways, which often consists of canyon bottoms or ridgelines. Top predator species and deer also tend to follow paths of least resistance and prefer pathways, roadways over dense areas of scrub, while prey species are more reluctant to be exposed in open pathways to predator species except when such pathways would allow fast movement to escape predators. Ideally corridors should be placed in the position of historical pathways. Unfortunately, in this instance, the corridors have already been established, based on transportation needs not on animal needs. We have no opportunity to designate the location of a crossing based on historical pathways.

Wildlife movement through corridors may be associated with several events: seasonal migrations (as in deer and elk in the Rocky Mountains, not a factor here in Southern California); passages through areas in search of food or water; seasonal searches for potential mates; and the dispersal of juveniles from their natal homes in search of new territory.

Such migration may be equilateral between two areas of habitat, that is, individuals may pass back and forth between adjacent areas of good quality habitat or, source-sink dynamics may occur where an area of prime habitat produces more individuals than it can support and the excess individuals migrate from the high-quality source habitat to areas of less suitable habitat (i.e. a sink habitat) where continual immigration keeps the species from going extinct. While such immigrations can help maintain species diversity in sink habitats, continued unidirectional migration can negatively effect species numbers in source habitats. Corridors between large diverse habitats will also allow for genetic exchange between these isolated populations to insure healthy genetic population diversity.

**Corridor Structure:** Corridor structure will greatly influence the use of the connecting pathway. While there is no consensus on the proper configurations of wildlife corridors (Lieberstein and Nava 1987), optimum corridors are not long slender pathways of uniform habitat that exhibit strong edge effects and a lack of diversity, but are moderately broad to broad pathways that contain diverse habitats of a type that are present in both of the preserve areas so a broad spectrum of species may use the corridors. Ideally they will incorporate a portion of the historical corridors of the target species. Migrating species vary in their relationship to the edges of corridors, some interior species strictly avoid margins, others are not strongly effected by the marginal areas. Corridors can be deleterious for some species if corridor areas lead to higher mortality from predation and such corridors may develop into sinks and negatively effect adjacent populations in the reserve sites.

**Target Species:** For this area target species are Mountain lion, Bobcat, Gray fox, and Mule deer. All four are frequent in the San Gabriel Mountains and much recent emphasis has been placed on retaining viable populations of Mountain lion, Bobcat and Gray fox in the smaller ranges to the west. Data on the life-history requirements for the species is presented below. Much of this is abstracted from Envicom (1993), and Lieberstein and Nava (1987).

**Mountain lion (*Felis concolor*):** Mountain lions are widespread, elusive, permanent residents in California found in a wide diversity of habitats. Their favorite prey is Mule deer,

which make up 60-80 percent of their diet, but they also prey on coyotes, bobcat, rabbits, mice and even grasshoppers. Male mountain lions weigh about 95 lbs. While lions do not defend territories, they tend to have distinct home ranges. Home range for males is usually larger than that for females but size is determined by the availability of the favorite prey item--deer. Male home ranges generally do not overlap. However, a female's home range may overlap with that of other females and with that of a male. Home range for male lions has been reported to vary from 15-92 sq. mi. (40-250 sq. km.) per individual; female lion home ranges are reported from 3-20 sq. mi. (8-25 sq. km.). This can also be expressed as 1-7 male lions and 3-5 female lions per 100 sq. mi. In their pamphlet "Living with California Mountain Lions", the California Department of Fish and Game estimate there are 4000-6000 Mountain lion in California.

**Bobcat (*Felis rufus*):** Bobcats are uncommon to common residents throughout California, but their optimum habitat appears to be rocky slopes and canyons in chaparral with water available in nearby riparian areas. They are carnivores feeding on rabbits, rodents, birds, reptiles and invertebrates. They are most active in the evening to morning period and spend days in dense vegetation, rocky crevices, caves, stumps, hollow logs etc. They can be found near human settlements. Adult males average 16.4 lbs., females 11.6 lbs. Bobcats are not migratory; male home ranges may overlap slightly while female home ranges overlap very little but the male range may include that of several females. Home ranges for male Bobcats has been reported as 2.4-40 sq. mi, (6.5-107.9 sq. km.); female bobcat home ranges are reported from 3.5-17.5 sq. mi. (9.1-45.3 sq. km.), equal to 3-40 male and 6-30 female bobcats per 100 sq. mi.

**Gray fox (*Urocyon cinereoargenteus*):** Gray fox are uncommon permanent residents in the state restricted to mid and lower elevations. In mature chaparral they are most common from 900-2000 ft elevation. They prefer rocky canyons and woodlands. They need water on a daily basis. Home ranges estimates for the state is 0.3-20 foxes per sq. mi. depending on habitat and area, for Southern California they are considered to occur at a density of about 5 foxes per sq. mi. (2 fox per sq. km.)

**Mule deer (*Odocoileus hemionus*)** are common throughout California except in deserts and agricultural areas. They are browsers and grazers and prefer new growth of shrubs, forbs and grasses--they feed on acorns in the fall. They need dense vegetation for cover and require a nearby water source. Preferred habitat is a mosaic of shrub and grassland cover near riparian areas with available water. Home ranges for groups of does and fawns vary from 0.2-1.9 sq. mile (0.5-5.0 sq. km.) but are more typically 0.4-1.1 sq. mile (1-3 sq. km.); that of bucks being larger. In suitable habitat in California is considered to contain 5-104 deer per sq. mile with typical densities ranging from 18-60 deer per sq. mile (7-23 per sq. km.) (Envicom 1993), but in our region 10 deer per sq. mile may be a more realistic number (Lieberstein and Nava 1987).

**Value of the Target Species:** Of the above animals, the Mountain lion is considered to be the most valued target species as it represents the top carnivore in the region. But the question can be raised as to the value of these major carnivore species such as Mountain lion, Bobcat, Gray fox as well as the Coyote. The most important function of the top carnivores, such as Mountain lion, is their control of populations of secondary carnivores such as Coyote, Bobcat, and Gray fox as well as Mule deer and smaller herbivores. Removal of top predators allows secondary predators to increase their abundance and they in turn increase predation on smaller mammals and birds and alter the composition in the fauna. Even the presence of a Mountain lion

in an area will cause the Coyote to vacate the area. Major predators will reduce the abundance of larger herbivores such as deer and reduce the presence of unfit, aged and diseased animals. They also reduce the incidence of domestic pets that hunt native small animals and thus greatly reduce the sphere of influence of subdivisions on adjacent natural lands. Furthermore, the public supports the concept of "a balance of nature" and revels in the thought that these large animals still remain in the region as part of a functioning system. The public largely supports the concept of these animals being in residence, and those who see these animals, value such encounters throughout their life.

On the other hand there are groups that see Mountain lion as menace to society and have dredged up records from California Fish and Game files on attacks of people, particularly children by Mountain Lions (Dickerson 1993). It is felt that such negative interactions have increased as more homes are being built in Mountain lion habitat, and as the lions may feel less pressure from humans since it is a "special protected mammal" status by the Department of Fish and Game and is no longer hunted. These groups see value in hunting out the species to avoid dangerous interactions with people. And while the Mountain lion currently is currently recognized as a "special protected mammal" in California, ranchers may still kill Mountain lions on their land if they feel the lion would harm their domestic animals, and apply within 48 hours after the killing for a license for killing the animal (R. Vogl, pers. comm.).

**Evidence of Corridor Values:** Beier (1993) has looked at minimum habitat areas and corridors for Mountain Lions in the Santa Ana Mountains of southern California. His work notes the extinction of Mountain lions from the 30 square mile San Joaquin hills along the coast of Orange County within 20 years after the range was completely isolated from other source habitats by development in the 1970's. Mountain lions became extinct there by June 1990. He further notes that after the death of a male lion in the southern half the Santa Ana Mountains in February 1988, there was no reproduction in that portion of the range for the following year until two young males began breeding in the spring of 1989.

Beier (1993), using a simulation computer model, looked at the factors effecting the potential of Mountain lions surviving in suitable habitats over 100 year periods. The study considered juvenile and adult survivorship, carrying capacity of the habitat, size of available habitat, and considered periodic reduction of carrying capacity due to catastrophic events (fires etc.), and the role of immigration to determine what parameters are need to insure that a population would have a 98 percent chance of persistence over a 100-year period. He found that a habitat area of 380-850 sq. mi. (1000 to 2200 sq. km.) is needed to support a lion population in the absence of immigration of additional lions. These areas would hold about 15-20 adult lions, but the population could still possibly suffer inbreeding effects over the long term. Interestingly, when his populations fell to theoretical extinction, the most common cause was the loss of breeding males (males are more vulnerable to loss due to their wider ranges and tendency to interact with man). However, if wildlife corridors allowed the immigration of up to three males and one female per decade, his data indicated that an area as small as 230-600 sq. mi. (600-1600 sq. km) could support a Mountain lion population without significant extinction risks in 100 years. Data show that male Mountain lions will migrate long distances from their birth ranges. Such migration, by means of wildlife corridors, even when numbering 1-4 animals per decade are of high significance to insure mixing of genetic stocks in populations that consist of 10-20 breeding adults. Without this introduction of differing genetic stock, inbreeding can result in a

loss of genetic variation and emergence of undesirable homozygous traits just as it does in incestuous lineages of people. When habitat areas are broken into even smaller units, it becomes apparent from his studies, that species survival becomes more and more dependent on wildlife corridors to insure that the larger animals such as Mountain lion do not undergo extinction.

Within this context, the South Newhall Wedge situated between Interstate 5 and State Highway 14 becomes an important and significant corridor for the passage of large animals from the very large source area, the San Gabriel Mountains (1094 sq. mi. within the National Forest area plus outlying areas of habitat) to the smaller receiver areas, the Santa Susana Mountains (186 sq. miles), and from there to the Santa Monica Mountains (about 230 sq. mile), and the Simi Hills (about 100 sq. mi.).

### Corridor Evaluation

**Actual Corridors Through State Highway 14 and Interstate 5:** As part of this study, I have focused on an analysis of the all potential corridors across the 14 and 5 freeways that would allow movement of wildlife between the San Gabriel Mountains and the Santa Susana Mountains. I have attempted to evaluate each of these crossings as to its usefulness to wildlife. The potential corridor crossings consist of road, street and highway underpasses, overpasses, and water drainages. All were designed strictly to facilitate the safe passage of cars and waters--no consideration was made for the movement of wildlife through them. These passages, however, have become important as they constitute, what must unfortunately be considered, the last potential corridors that will allow for movement of animals between these large zones of natural habitat.

A total of 10 such passages are analyzed here, five crossing State Hwy. 14, and five crossing Interstate 5. Additional crossings along State Hwy. 14 could have been included, such as the crossings at Placerita Canyon and Via Princessa, but these crossings do not effectively lead from the San Gabriel Mountains into the South Newhall Wedge area, though a discussion of the Placerita Canyon crossing is discussed below. Likewise no crossings north of Calgrove Avenue along Interstate 5 were considered as all occur within urban areas. The crossings evaluated below are summarized in Table 1 and can be located in Fig. 2. All measurements of the crossings were done with a calibrated "Measure Master Measuring Wheel" of 3 ft circumference.

**1. State Hwy. 14 crossing of an unimproved oilfield access road near Dockweiler Drive:** The northernmost crossing we are considering here is an unpaved underpass beneath State Highway 14 about 1/2 mile north of San Fernando Road and about 1/2 mile south of Placerita Canyon Road (Fig. 2). The underpass was constructed to allow access of oil field personnel to facilities east of the freeway. The underpass is fenced on both sides of the dirt roadway that passes under two bridge sections of the freeway (Figs. 3,4). The corridor is about 39 ft wide (fence to fence), 317 ft long and empties directly onto the 4-lane (2-lanes in each direction) Sierra Highway, which is 84 ft wide. The bridge itself is considerably wider than the fenced area but the 6 ft high chain-link fence continues bordering the freeway above and below this site and effectively restricts access to all but the roadway. Local severe restriction of the underpass occurs when the 6-ft chain-link gate is closed during the night to prevent unwanted access to the roadways. This would tend to strongly impact the usefulness of this corridor.

Table 1. Summary of the relative values of the crossings evaluated herein.

Location	Type of animal crossing	Length-width of corridor in ft.(1)	Bridge elev. in ft.	Noise factors (2)	Habitat factors (3)	Total Evaluation (4)
1. State Hwy 14 near Dockweiler Drive	Underpass (undeveloped)	317x40	15-20	B	B	B
2. State Hwy 14 at San Fernando Road	Underpass	450x102	15-17	C	C	D
3. State Hwy 14 at Elsmere drainage	Underpass (tunnel)	700x10	10-14	B	A	B-
4. State Hwy 14 at Los Pinetos Road	Underpass (undeveloped)	184x82	20-25	B	B	B*
5. State Hwy 14 at Sierra Highway	Underpass	400x102	30-45	B	B	B
6. Interstate 5 at Sierra Highway	Underpass and trail (+1/2 mile)	400x120	15-17	C	D	F
7. Balboa Blvd. at Interstate 5	Overpass	718x55	15-17	C	D	C
8. Weldon Road at Interstate 5	Overpass	256x37 (473 total)	20	C	B	C*
9. Interstate 5 at The Old Road	Underpass	380x105	120	A	B	B*
10. Interstate 5 at Calgrove Ave.	Underpass	612x66	15-17	C	C	D

(1) Length of corridor consists of the crossing from bridge off-ramp to on-ramp or from bridge edge to edge where no off-on ramps are present, width is the width of bridge or roadway that serves as crossing. (2) Bridge noise levels at approach to passage. A = low level, little effect on wildlife; B = moderate level; C = strong level, expected to cause hesitance in some species; D = very high level, expected to strongly effect crossing. (3) Habitat factors: evaluates amount of natural habitat at margins of crossings. A = Strong protective cover on both sides of interchange; B = moderate protective cover on both sides of interchange; C = protective cover only at one side of interchange; D = no protective cover on either end of interchange. (4) Total Evaluation, a summary evaluation of the potential use of the crossing. A = expected high usage due to good access and minimal disturbance factors. B = moderate usage by local animals with potential access and moderate disturbance factors. C = with moderate local access but with heavier disturbance factors. D = with poor access to the crossing and with strong disturbance factors. F = the access or disturbance factors or distance through the corridor make it very unlikely it will be used by any wildlife. \* = The corridor could be improved by removing or moving fencing etc. (see text).

However, portions of the fence near the gate have been torn down leaving a 3 ft high barrier to animal movement.

The vegetation on the east side of the underpass consists of dense Chamise chaparral and the area is crossed by a number of dirt roadways that all lead to this underpass. The vegetation in the area immediately west of the underpass is quite open and contains a large graded depression that is redeveloping vegetation while adjacent hillsides contain Chamise chaparral and

Coastal sage scrub vegetation. But beyond the immediate crossing area, the hills contain open burned-over scrub that is presently dominated by weedy grasses. Dockweiler Drive, leading to a new apartment-condominium development about one-half mile to the west, passes from Sierra Highway just south of the undercrossing (Fig. 3).

If animals were to use this underpass their natural passage would be towards the west away from Sierra Highway and perhaps north of the nearby Dockweiler Drive. The nearby condominium development would not be attractive to nocturnally moving animals. If the animals were to pass onto the South Newhall Wedge area they would need to pass south across the relatively open vegetation of the intervening hills, around various apartment projects, across Newhall Creek, and the busy San Fernando Road. San Fernando Road is at present a significant barrier to southward movement in this area west of State Highway 14. Between the freeway and Pine Street, there are, at present, only three broad, vacant lots on the north side of the road through which animals could pass. One of these has a used-car lot on the opposite side of the road, one a natural hillside (but the lot recently sold), and the last has a strong steel-rod fence on the opposite side of the road. As these final lots are filled in, there will no longer be corridors allowing movement of animals across this portion of the roadway. Portions of Newhall Creek are also channelized but with natural bottom and broad sloping margins. The presence of a natural stream bed would tend to attract the animals towards the South Fork of the Santa Clara River to the north rather than the Wedge area.

While the nearby Placerita Canyon overpass was not included in this survey, it also is a potentially useful wildlife corridor as the crossing occurs in an area completely without development. Placerita Canyon Road here is 85 ft wide with a total fence-to-fence width of 102 ft including the marginal dirt walkways. The distance from the eastern-most offramps to the west side of the adjacent Sierra Highway is 760 ft. But of importance, the underpass probably is very inactive during the night and thus can be used by wildlife. However, the nearby drainage tunnel for Placerita Creek passes well below the freeway and this represents a more protected and attractive passage for animals. The tunnel is a straight, corrugated, 16-ft.-diameter tunnel that has developed a dirt bottom and leads from areas with well developed willows to areas with more willows that lead to open habitats along old oil fields. The tunnel would serve as an excellent corridor crossing for animals following Placerita Creek.

**2. State Hwy. 14 crossing of San Fernando Road:** The San Fernando Road crosses both the Sierra Highway and State Highway 14 near the mouth of Whitney Canyon (Figs. 2,5,6) and near where Elsmere Canyon drains into Newhall Creek. Prior to the construction of the highways, this would have been an important corridor for movement of animals through the region. This corridor is now largely blocked by State Highway 14 whose bordering chain-link

fences strongly limit east-west passage of wildlife. A potential east-west corridor exists at the undercrossing of Highway 14 by San Fernando Road. San Fernando Road, which ranges from 102 to 88 ft in width, passes under the Highway 14 and terminates 740 ft east of the freeway crossing in an area used for ride-share parking. This area leads into areas of grasses, oaks, and chaparral vegetation that continue into the Whitney Canyon and the San Gabriel Mountains.

A total of three bridges pass over San Fernando Road and three off ramps and two on ramps border the bridges (Fig. 5). The bridges are about 16 ft above the level of San Fernando Road and the San Fernando Road is bordered by a 12 ft wide dirt path on the south side under the bridges. The east-west distance between the off and on ramps that needs to be crossed by wildlife on the south side of the passage is about 450 ft. From that point the animals could pass into the area between Highway 14 and the adjacent Sierra Highway. This area contains scattered oak trees, some scrub near Highway 14, and a broad swath of dense willows that have developed along the Elsmere Canyon drainage that crosses this area. West of the willow habitat the corridor passes through an open grassy plain and animals using this plain could cross over an unfenced Sierra Highway into the adjacent open scrub and local oak woodlands and into the wedge region between Highway 14 and Interstate 5.

The use of the corridor by wildlife is strongly limited by the overall high level of human activity and traffic in the area. The interchange is very busy during most hours and receives moderate usage throughout the night, limiting its usefulness. The close proximity of the freeway to the underlying roadway, also results in moderately high level on noise that further limits use of the passage.

While excellent natural habitat occurs along the mouth of Whitney Canyon and adjacent slopes east of this crossing and while moderately good habitat occurs in the area between Highway 14 and the Sierra Highway, the area west of the Sierra Highway eventually will be developed and will no longer be available as continued corridor habitat. Also the high level of motorized activity in at the San Fernando Road-State Highway 14 interchange would severely limit the usage of this area as a wildlife corridor.

**3. Elsmere Canyon Drainage under State Hwy. 14:** The drainage of Elsmere Canyon and adjacent secondary canyons passes under State Highway 14 less than one-half mile south of San Fernando Road and flows northward across the plain west of the freeway, passes under San Fernando Road and Sierra Highway, turns west and continues as Newhall Creek eventually joining into the South Fork of the Santa Clara River about 3 miles northwest of the freeway (Figs. 2,5). East of the freeway the Elsmere Canyon drainage is very natural and near the freeway is bordered with willows, sycamores and cottonwoods but crosses under Wager Road and the freeway. As it approaches the freeway, the natural drainage gives way to a concrete drainage that continues for about 700 ft. (Fig. 7). From the east, the drainage drops down a concrete apron about 15 ft long, feeds into a curved, oval tunnel that passes under the freeway. The curvature of the tunnel is such that direct light can not be seen through the 435 ft passage, but incidental light can be seen. The tunnel is here about 14 ft high, 10 ft wide with an oval section, concrete base. The tunnel opens out into an open, vertical-margined, concrete-lined drainage about 115 ft long that curves towards an adjacent abandoned roadway, under which it passes as a rounded, corrugated steel tunnel 10 ft in diameter and about 110 ft in length. The drainage then continues west of this tunnel by curving towards the north in a concrete, vertical-

margined channel and the water then cascades 2.5 and in other places about 4 ft down to a natural channel that continues north, bordered by a dense stand of willows and passes then under San Fernando Road and Sierra Highway and northwest to the South fork of the Santa Clara River. While the concrete corridor here is long (ca. 700 ft) and narrow (mostly 10 ft wide) with concrete vertical sides and base, it is well sheltered from the noise of the freeway and contains flowing water for a portion of the year. The abrupt drop off at the north or western end of the corridor would be limiting to smaller animals wanting to move to the east, but could be negotiated with ease by others. Raccoon tracks were observed in the middle of the passage.

Animals using this passage could then pass directly west from the natural-bottomed channel and cross the open fields and Sierra Highway (here 84 ft wide) and enter the South Newhall wedge north of the Eternal Valley Memorial Park and Mortuary and from there work their way to the south to enter into the best habitats in the Wedge area. With proposed development, however, this access to the southern areas would be cut off strongly limiting the value of the crossing to wildlife.

The crossing is attractive as the site contains water and is well sheltered from man's interference. However, the presence of two long tunnels with artificial bases, one curved, one straight, and the curved and straight portions of vertical walled, concrete based channel, and the dropoff at the northwestern end all limits the usefulness of this crossing by wildlife. Deer would have difficulty passing over the curved bottoms of the oval and corrugated tunnels. Small animals may be reluctant to dive over the steep drop at the northwest end of the passage. Passage across Sierra Highway would not be difficult except the cemetery presents a strong artificial habitat.

**4. Los Pinetos Road underpass of State Hwy. 14:** The Los Pinetos Road underpass of State Highway 14 is located about 1 mile south of the San Fernando Road crossing (Fig. 2). The Los Pinetos Road is an access road that leads from Remsen Street and Clampett Road east under Highway 14 and then passes northward along the west face of a steep ridge that separates this area from the lower portions of Elsmere Canyon. The roadway also gives rise to Refinery Road that passes to the south directly along the freeway and leads to roads that continue into the San Gabriel Mountains.

The Los Pinetos Road undercrossing is largely unimproved (Figs. 8-9) The paved portion of the roadway is only 18 ft wide, while the total floor of the crossing is 82 ft in width in a north-south direction and the north and south banks slope to the margin of the undercrossing. The two freeway bridges are 75 and 80 ft wide with a 21 ft space between the bridges and the pair of bridges span an east-west diagonal distance of 184 ft. The bridges are about 20 to 25 ft above the level of the underpass roadway. Most of the underpass area consists of graded dirt. Some trash has been dumped in the underpass area and such trash lines the northern border of the underpass.

The area east of the underpass continues into a previous graded area that has largely overgrown with Coastal sage scrub. The roadways continue to the east and Los Pinetos Road follows a winding path northward along the east slope of the adjacent ridge that separates this crossing from the drainage of Elsmere Canyon (Fig. 8). The roadway here has been paved, but now is heavily eroded and covered with sand from the adjacent sandstone slopes. Evidence of



Mule deer (tracks), rabbits (tracks), Coyote (scat) were present along this rather secluded roadway. The southern fork of the roadway (Refinery Road) passes directly adjacent to and above Highway 14, separated only by a chain-link fence. The very exposed roadway is paved and has a few sand-covered areas, but shows no animal tracks or scat. It is considered that the exposed condition of this roadway makes it less attractive for the movement of wildlife.

It is expected that these roadways, particularly the northern continuance of Los Pinetos Road, would serve to funnel wildlife into this potential corridor. However, use of the underpass appears low. Studies by Impact Sciences have documented use of the underpass by Raccoon, Gray fox and Coyote. East of the site, the hills reflect back noise from the freeway--the edges of the overpass bridge are only 18 inches above the pavement. This may contribute to low use as the moderate strong noise level here may startle the animals. West of the underpass the passage crosses Remsen Road, a concrete lined drainage and into the Valley Gateway property in an area with scattered Coastal live oak, numerous old blacktopped roadways, an old shack, and partially cleared sites. The Sierra Highway lies 550 ft west of the western side of the undercrossing and at an elevation of about 35 ft above the surrounding lands. Both sides of the Sierra Highway are bordered with dense stands of Coastal live oak. Animals that cross west over Sierra Highway enter into a canyon marked by steep slopes, but sufficient grades allow animals to pass either to the south or north of the bluffs over the ridge to the main portion of the canyons of the Wedge area.

The potential for animal use of the Los Pinetos Road crossing is higher than any other crossing studied in this document as the area of crossing is remote from human interference. The crossing distance is short (184 ft). The resources on both sides of the crossing are relatively good, though those in the Valley Gateway site are disturbed. However, the animals passing into the Gateway site would still have to cross Sierra Highway before entering the South Newhall Wedge site. This crossing is not difficult during the late night hours as overall traffic is light at this time.

Conditions that could lead to the increased use of this crossing are discussed elsewhere in this document. They consist of: (1) erection of sound barriers on both sides of the two overcrossing bridges to reduce noise levels for wildlife (the current borders are only 18 inches high); (2) improvement of access to adjacent lands immediately west of the crossing; (3) improvement of lands, removal of roadways, and planting of diverse vegetation in the Valley Gateway property; (4) construction of an underpass under Sierra Highway leading to the Needham Ranch property; (4) retention of the valley and adjacent ridges west of this site to provide for continued movement of the animals into the central habitats of this area.

**5. State Hwy. 14 crossing of Sierra Highway:** Figs. 2,10 show the maize of roadways in the interchange between Interstate 5 and State Hwy. 14. This major interchange has numerous interconnecting roadways, many elevated curved bridges; there is also a separate series of truck routes, a Southern Pacific railroad crossing, drainages, and through all this the Sierra Highway passes under State Hwy. 14 and abuts The Old Road that borders Weldon Canyon.

The Sierra Highway crossing of State Hwy. 14 provides a wildlife linkage between the San Gabriel Mountains and the lands between Interstate 5 and Highway 14 (Figs. 2,10). In this area, Highway 14 and the adjacent connecting ramps lie in a north-northeast south-southwest

direction and Sierra Highway passes perpendicularly in a west-northwest east-southeast direction. The Sierra Highway here has 2 lanes in both directions, is 76 ft in edge-to-edge width, with a total width of 102 ft. including dirt paths (12 ft. wide) on both sides of the paved roadway. The Highway 14 bridges and adjacent connecting truck routes are about 30 to 45 ft above the Sierra Highway. The Highway 14 bridges are each about 85 ft in width, the adjacent connecting ramps are about 55 ft wide. The total east-west distance between the outermost bridge margins is 400 ft. The height of the bridges above the Sierra Highway provide for a very open interchange. The location of fences bordering Sierra Highway are indicated in Fig. 11. A ranch house and an Car alarm business occur along the curve east of the interchange; there is no development along Sierra Highway west of the interchange.

The approaches to this bridge system from both the east and west side are good but that to the west is very steep. The adjacent slopes contain a mixture of open grasslands, scrub with deeper canyons having Coastal live oaks. Barbed wire fences occur along much of the lands bordering Sierra Highway east and south of the crossing.

The open nature of the underpass, with the freeways elevated well above the Sierra Highway, the moderate short east-west distance that needs to be crossed (400 ft), the low evening traffic flow on the Sierra Highway, makes this a potentially useful corridor for animals though it does not appear to lie along an ancient corridor. Unfortunately the passage leads only between the western most San Gabriel mountains and South Newhall Wedge--it does not lead to the Santa Susana Mountains. Also the hills west of this crossing leading into the wedge area are very steep,

**6. Interstate 5 crossing of Sierra Highway:** The Sierra Highway passes under the separate truck route corridor that parallels Interstate 5 and abuts with The Old Road = San Fernando Road (the name changes here) on the southwest side of Weldon Canyon west of the Southern Pacific Railroad crossing (Figs. 2,12, 13). This route provides a crossing of a portion of Interstate 5, i.e. the truck route portion, but does not cross the main automobile portion of Interstate 5.

As noted above, this interchange consists of a maze of roadways that border both sides of Weldon Canyon. A separate truck route occurs east of the canyon while the automobile route occurs along the west side of the canyon. The Old Road follows the western margin of the drainage and passes under the freeway overcrossings and ends up northeast of the freeway going north. The Southern Pacific Railroad extends from a mile-long, straight tunnel into the middle of the interchange (under a 5-level portion of the interchange) and passes through Weldon canyon to the south-southeast and eventually passes under the automobile portion of the freeway.

In order to pass through this interchange, the animals would have to enter the system along the Sierra Highway, cross under 4 freeway bridges, pass down a roadway to the margin of the Southern Pacific Railroad and follow the railroad in a southerly direction for over one-half mile until it crosses under the remaining portions of Interstate 5 south of the Sunshine Canyon landfill site. This would still leave the animals on the wrong side of San Fernando Road. Passage to the west or north along the railroad tracks would not allow for crossing of the automobile portion of the freeway.

The initial crossing under the truck-route portion of the freeway would demand that the animal pass directly over 410 ft of paved roadway to the road that leads down into Weldon canyon. The Sierra Highway here is only 42 ft in width, the overpasses are about 15 above the Sierra Highway. If the animal follows the broad, 35 ft wide grassy areas along the northwestern portion of the Sierra Highway leading into this interchange, this would lead down into a large box-like undercrossing of Sierra Highway that measures 120 ft long, 45 ft wide and 8 ft high. If the animal crossed this dirt-floored, dark tunnel, and came up on the south side of the highway, the animal could follow a small truck road down to the railroad. The animal would then need to follow this south-southeastward railroad, past adjacent businesses (such as a crane rental establishment) until the railroad crossed under the remaining portions of Interstate 5. The animal would then need to cross The Old Road (San Fernando Road) and would end up south of the Sunshine Canyon landfill about one-half mile south of the initial crossing point of Sierra Highway.

The trail along the railroad is constricted, bordered on the east by a steep bluff and the west by the varied businesses located along San Fernando Road. In the southern portion a marginal layer of willows, Giant reed (*Arundo donax*), and other trees border the drainage. Animals that cross down to the railroad may be more tempted to pass to the north as this area contains no human development and is densely bordered on one side with trees, but no access to the west is possible from this area. The stream that flows along the railroad is seasonal and is considered by Cal Trans as a runoff ditch, as it funnels local waters from the freeways.

The railroad that passes through this area extends from a tunnel that passes under the ridge separating this area from the Needham Ranch property. The opening of the tunnel is about 1/4 mile northwest of the crossing of Sierra Highway. The tunnel is 1 mile long and perfectly straight and it is possible to see light from the opposite end of the tunnel. This could possibly serve as a corridor for a determined animal, but the animal would then have to follow the railroad for another one-half mile before it could finishing crossing Interstate 5. The complexity and length of the railroad tunnel and subsequent areas renders the corridor unusable for all but the most determined animals.

**7. Balboa Boulevard overpass of Interstate 5:** Balboa Boulevard crosses over Interstate 5 and San Fernando Road in a north-northeast-south-southwest direction leading Foothill Blvd., that borders the hills along the northeastern edge of Interstate 5 to the developments in Granada Hills (Fig. 2). The overcrossing consists of a slightly curved concrete bridge 718 ft long, 55 ft wide. The bridge has a 2 ft wide path on the south side, a 6 ft wide pedestrian walkway on the north side. The bridge passes over two 6-lane spans of the 5 freeway, two bordering 3-lane interchange roads, the Southern Pacific railroad track and San Fernando Road (Figs. 14,15).

The area northeast of the site consists open rolling hills that had recently burned and are now covered with weedy grasses and mustards. The area along Foothill Blvd. is partially chain-link fenced but open gates allow access to the bridge. The area to the south has been disturbed, but is being allowed to redevelop into Coastal sage scrub and the animals passing from the bridge could easily pass another 200 ft to the hills bordering the west side Balboa Boulevard and cross to the west into the Omelveny Park area of the Santa Susana Mountains.

The Los Angeles Aqueduct passes diagonally under both the Balboa Bridge and Interstate 5 freeway as it passes to the nearby Los Angeles Reservoir. The underpass is about 40 ft wide, about 800 ft long, and contains two very large enclosed, cylindrical water conduits. The underpass terminates at the margin of the interstate (Fig. 15) and the conduits pass under the railroad and San Fernando Road on its route to the reservoir. This underpass could potentially serve as an animal corridor except that it is completely chain-link fenced on both sides with the fences on the northeast side topped with razorwire while those on the south side border the freeway. The fences provide no access to the route from either direction and eliminate this underpass from being used as a wildlife corridor.

The potential of use of the Balboa Boulevard bridge as an animal corridor is slight as the bridgeway is exposed to strong traffic noise, is very long and relatively narrow, without natural cover, and the access from the San Gabriel Mountains is only through open disturbed hillsides dominated with weedy grasses and mustards. Only animals strongly tolerant of development would be expected to use this potential corridor.

**8. Weldon Canyon road overcrossing of Interstate 5:** This crossing occurs about 1 mile northwest of the junction of Interstate 5 and State Hwy. 14 (Fig. 2). It consists of a narrow north-south passing bridge over east-west passing Interstate 5 (Figs. 16-17). The bridge itself is 256 ft long, 34 ft wide with a separate 6 ft walking path on the west side of the bridge making the entire structure 40 ft wide. The bridge leads between a 2-lane portion of The Old Road on the north to Coltrane Avenue on the south. Coltrane Ave. parallels the freeway leading to some horse-riding clubs and a gun club to the west and extends only about 200 ft east of the crossing. The bridge crosses 15-17 ft above Interstate which here consists of 5-lane corridors in both directions. The edge to edge distance between the hills north of The Old Road to the hill base at Coltrane Avenue is 473 ft.

The area immediately north of the bridge consists of scrub-covered flat-topped ridge that borders and parallels the freeway, chain-link fence and a zone of flat dirt that borders the two-lane roadway. The steep graded slopes south of The Old Road are covered with coastal sage scrub dominated by Coastal sagebrush (*Artemisia californica*) and White sage (*Salvia apiana*) and no fence occurs between these slopes and The Old Road. The mouths of the canyons to the east successively contain a firewood cutting business and horse stables. Several other steep natural slopes and canyons occur west of the bridge and lead down to The Old Road uninterrupted by fences. The south-facing slopes are largely covered with grasses, but have scattered and dense stands of coastal sage scrub and scattered oaks. A roadway follows the crest of the hills above and north of The Old Road giving a view of the Santa Susana Mountains to the south as well as the bridge. There is access to The Old Road from the adjacent slopes but mainly through the canyons east and west of the Weldon Road crossing. The adjacent slopes are too steep to be considered a suitable passage way for animals.

The area south of the interstate again consists of steep bank cut, but smaller slopes lead up to a flat graded area that parallels the freeway. These north-facing slopes have redeveloped a dense scrub consisting of California buckwheat (*Eriogonum fasciculatum*), Goldenbush (*Haplopappus linearifolius*), Bush aster (*Corethrogyne flaginifolia*), Coastal sagebrush, etc. Canyons with dense oak, walnut and Big-cone Douglas fir occur both to the east and west of the south end of the bridge.

This narrow overpass of Interstate 5 is relatively short but the maximum slope to slope distance here is 473 ft. The freeway makes the bridge very noisy and the narrowness of the bridge makes the crossing more exposed to the passage of the cars and trucks. The areas both north and south of the bridge are not fenced making the potential of access to the site better. There is some fencing directly bordering the interstate, but this would serve to funnel the animals to this site. It is considered that animals such as coyote that are tolerant of street surfaces and traffic noises could use this crossing, but the exposed nature of the site may limit other species from use of this passage.

The crossing could be made more suitable for wildlife crossings by erecting 3-5 ft walls on both sides of the bridge, reducing the freeway noise and blocking the visual shock of the vehicles passing under the bridge.

**9. Interstate 5 crossing of The Old Road:** This diagonal crossing occurs slightly over a mile northwest of the Weldon Canyon Road crossing (Fig. 2). Interstate 5 passes from the east-southeast to the west-northwest direction and The Old Road passes under the freeway in an east-west direction (Figs. 2,18,19). Interstate 5 here consists of two parallel lanes each about 70 ft wide, with a 30 ft space between the lanes. The freeway passes about 120 ft above the level of The Old Road allowing for good growth of shrubs along the south side of the freeway that results in a reduced auditory impact. The Old Road is here about 105 ft wide, with two 25 ft wide double lanes and an 12 to 22 ft wide zone between the lanes and 9 ft margins outside the lanes. The Crescent Valley Trailer Park with about 80 mobile homes, occurs just north of The Old Road, east of the freeway (Fig. 18). The trailer park and eastern side of The Old Road is bordered by steep slopes and canyons (Fig. 19). In many areas the slopes are nearly vertical limiting animal usage.

Drainages from these hills and canyons east of this area join into a stream that borders the north side of The Old Road cutting deeply into the terrain. The seasonal stream is covered with a dense canopy of Arroyo willows, cottonwoods, some sycamores and the roadway contains a bordering of small Coastal live oaks. At a point 350 ft east of the bridge the stream flows into a V-shaped, flat-bottomed concrete channel and at the bridge the channel is confined to an underground V-bottomed, oval-shaped, concrete conduit (about 12 ft wide, 15 ft high) that extends along the north side of The Old Road under the freeway to an area about 1/4 mile west of the freeway crossing where the conduit opens into a 10 x 10 ft concrete, vertical-sided channel and remains channelized, either with vertical or sloped concrete sides, from this area all the way to the Santa Clara River. As drainages from the adjacent East and Rice canyons enter into this channelized stream, passing under The Old Road, it is possible for any animal in the channelized stream to pass back to the south and enter these canyons, but they would need to pass under concrete conduit along The Old Road first. Waters from several small drainages east of the freeway pass under the freeway in 2 and 3 ft conduits and drain into this channelized system between this crossing and the Calgrove Avenue crossing to the north.

A chain-link fence occurs north of The Old Road under the freeway and extends to the point where the conduit enters into the channelized stream. Similar fencing occurs along the south side of The Old Road from an area opposite the trailer park to about 36 ft beyond the freeway crossing and then extends back towards the freeway. A narrow roadway passes up the

oak-covered hills west of the interstate. A small parcel of Santa Monica Conservancy land occurs southwest of this bridge crossing. The presence of chain-link fencing along both sides of The Old Road under the freeway represents a 105 ft wide, 380 ft long constriction through which animals must cross in a diagonal direction.

The deeply cut, tree-covered drainage along the north side of The Old Road serves as a good feeder from adjacent canyons. But the path under the willows is low, excluding deer, but allowing many other animals to pass along the roadway and trailer park under the shelter of the overstory vegetation. If these animals continue westerly along this route they will feed into the area of the concrete channel margins, but here they can extend to the adjacent roadway and cross the highway. Any direct crossing will run into the chain-link fence so they have to pass down the roadway some 400 ft or more before being able to enter the vegetation of the south side of the roadway.

Direct access to this crossing from the north is limited by the bordering steep slopes and the adjacent trailer park. There is an area of excellent access to the crossing west of the trailer park where a road passes eastward up a canyon to a nearby transmission tower and from there into the next canyon to the east (Fig. 18). This trail unfortunately leads directly into the southeastern portion of the trailer park. Animals would either have to walk along the roadway through the trailer park or try to fit between the adjacent steep bluff and the eastern-most trailers where a concrete channel 3 ft high and wide leads from a local drainage into the stream bordering The Old Road. The trailers lie about 20 ft from the adjacent vertical bluffs. Such a constriction would be unacceptable to most animals.

A second possible crossing could occur immediately west of the trailer park. Any animals that pass down the steep hillsides (there are some good ravines that would allow passage along the northerly side of the freeway and west of the trailer park, Fig. 19) could pass eastward along the freeway (unfortunately the bluffs pass quite near the freeway) and work their way down the slope to the zone between trailer park and the freeway. They would have to cross the deeply cut stream channel and cross directly or diagonally across The Old Road to the west. Fortunately, the freeway is so high above The Old Road here that there is very little noise in the underpass area.

Use of this potential crossing is limited by the location of the trailer park that effectively blocks off movement of animals from the nearby hills. Some animals could follow down the streambed, which, however, is densely vegetated.

Utilization of the crossing could be greatly improved by removing the chain-link fences that border north and south sides of The Old Road under the freeway, and having the fences pass closely under ends of the elevated Interstate. If this fencing was removed, the animals could pass directly north and south across The Old Road over a 300 ft wide area and not have to follow a diagonal pathway. A lot along the south side of the southeasterly end of the freeway is for sale. If a home was developed here, it would greatly effect the usefulness of the corridor. But who would want to build a home right nest to the overcrossing?

**10. Interstate 5 crossing of The Old Road-Calgrove Ave.:** The farthest north and west of the potential Interstate 5 crossings occurs where The Old Road or Calgrove Ave. passes

under the interstate about one mile west from the crossing noted above (Fig. 2). Here The Old Road roughly parallels the north-northwest and south-southeast running freeway (lying west of the freeway) and curves under the freeway heading to the northeast becoming Calgrove Avenue. Two pairs of on-off ramps extend from the Interstate (Figs. 20,21). The northeast corner of the crossing contains an ex-new-car sales automobile agency (presently opening as an athletic club), the southeast corner contains a gated community, Rancho LaSalle, which occupies the lower portion of the adjacent canyon; the western side of the Interstate is without development. The area east of this crossing along Calgrove Ave. consists of homesites that block passage of wildlife from the south. A concrete-margined stream channel extends between the Interstate and The Old Road running under The Old Road and eventually passing under the freeway. It receives runoff from the hills bordering The Old Road and receives additional waters from Towsley and Wiley Canyon before passing under The Old Road (Fig. 20). In this area the stream is channelized with 10 ft vertical-concrete margins and is about 40 ft wide. The areas between the on-off ramps and the freeways contain weedy grasses. Scattered oaks and walnuts occur west of the interstate, and the extensive native habitats of the Santa Susana Mountains lie directly west of this site. The Ed Davis Park is in the adjacent Towsley Canyon.

The Old Road here is about 63 ft wide, the two freeway crossings are about 65 ft wide with a 45 ft space between the north and south lanes. Eight-foot dirt strips border both sides of The Old Road under the bridge. The maximum northeast-southwest distance between the bordering on-off ramps (the distance the animals must pass to cross the corridor) is 515 ft; the distance between the eastern most on ramp and the western margin of the channelized stream is 620 ft (Figs. 20-21). The freeway overcrossings lie about 16 ft above the level of The Old Road.

Wildlife access to this crossing from the east side is relatively difficult and must be made along the steep hill that separate the Rancho LaSalle development from the freeway. A portion of this area has chain-link fences but the portions higher up the slopes consist of 4 strand barbed wire. The animals that cross this fence would have to work their way down the steep chaparral-scrub-covered hillsides to Calgrove Avenue and cross the 600+ distance to the other side. The animals could pass along the dirt flats between The Old Road and the inclined slopes of the freeway crossing. The passage here is quite long, but traffic along The Old road is moderate during the day and minor at night, the passage is broad, the animals could follow the dirt tract along The Old Road, and once they pass the channelized drainage, they would have free access to grasslands, oak woodlands and chaparral-covered slopes to the southwest. There is little evidence of actual use of the crossing at the present time. The crossing could be used by the fast-moving coyotes and possibly raccoons, but shy animals would probably stay away from this long passage.

### Discussion

**Total corridors:** The data shows that over the 2.65 miles of State Hwy. 14 between Interstate 5 and Dockweiler Drive road, only 336 ft of corridor exists, much of this unsuitable for wildlife use. This represents only 2.4 percent of the total distance. Similarly, along Interstate 5, over a distance of 4.65 miles, only 383 ft of corridor exists, this representing only 1.6 percent of the entire distance.

A total of four corridors along State Hwy. 14 are considered to be of B total evaluation. These include the oilfield road near Dockweiler Drive, the drainage of Elsmere Canyon, the Los Pinetos road crossing and the Sierra Highway crossing of the 14 freeway. The oilfield road crossing can, however, be compromised by the locking of the chain-link gate and the overall distance from the Wedge area--the animals would have to pass over San Fernando Road. The Elsmere Canyon drainage is very narrow, without a natural bottom, and while very well protected, leads into a region that necessitates crossing of Sierra Highway in a region that will, in all likelihood, be developed. The Los Pinetos Road crossing remains somewhat isolated, but again demands a second crossing of Sierra Highway. The State Hwy. 14-Sierra Highway crossing appears to be one of the better crossings as it is limited to the crossing of one highway and occurs in an area where the freeway is well elevated above the highway limiting noise impact. Vegetation on both sides of the crossing is mostly of Coastal sage scrub, which does not provide good cover, and it is very close to the very busy Interstate 5-State Hwy. 14 crossing, and the slopes to the west are very steep, but overall it remains as a highly viable corridor crossing.

**Corridors across Interstate 5:** The potential wildlife corridors that cross Interstate 5 do not provide as good an access from the South Newhall Wedge area to the Santa Susana Mountains. The ridge along the south and west margin of the Wedge area, however, allows for an overlook of Interstate 5, and the electrical-transmission roadway that passes along this ridge allows the animals to search along the freeway for a potential crossing, if such a cognitive process is possible. Of all the crossings present, the Weldon Road overpass allows for a quick crossing, but the overpass is strongly impacted by the freeway noise. The Old Road-Interstate 5 underpass has difficult access from the east, which is interrupted by the Crescent Valley Trailer Park and unfortunate fencing along the Interstate. The Calgrove Ave underpass has difficult access and a long, moderately busy roadway. The Balboa Boulevard overpass, which would lead directly from the San Gabriel to the Santa Susana Mountains is very long and again is strongly impacted by noises from the underpassing freeway. The crossing of Interstate 5 from Sierra Highway is very complex and could only be done by highly vagile and determined animals. Both the Weldon and The Old Road crossings could be inexpensively improved by adding sound barriers (Weldon) and moving chain-link fences (The Old Road). The lack of good crossings of Interstate 5, diminishes the value of the crossings of State Hwy. 14. But, potential crossings of Interstate 5 do exist and could allow low level of target species crossings.

**The Los Pinetos Road Underpass:** The Los Pinetos Road underpass also represents a viable crossing as it is free from any traffic impacts and has good habitat on both sides of the restrictive underpass. But animals using this site still must pass over Sierra Highway.

I am in complete concurrence with the report prepared by The Planning Consortium (1993) on the Valley Gateway Project where on page 100 they stress the importance of the Los Pinetos Road underpass as a corridor between the San Gabriel Mountains and the Santa Susana Mountains and eventually on to the Santa Monica Mountains. However, It is not the only viable corridor passage to wildlife. The Planning Consortium (loc. cit., page 101, 103) further recognizes three potential corridors within the Valley Gateway Project site through which the animals can pass as they enter the site from the east. These include: (1) a "sharp left turn" in which the animals can go to the south along the old refinery roads, past the refinery site and into the scrub south of the refinery site where they could eventually cross Sierra Highway and enter into the South Newhall Wedge habitats; (2) a direct crossing of Remsen Street, the stream, and



into the open Oak woodland and that leads west to Sierra Highway and the Needham Ranch site; (3) a "sharp right turn" after crossing of Remsen Road and following along the stream bed that leads to the north and from there onto the hills to the west and onto the Needham Ranch site. They consider it essential that these three corridors be designed into the Valley Gateway Project.

The present Valley Gateway Project, however, impacts all three of these corridors, some more than others. The "sharp left turn" corridor is strongly restricted by the continuation of Remson Road and development of the lots on the hills bordering the freeway. This corridor is strongly impacted for a distance of 1200 ft, which will strongly limit its use by wildlife.

The central corridor is constricted beyond the crossing of Remson Road forcing the animals to pass up a steep slope and funnel their way into a flat open space surrounded by oak woodlands. The presence of the steep hillside and adjacent developed areas would tend to dissuade usage of this central and most direct crossing to the west and result in reduced use of the proposed undercrossing of the Sierra Highway.

The presence of the hillside would tend to funnel more animals along the seasonal drainage that passes to the north, west of Remsen Road. Here again the animals would have to pass through 1300 ft of the streambed habitat which is partially protected by adjacent banks and oak trees and eventually pass through a hill covered with Chamise chaparral to cross Sierra Highway.

While the present Valley Gateway design has attempted to incorporate all three suggested corridors, in the design I have seen, it has severely compromised all three corridors by developing severe constrictions. While there is no consensus on the design of the optimum corridor configuration, researchers agree that long, narrow corridors maximize the edge effect and limit the use of the corridors to the more timid individuals and species. With the strong development of adjacent areas into industrial parks with some buildings being several (7) stories tall and overlooking the proposed corridors, there will already be strong urbanized intrusion into the corridor.

Soule' and Gilpin (1991) emphasize that corridor design must take into account what target species that will use the corridor and the requirements of these species. Target species in this study include the Mountain lion, Bobcat, Gray fox, and Mule deer. Each of these species has some optimum corridor requirements that would allow them to effectively use the system, and therefore corridor design must take this into consideration. Soule' and Gilpin (loc. cit.) note that long corridors may be no problem for fast-moving animals such as Mule deer, Coyote, and Mountain lion that can easily pass through in a short time period, but other species such as rabbits and mice can not pass through as quickly and this leaves the animals vulnerable to predation and thus the corridor may serve as a sink (death trap) for these species and will reduce the numbers of individuals from adjacent sites. While the corridor is considered primarily for the target species, proper development of diverse habitats will also allow for use of the corridor by other non-target species.

To optimize the potential use of the Los Pinetos Road corridor, I propose the following modifications of the plans to the Valley Gateway project (see Fig. 23).

(1) That the central corridor be expanded by the removal of lots 19 (southern half), 20, 21, and 22 to a broad, 600 ft wide corridor whose northern boundary includes the central knoll and a portion of the ridge along Sierra Highway (Fig. 22). On this land the remnant improvements of the oil field roads, sheds, tank bases etc. be removed and the site retain the oak trees but be planted in Coastal sage scrub-Chaparral species to provide for a mixture of species to provide a highly suitable habitat that will serve as an optimized migration corridor through the site. The corridor would lead directly to the Needham Ranch site and the crossing of the strongly elevated Sierra Highway should be provided with a suitable wildlife undercrossing, while also retaining the potential for animals that are reluctant to use such an undercrossing to pass over Sierra Highway. This direct access to the adjacent site should be strongly enhanced to maximize usage of the site by wildlife presenting a diversity of habitats and a direct route to the territory east of Sierra Highway. The lands west of this area shall also be undeveloped allowing access to adjacent habitats in the central portion of the South Newhall Wedge area. It is my understanding that managers of the Valley Gateway project (D. Armanetti, pers. comm. May 7, 1993) have agreed to expand this corridor to 500 ft width and to provide access under Sierra highway and to provide water sources to attract wildlife. Mark Gates of the Needham Ranch (pers. comm. May 7, 1993) has also agreed to pull out of the valley immediately west of the central corridor and restrict all development within that area to further aid to the development of the central corridor (Fig. 22). The advantage of this optimized direct corridor is that it provides the shortest-route through the area for the vagile target species.

(2) I believe the second most important corridor identified by the draft EIR is the south (sharp left turn) corridor. While this is a very narrow corridor impacted strongly by the adjacent presence of the freeway, it leads to open space habitat and to eventual crossing of Sierra Highway and thus directs the animals in the proper direction. However, present plans for the route, further exclude this corridor from usefulness. However, with optimization of the primary central corridor, this could be minimized. However, pathways, protected by plantings, must be provided to allow access to the open space regions to the south.

(3) With optimal enhancement of the central corridor allowing direct access onto adjacent lands, the northern corridor, that follows the deeply cut drainage to the north and then requires the animals to pass over chamise-covered hillsides with few oak resources and the Sierra Highway could be developed as a replacement for the loss of the lots in the central corridor. While the literature emphasizes the value of riparian habitats for corridors, the target species in this project would all be able to use the central corridor with ease. The more protected northern corridor would, however, be of interest to smaller, more secretive animals such as Badger, Raccoon, Long-tailed weasel, but as the streambed habitat diminishes as it passes under Remsen Road and continues north as a broad V-shaped channel, these animals would have to leave the streambed, pass over the Chamise-covered hills, and negotiate the Sierra Highway crossing. The crossing of Sierra Highway here would be difficult as much of land bordering the highway is steeply sloped down to the highway. While the drainage through dense oak woodland does represent attractive habitat that is presently used by a resident Bobcat, these smaller species would do much better crossing under Sierra Highway in the central corridor. Also if this is used as a corridor area, the animals crossing the Sierra Highway would have to circle back to the south to join the other natural areas once portions of Needham Ranch are developed as direct access to the west would be blocked.

The reasoning behind these recommendations is that, in the future natural lands will remain in the southern portion of the South Newhall Wedge area, and it is important to encourage movement of animals into this area, away from proposed areas of development. Thus the central corridor would serve that purpose. Secondly there is another functional corridor less than a mile away, the Sierra Highway underpass of State Hwy. 14 that can also allow access to the Wedge area from the San Gabriel Mountains.

**Mountain Lion Sighting in the Central Corridor:** While the small South Newhall Wedge area is moderately small, it is known to support populations of Bobcat, Coyote, Raccoon, Mule deer, Opossum, skunk (all seen by local residents), Gray fox, and possibly American badger and Long-tailed weasel. The site is much too small to contain the home range of an individual Mountain lion, however, a juvenile Mountain lion was seen by Henrickson on the afternoon of April 14, 1993 on the Needham Ranch property, in the basin west of Sierra—Highway, just west of the proposed central corridor through the Valley Gateway project. The animal was about 400 ft from Sierra Highway and 1600 ft west of the Los Pinetos Road underpass. The animal appeared to be a migrating juvenile. Its presence in the area of the Los Pinetos Rd. underpass of State Hwy. 14 certainly indicates that these animals can presently find access to this area.

**The Potential of Continued Development In and About the South Newhall Wedge Area:** At the present time, the territories along State Hwy. 14 and Interstate 5 and in the intervening Wedge area are largely undeveloped. However, all of the lands outside the Angeles National Forest and the right-of-ways for Southern California Edison and Southern Pacific Railroad are privately owned and development is presently being proposed for significant portions of this land within the South Newhall Wedge and one should expect future proposals for most all of this land on both sides of the 14 and 5 freeways.

One would expect that the massive 1094 sq. mi. Angeles National Forest would remain free of development, but proposals for irreversible modifications are constantly proposed. The latest in this area is the Los Angeles County Elsmere Canyon Landfill, which is proposed for the upper Elsmere Canyon immediately south of the Los Pinetos crossing of State Hwy. 14. The Elsmere Corporation owns the land south of Los Pinetos Road undercrossing, but its current plans do not intend use of the undercrossing for access to the proposed land fill. Rather, the present tentative plan is to have a separate exit from the 14 freeway north of the Los Pinetos Crossing with the roadway curving around to the southwest, bridging over two drainages and then passing into the Elsmere Canyon area. The massive (650 acres) 60-year-potential land fill, which will eventually extend nearly to the crest of the range, as seen from the freeway, will strongly modify the source area and reduce undisturbed areas of habitat considerably and leave areas that will function as corridors rather than source areas of habitat. The impact on wildlife values in the region from this dump will be considerable.

The area within the South Newhall Wedge is entirely under private ownership and except for the Southern Pacific and Southern California Edison right-of-ways is all subject to future development with plans developed or being developed for the Valley Gateway Project, the Needham Ranch project, Henry Arkin project, Jack Williams property, the Fred McHaddad property, Eternal Valley Memorial Park (already partly developed), and others will greatly reduce the amount of natural habitat present in this area. Likewise, nearly all of the Santa

Susana Mountains and the Simi Hills is under private or corporate ownership, with extensive portions owned by oil companies.

### **Conclusions and Summary**

State Highway 14 (the Antelope Valley Freeway) and Interstate 5 (the Golden State Freeway) and other developments have formed barriers to animal movements between major montane regions in Southern California.

While the San Gabriel Mountain range is massive, containing large populations of larger animals (Mountain lion, Bobcat, Coyote, Badger, Gray Fox, Deer), the smaller ranges (Santa Susana, Santa Monica mountains, Simi Hills) have smaller populations of these larger animals.

It has been found that such smaller ranges will not support sustained populations of the larger predator species such as Mountain lion unless corridors are available to allow for an inflow of individuals from the larger source areas to the smaller receiver areas. Such small populations are vulnerable to inbreeding problems and other loss events that eventually will result in eventual local extirpation. Loss of major predators results in a change in the overall composition of mid-size predators that in turn effects the population structure of smaller animals.

To provide linkage between the source area for the region (San Gabriel Mountains) and the receiver area (Santa Susana Mountains) corridors across State Hwy. 14 and Interstate 5 must be provided, and the areas between the highways, here designated as the South Newhall Wedge, must retain suitable areas of habitat for these species.

At the present time all potential corridors across the freeways consist of drainage conduits or highway interchanges--all designed for waters and vehicles--none was designed for the passage of wildlife.

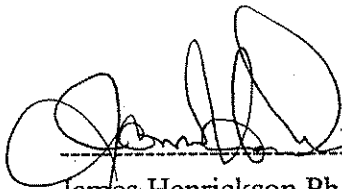
This study examines 10 underpasses and drainages across the 14 and 5 freeways and grades their effectiveness as corridors. Of the 5 corridors that cross State Hwy. 14, 4 are considered potentially usable, of these one is a drainage channel (Elsmere Canyon drainage), three are underpasses of the 14 freeway (an oilfield road near Dockweiler Drive; Los Pinetos Road, and Sierra Highway). Along Interstate 5, only The Old Road underpass serves as a potential corridor, though the Weldon Road could be modified to enhance its usefulness as a corridor. The others show too much traffic activity to be effective wildlife corridors.

For an underpass to be an effective corridor, proper access to and from the corridor must be provided. The Valley Gateway Project, immediately west of the Los Pinetos Road underpass, recognizes three potential corridors in the land between the Los Pinetos underpass and Sierra Highway. None of the proposed corridors is sufficiently wide to provide for significant animal movement.

It is here proposed that the central of the three corridors: (1) be expanded to 600 ft total width; (2) be cleaned up and revegetated with suitable scrub vegetation, (3) have tunnels cut under the elevated Sierra Highway to allow for animal movement under the highway with

alternative access to above-highway movement in order to optimize the central most corridor. It is considered that one optimum corridor would be better than three ineffective corridors.

To continue the value of the central corridor, the Needham Ranch site west of Sierra Highway is willing to pull back its development from the entire drainage west of the central corridor to continue an optimum corridor that would lead to the varied habitats of the central portion of the South Newhall Wedge area.



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May 14, 1993

(323-)343-2057

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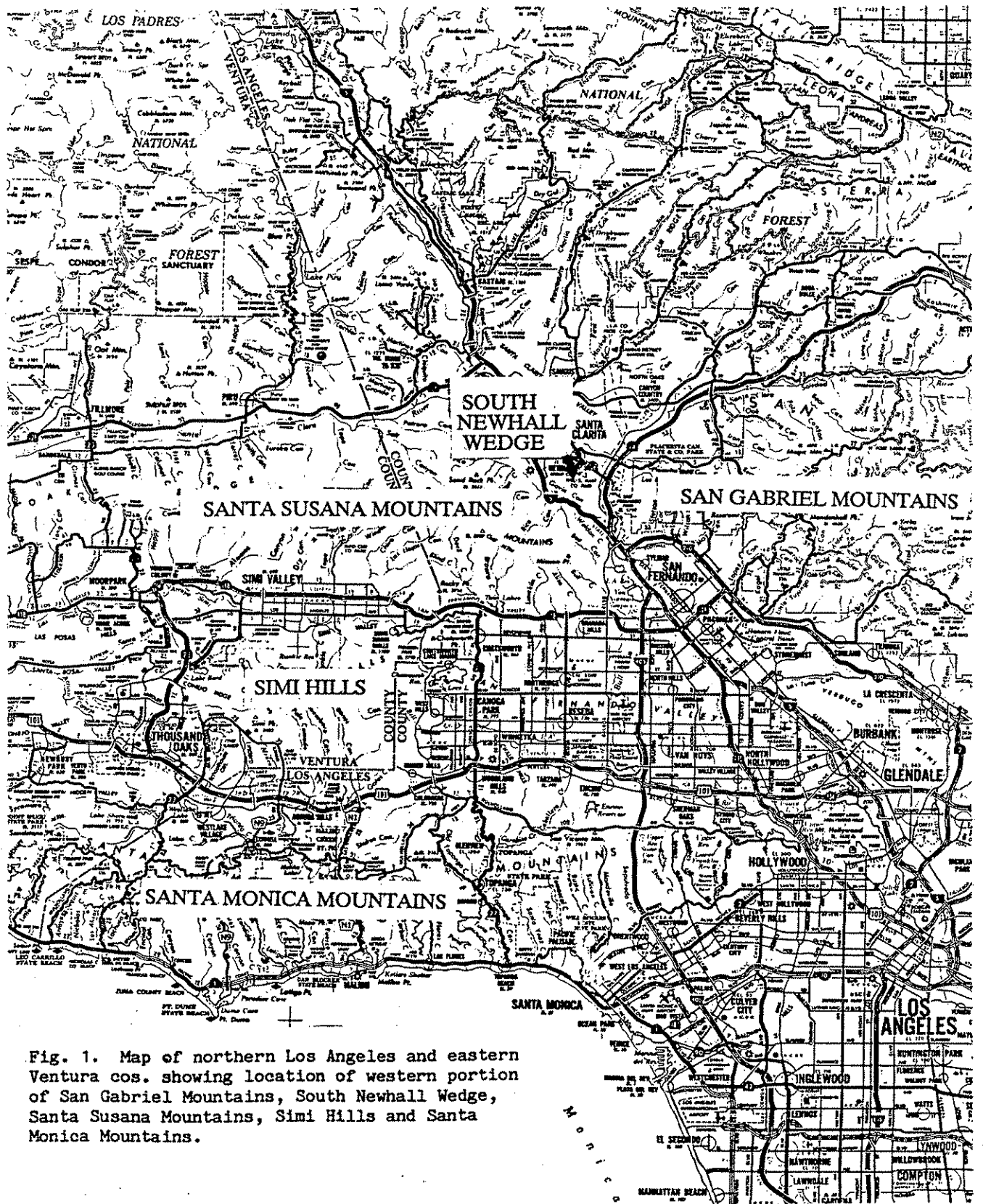
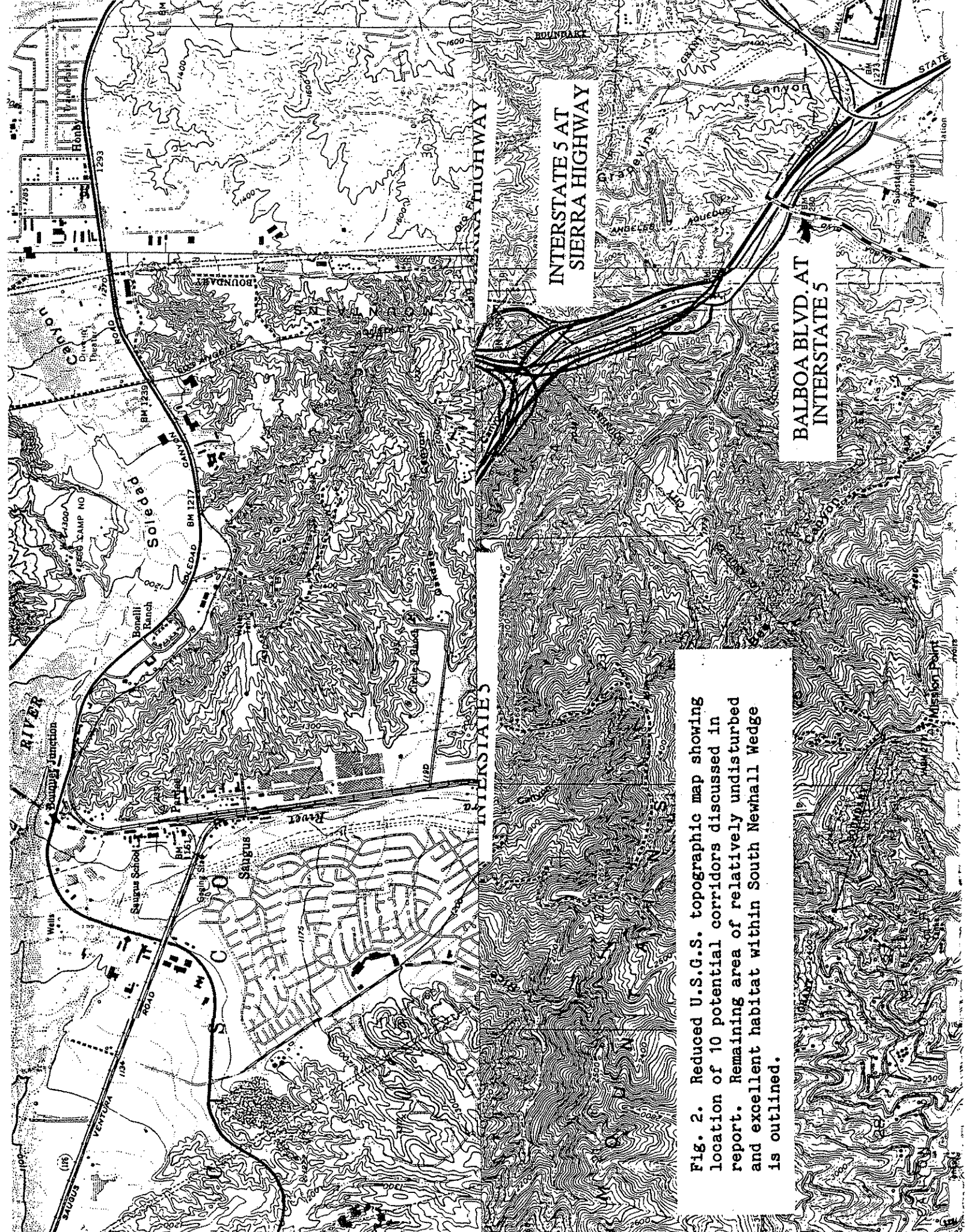


Fig. 1. Map of northern Los Angeles and eastern Ventura cos. showing location of western portion of San Gabriel Mountains, South Newhall Wedge, Santa Susana Mountains, Simi Hills and Santa Monica Mountains.



INTERSTATE 5 AT  
SIERRA HIGHWAY

BALBOA BLVD. AT  
INTERSTATE 5

Fig. 2. Reduced U.S.G.S. topographic map showing location of 10 potential corridors discussed in report. Remaining area of relatively undisturbed and excellent habitat within South Newhall Wedge is outlined.



## Legend for species symbols, Figs. 3-20

- E = Eucalyptus sp., Gum tree  
 J = Juglans californica, California walnut  
 P = Populus fremontii, Cottonwood  
 Q = Quercus agrifolia, Coastal live oak  
 S = Platanus racemosa, Sycamore  
 W = Salix sp., Willow  
 CSS = Coastal sage scrub.

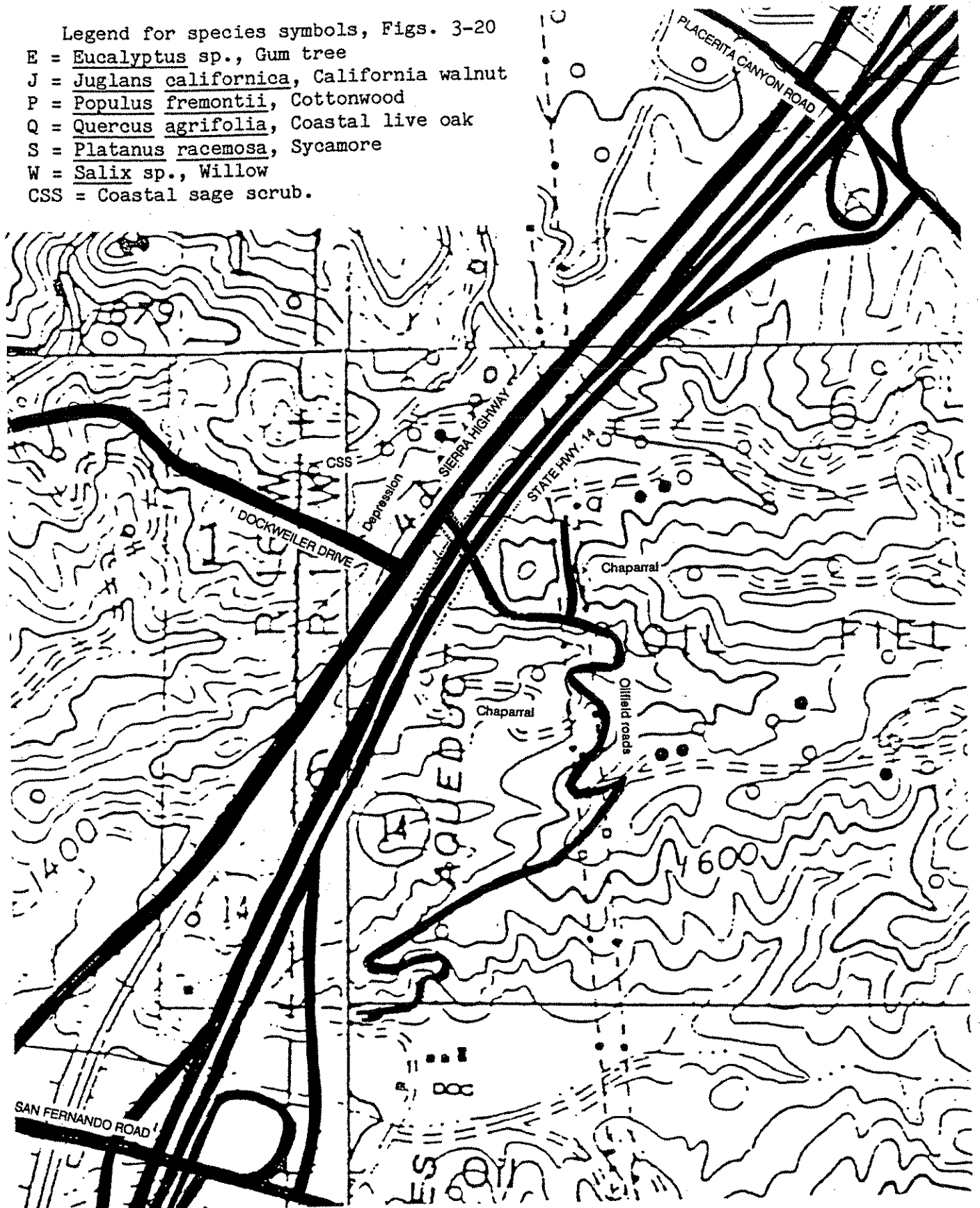


Fig. 3. Enlarged topographic map showing underpass of State Hwy. 14 by unimproved oilfield access road near Dockweiler Drive.

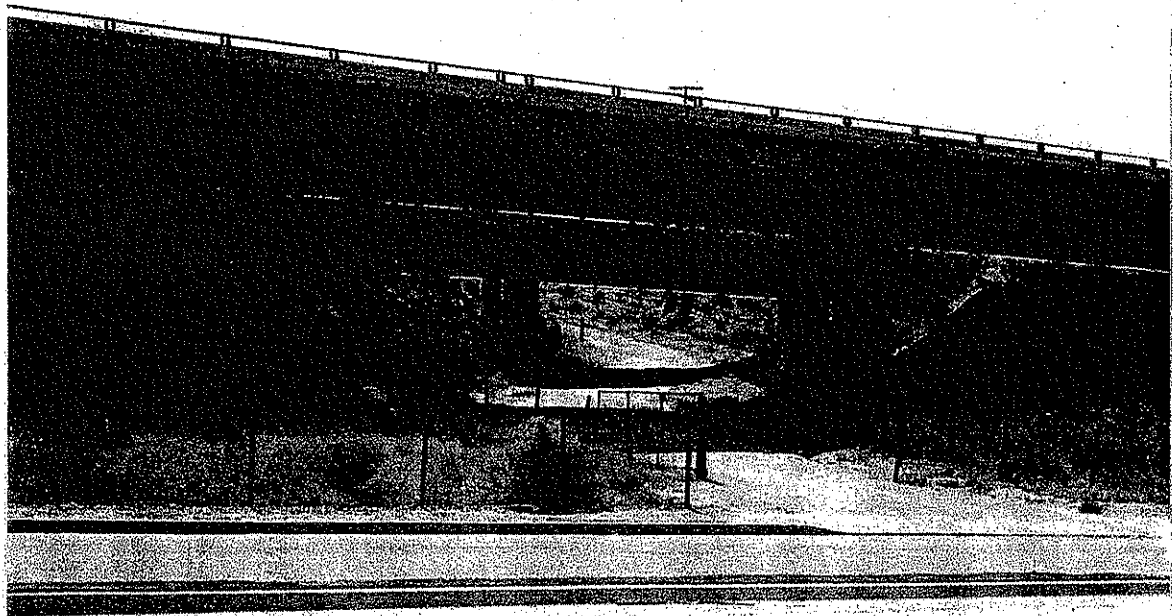
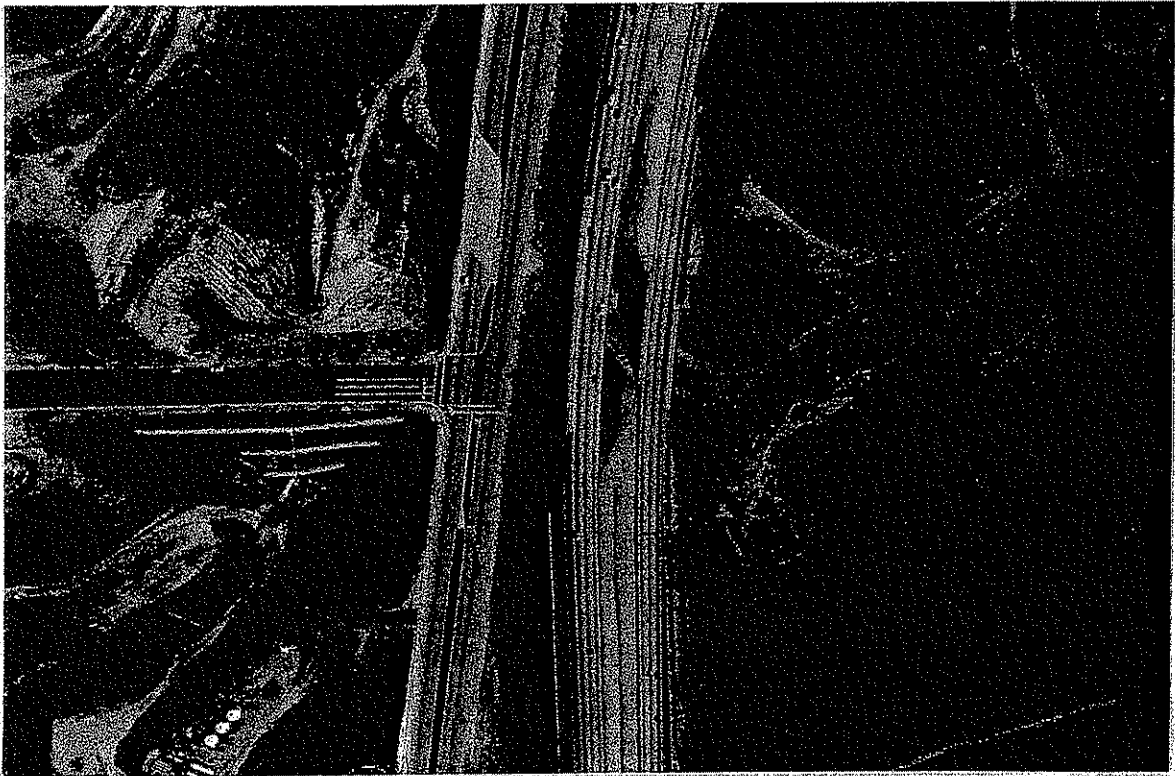


Fig. 4. Photographs of underpass of State Hwy. 14 by unimproved oilfield access road near Dockweiler Drive. Top. Aerial photograph as seen from south showing Dockweiler Drive (entering from left) abutting against Sierra Highway; freeway on right. Oilfield road curves to northwest and emptys onto Sierra Highway. Bottom. Photo of underpass as seen from west, across Sierra Highway. The entire underpass is bordered by chain-link fence.

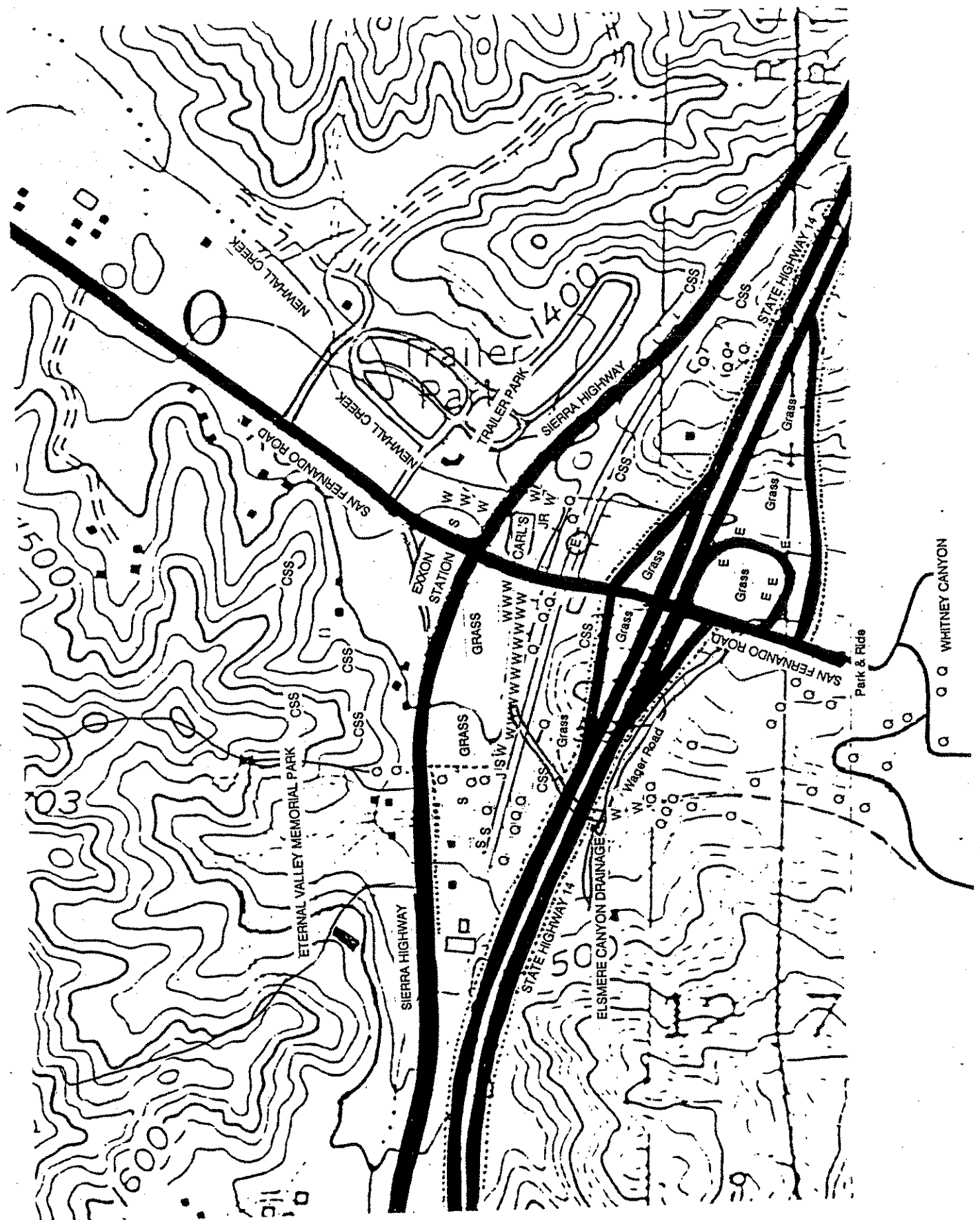


Fig. 5. Enlarged topographic map showing San Fernando Road underpass of State Hwy. 14, also showing location of Elsmere Canyon drainage. Chain-link fences indicated by dotted line.

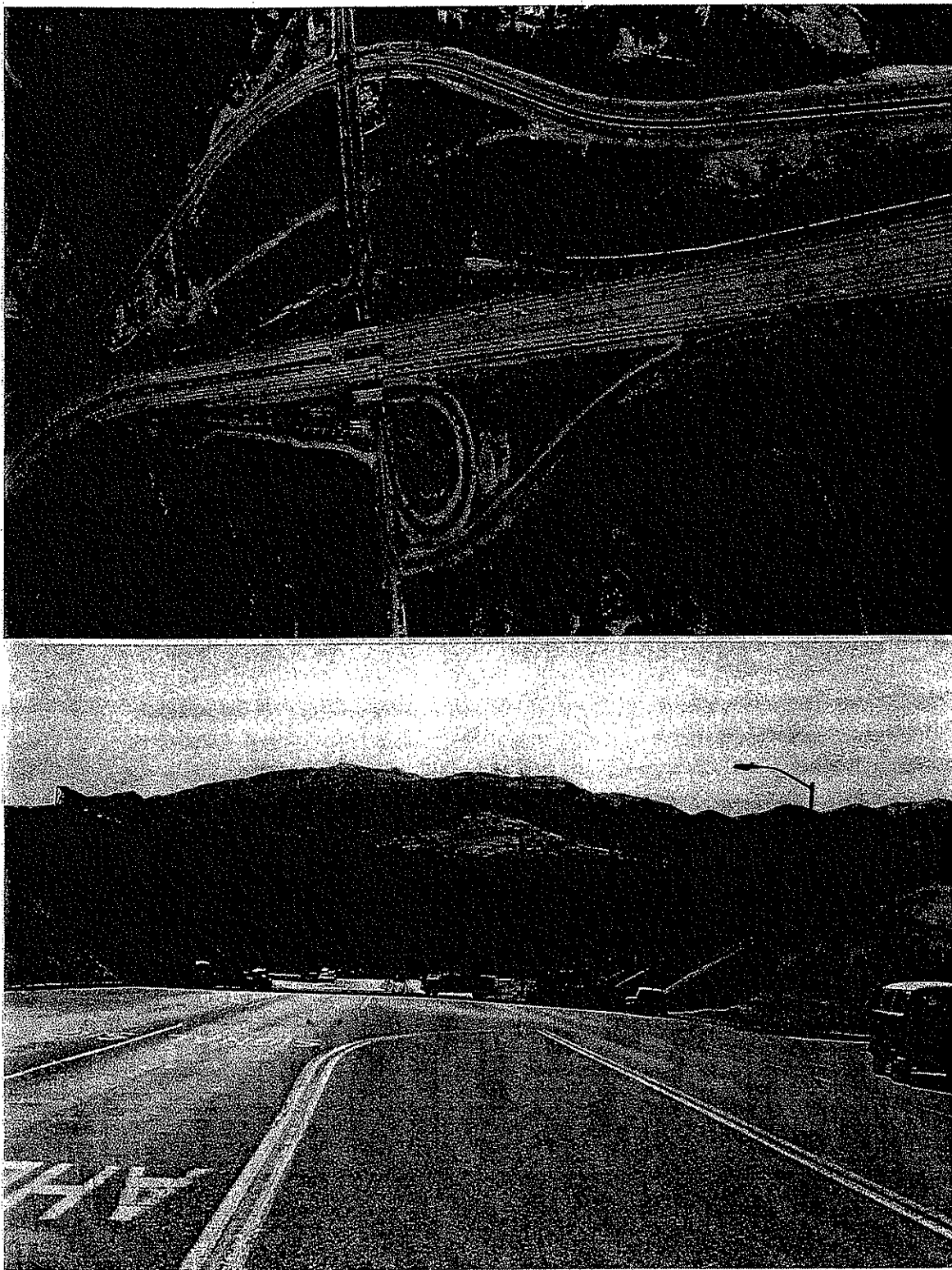


Fig. 6. Photographs of San Fernando Road underpass of State Hwy. 14. Top. Aerial photograph as seen from east showing underpass and configuration of crossing. Bottom. Bridge overpass as seen from the west.

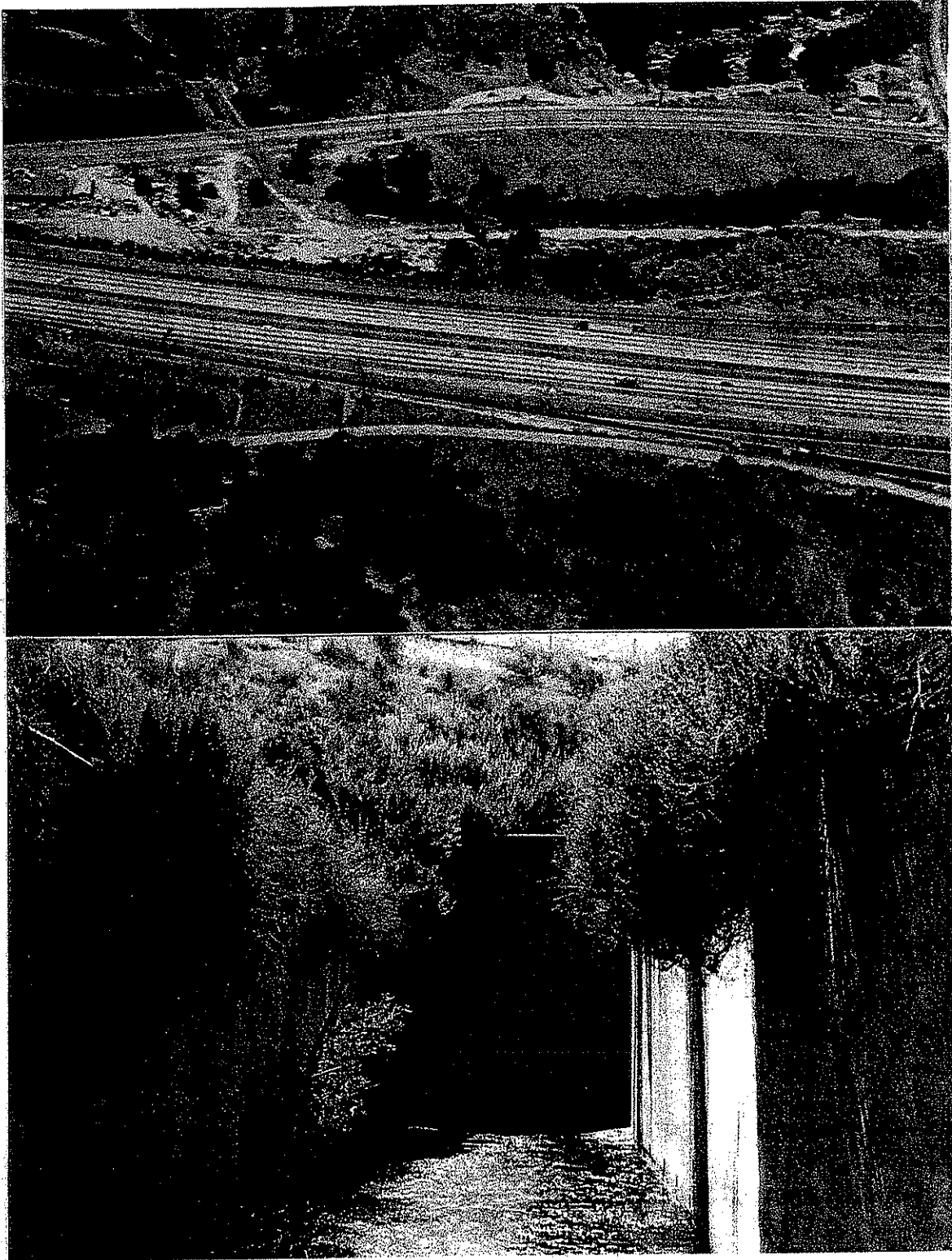


Fig. 7. Photographs of Elsmere Canyon drainage underpass of State Hwy. 14. Location indicated in Fig. 5. Top. view from east showing bordering Wager Road, entrance to drainage, exit on west side (both indicated by black arrows). Bottom. Exit from under State Hwy. 14 of the oval, concrete channel, also showing vertical walls of central portion that curves around and goes beneath the dirt roadway before exiting along the natural channel.

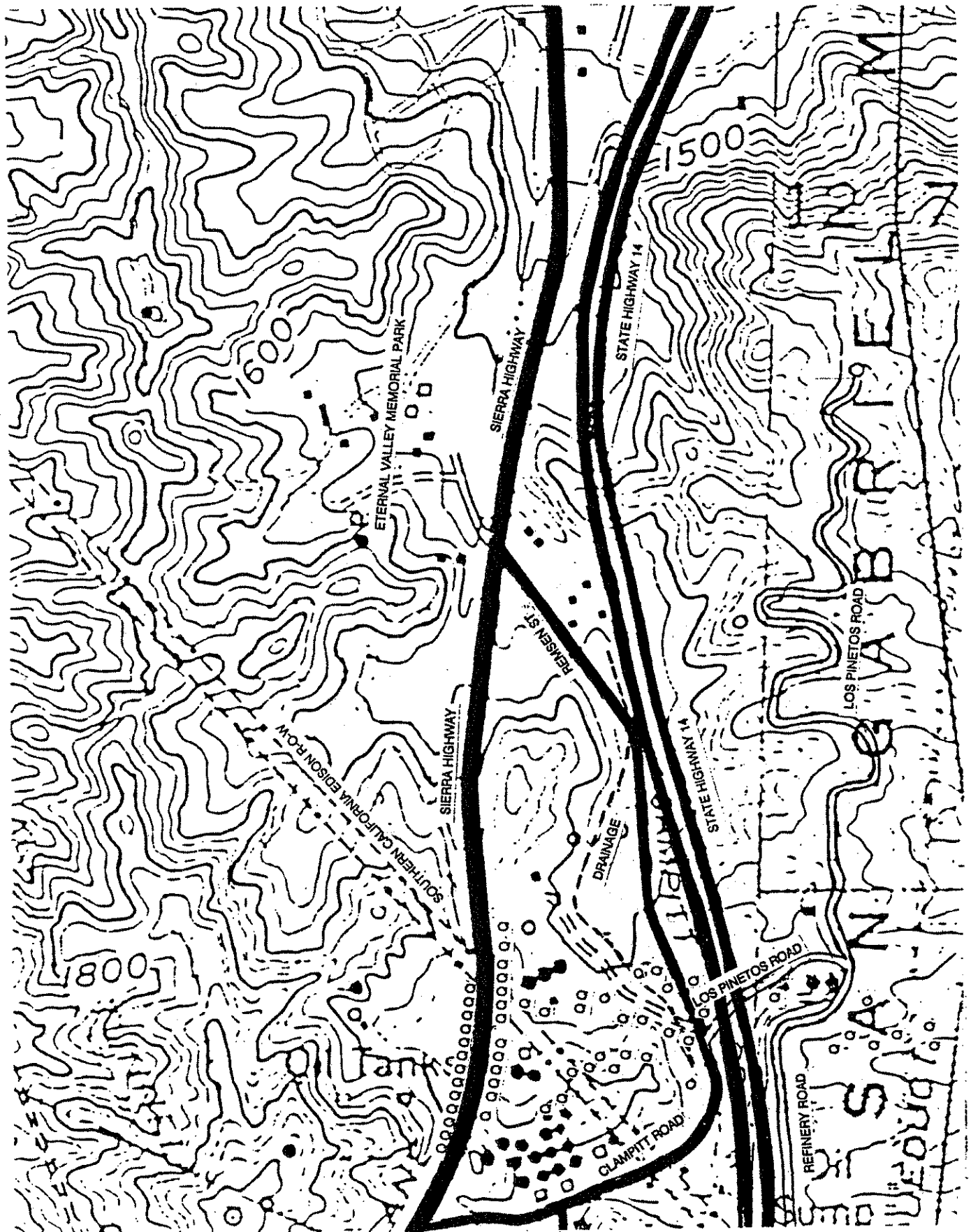


Fig. 8. Enlarged topographic map showing Los Pinetos Road undercrossing of State Hwy. 14 and adjacent Clampitt Rd, Remsen St., Sierra Highway.

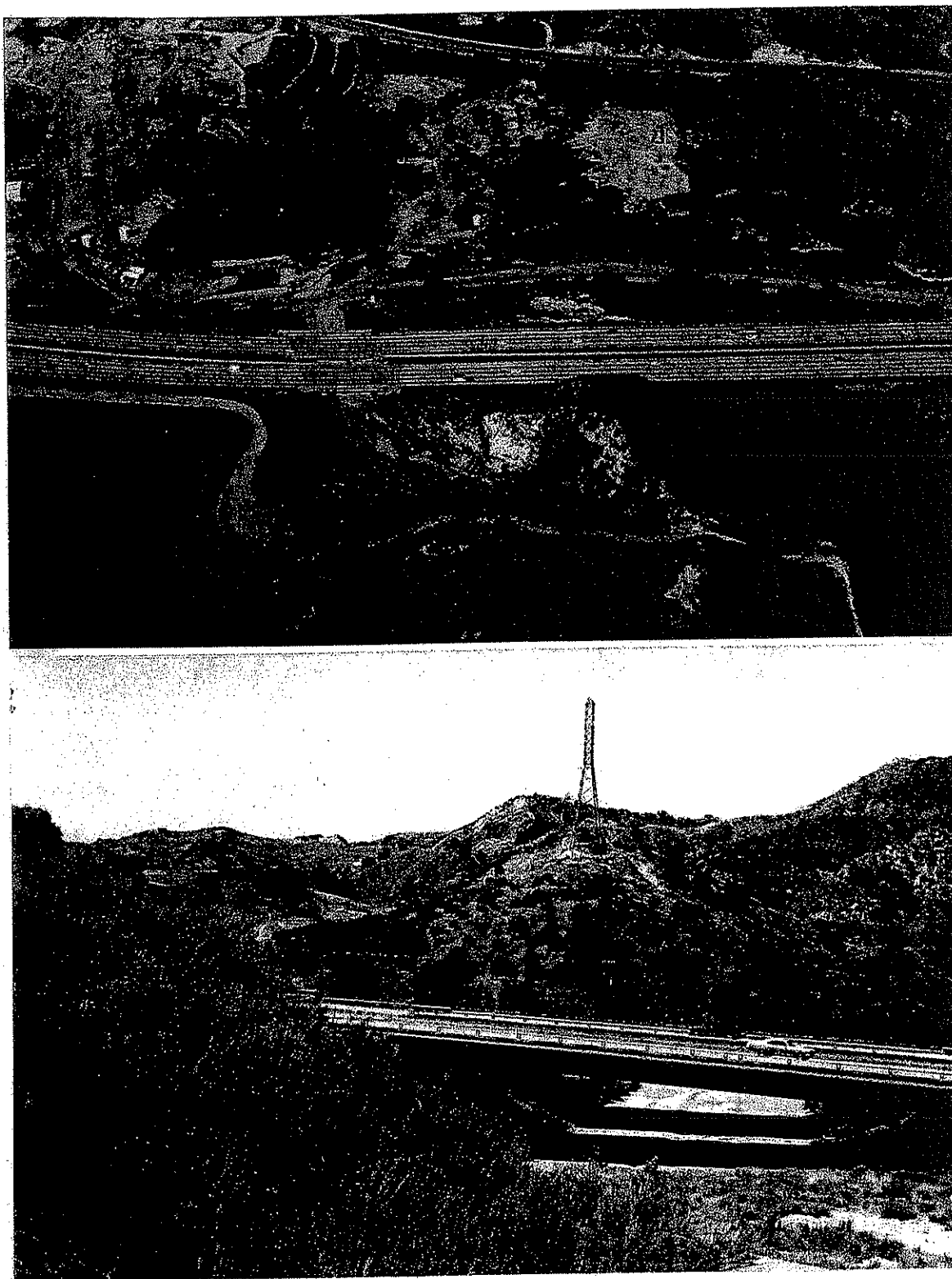


Fig. 9. Photographs of Los Pinetos Road undercrossing of State Hwy. 14. Top. Aerial photograph as seen from east showing Sierra Highway in distance, Refinery Road paralleling freeway to left, and Los Pinetos Road to right. Bottom. Overpass as seen from hills to the east showing open nature of crossing and hill just west of underpass.

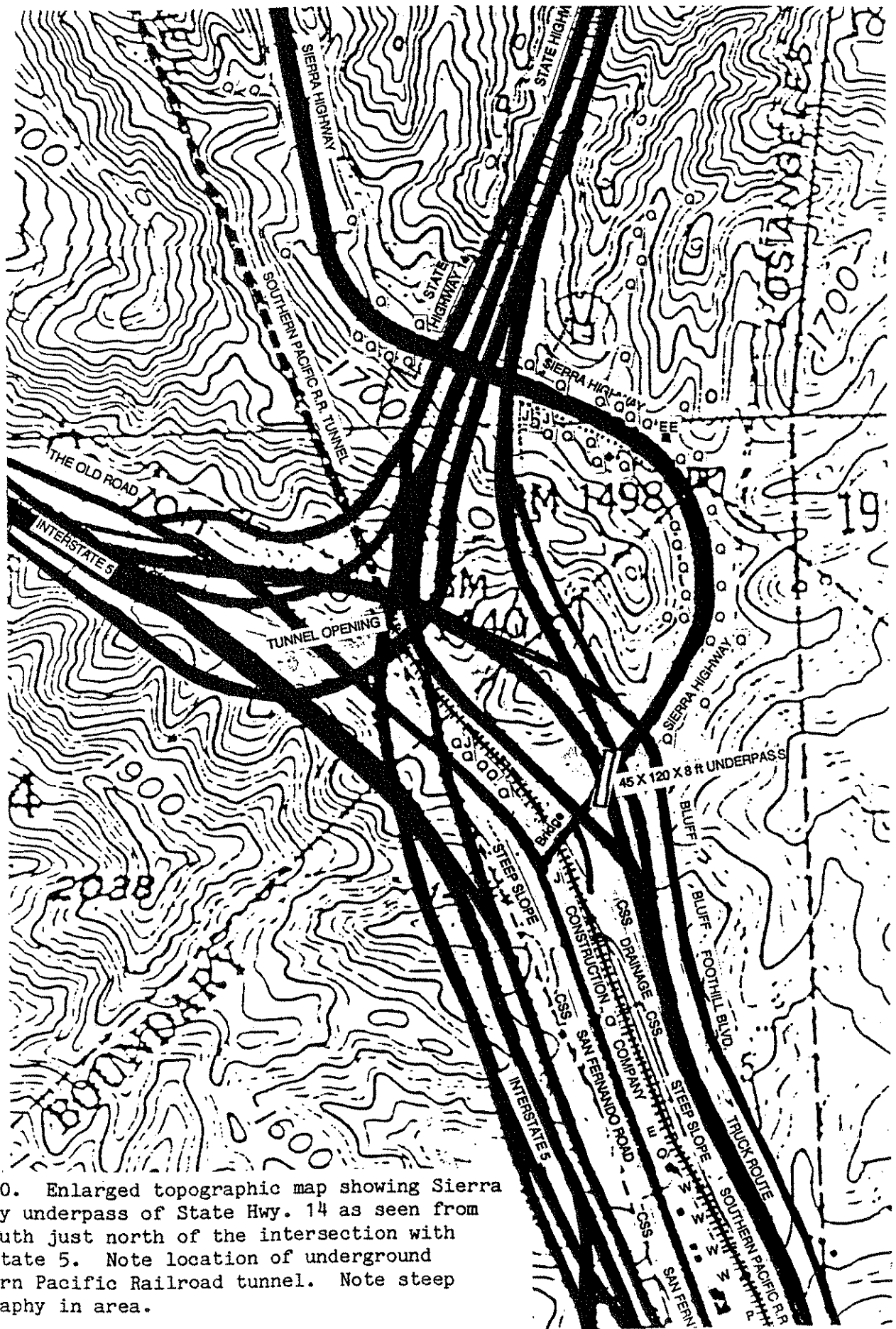


Fig. 10. Enlarged topographic map showing Sierra Highway underpass of State Hwy. 14 as seen from the south just north of the intersection with Interstate 5. Note location of underground Southern Pacific Railroad tunnel. Note steep topography in area.



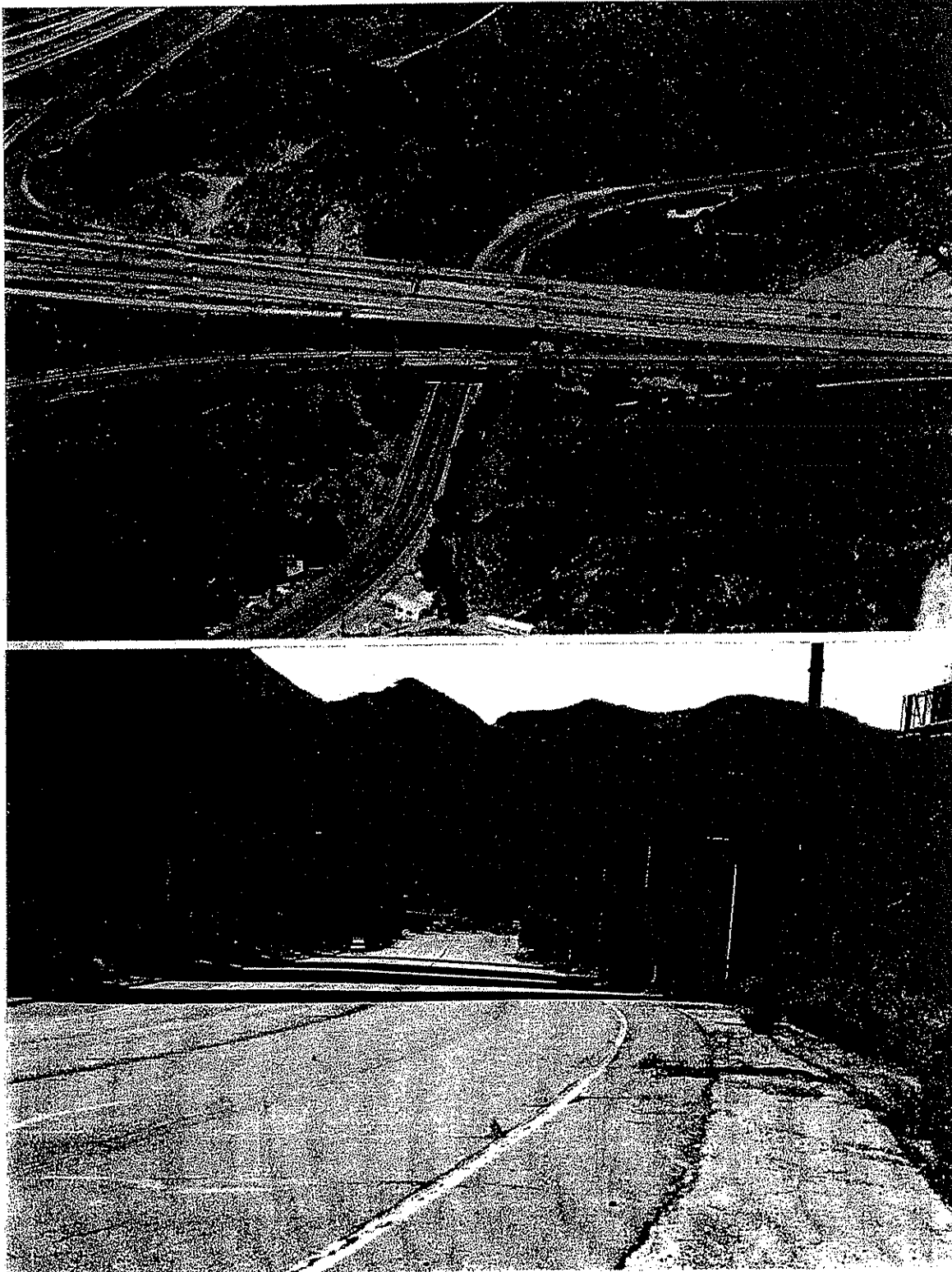


Fig. 11. Photographs of Sierra Highway underpass of State Hwy. 14. Top. View from west looking up Sierra Highway and showing the four lanes of the State Highway 14 and on-off-connector ramps. Note steep hills along southwest side of underpass. Bottom. View of freeway bridges from Sierra Highway west of bridges. The bridges are 30-45 ft above the 4-lane Sierra Highway.

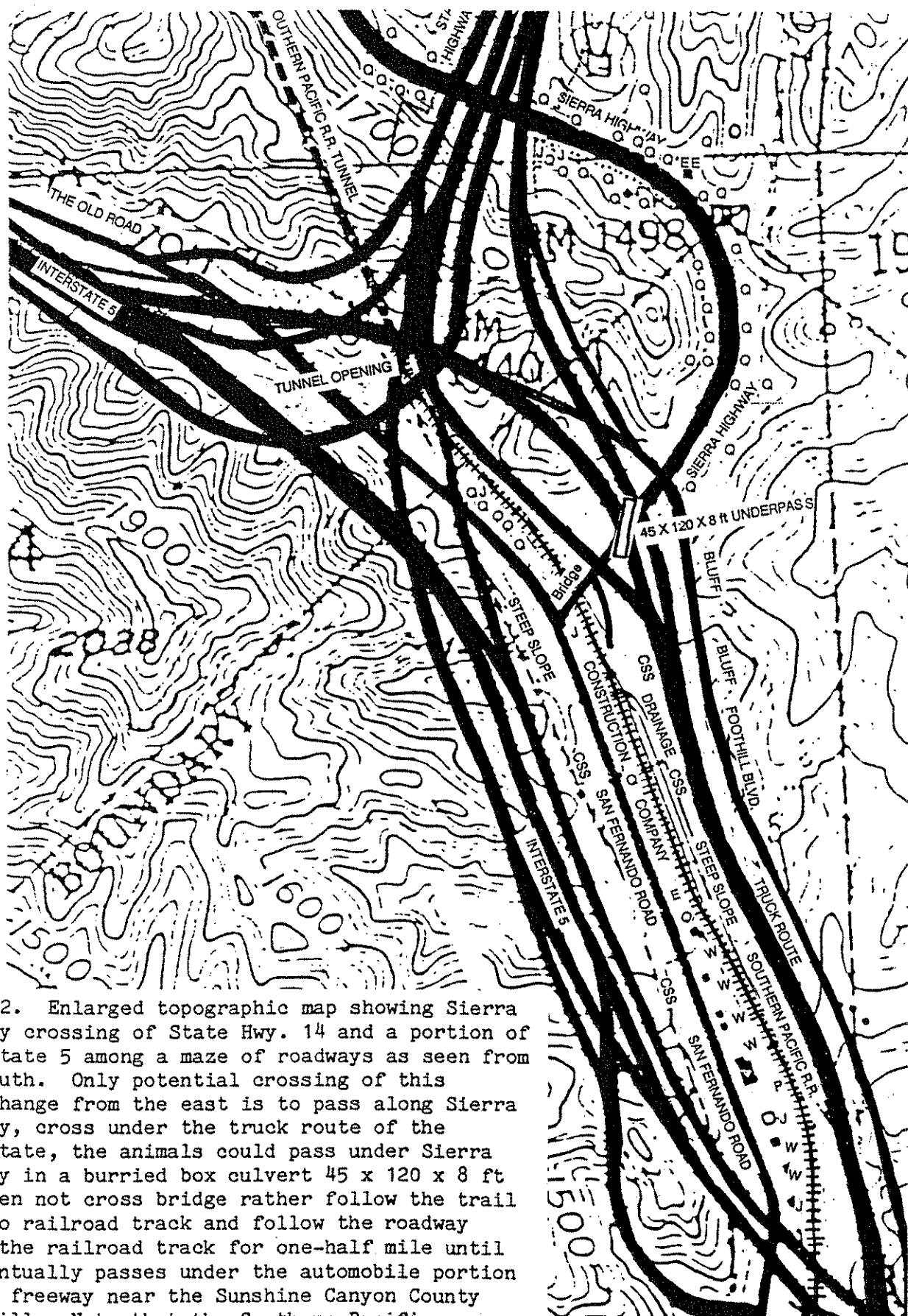


Fig. 12. Enlarged topographic map showing Sierra Highway crossing of State Hwy. 14 and a portion of Interstate 5 among a maze of roadways as seen from the south. Only potential crossing of this interchange from the east is to pass along Sierra Highway, cross under the truck route of the interstate, the animals could pass under Sierra Highway in a burried box culvert 45 x 120 x 8 ft and then not cross bridge rather follow the trail down to railroad track and follow the roadway along the railroad track for one-half mile until it eventually passes under the automobile portion of the freeway near the Sunshine Canyon County Land Fill. Note that the Southern Pacific Railroad mile-long tunnel openings in the middle of the maze of freeway crossings.

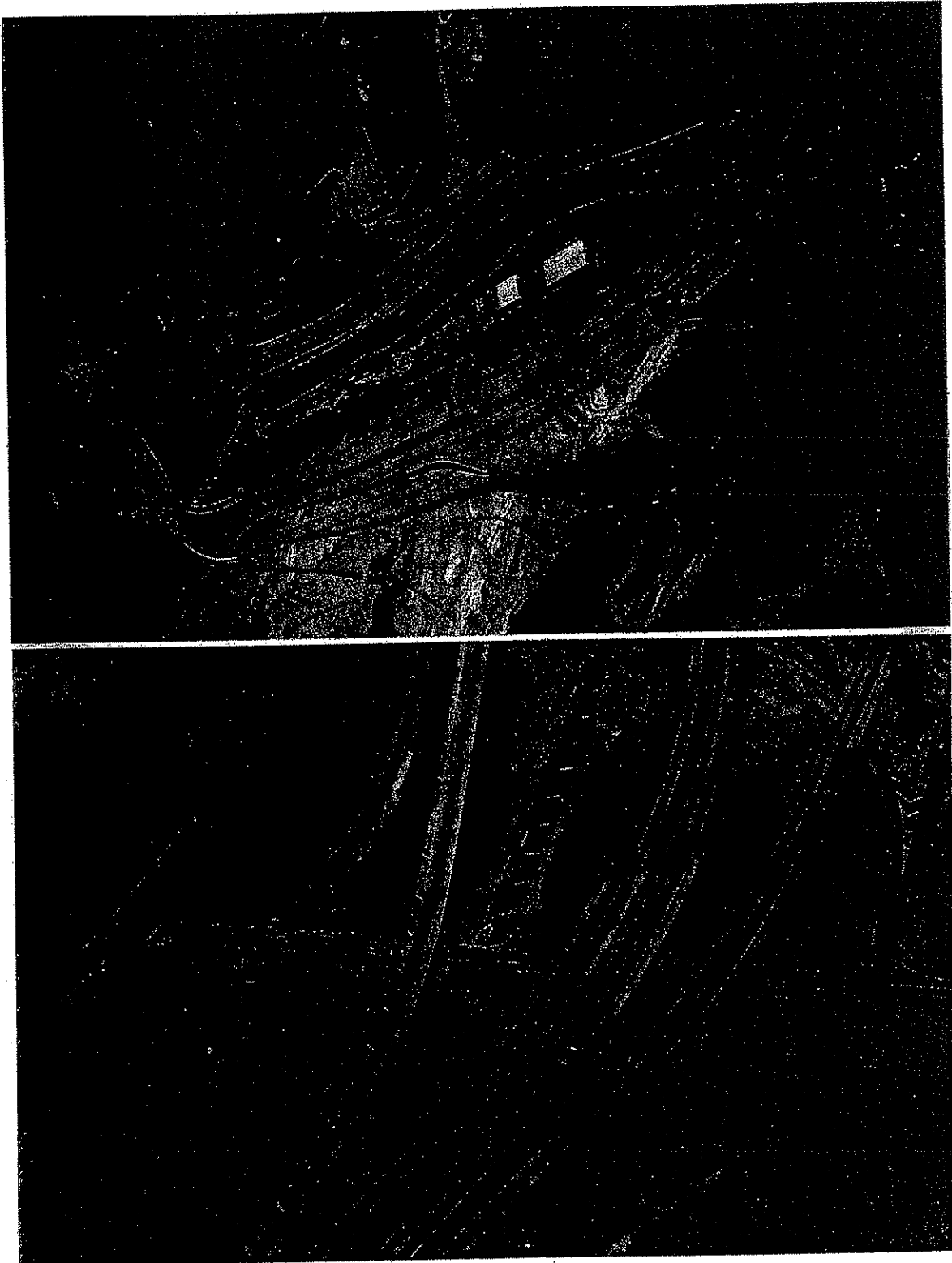


Fig. 13. Photographs of Sierra Highway underpass of Interstate 5. Top. Aerial photograph as seen from the south, best observed from the right showing flying bridges, Sierra Highway, and route along San Fernando Road. Bottom. Aerial photograph showing Sierra Highway (horizontal) and various paths of Interstate 5 and connectors. San Fernando Road becomes The Old Road at left of bridge over railroad track. To pass through this crossing, animals would have to follow small paved path from Sierra Highway (see black arrow), down to railroad track and continue south along railroad track. Venturing north to the dense vegetation shown in photo near The Old Road, would not work.

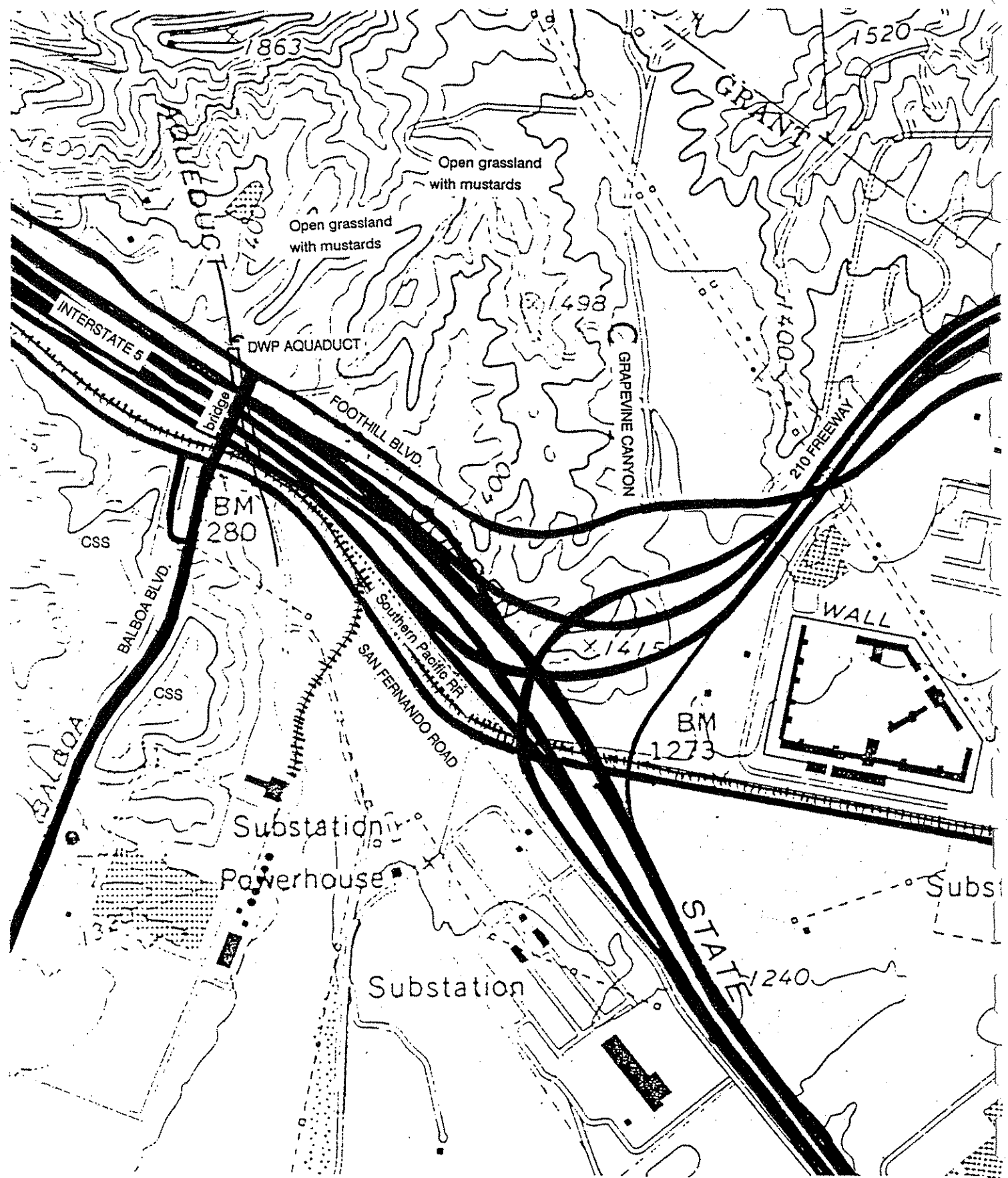


Fig. 14. Crossing of Balboa Boulevard over Interstate 5 as seen from the southwest. The bridge connects Foothill Blvd. in the far distance (north), passes over the interstate, over San Fernando Road and continues as Balboa Blvd.

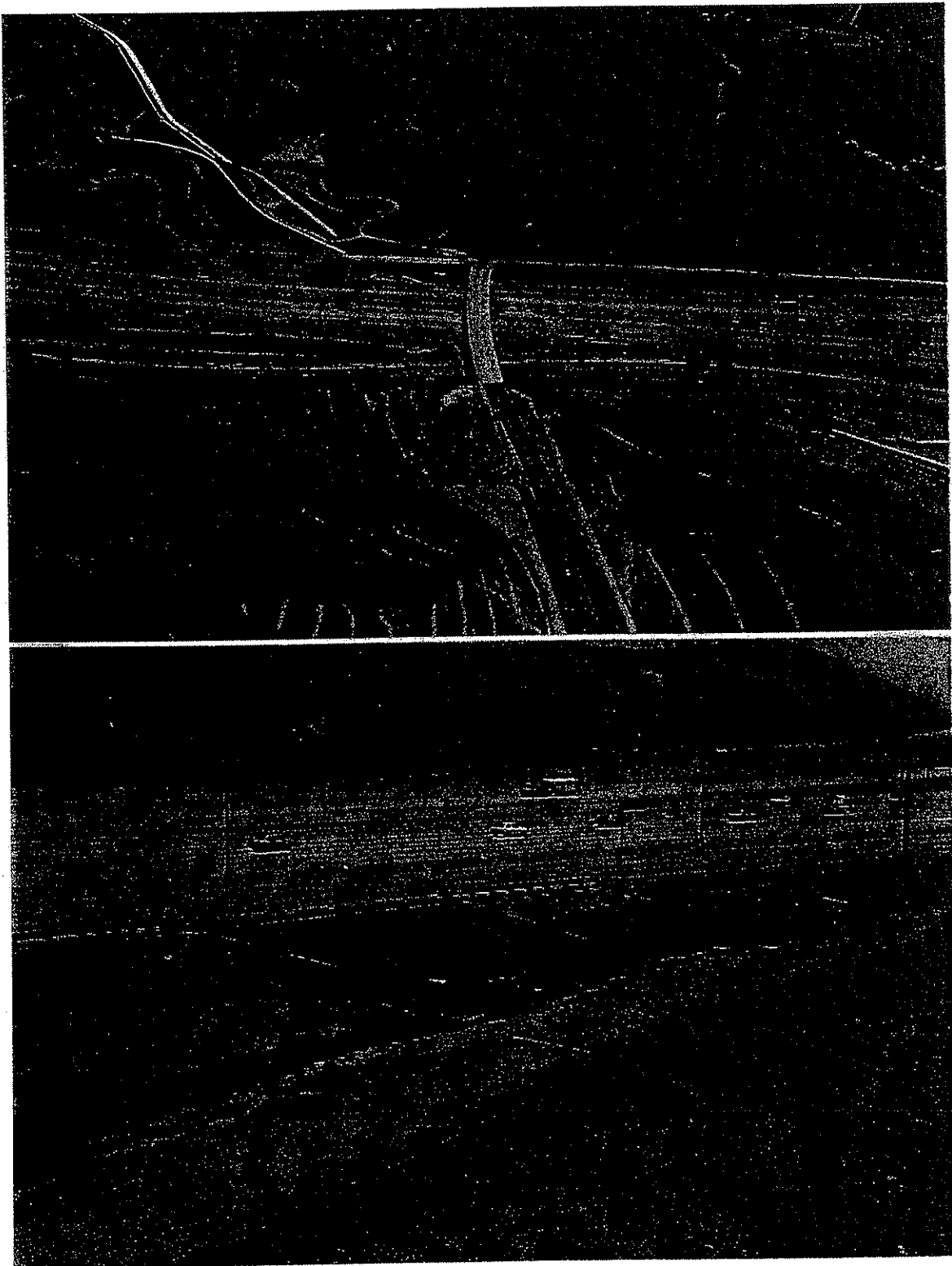


Fig. 15. Photographs of Balboa Blvd. overpass of Interstate 5. Top. Bridge crossing as seen from southeast. The 718 ft. bridge begins along Foothill Blvd. in the distance, passes over 14 lanes of the freeway, various truck and connector routes, across the Southern Pacific Railroad, and San Fernando Road. Bottom. An underground passage of the L.A. aquaduct cuts diagonally under the freeway but is fenced on both sides (strongly so on the northerly side). Vegetation on the hills to north consists of grasses and mustards, that on south side, of Coastal sage scrub. The only effective crossing here is across the bridge.

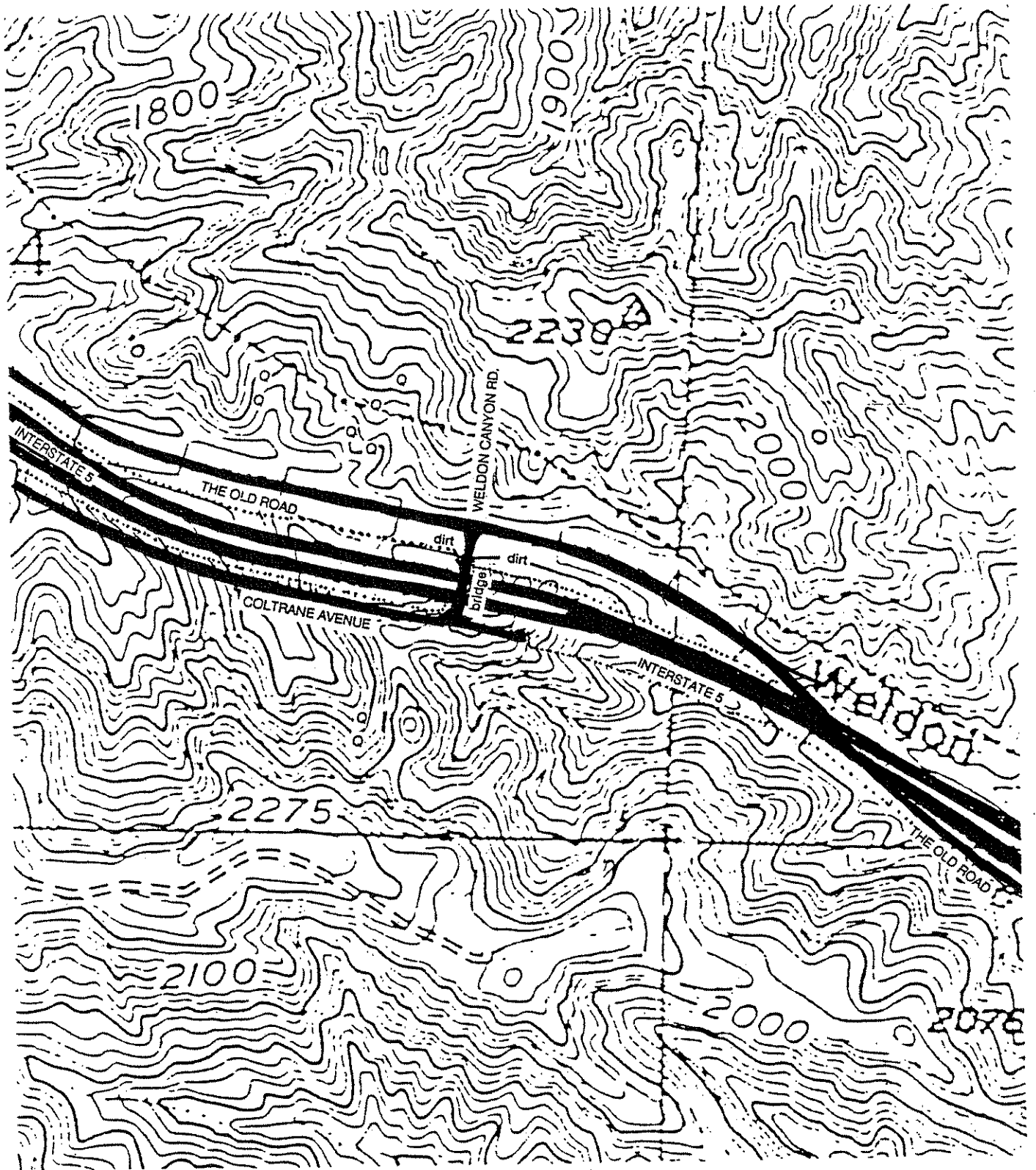


Fig. 16. Enlarged topographic map showing Weldon Canyon Road overpass over Interstate 5 as seen from the south. The 2-lane The Old Road passes north of the interstate, Coltrane Avenue passes south of the freeway.

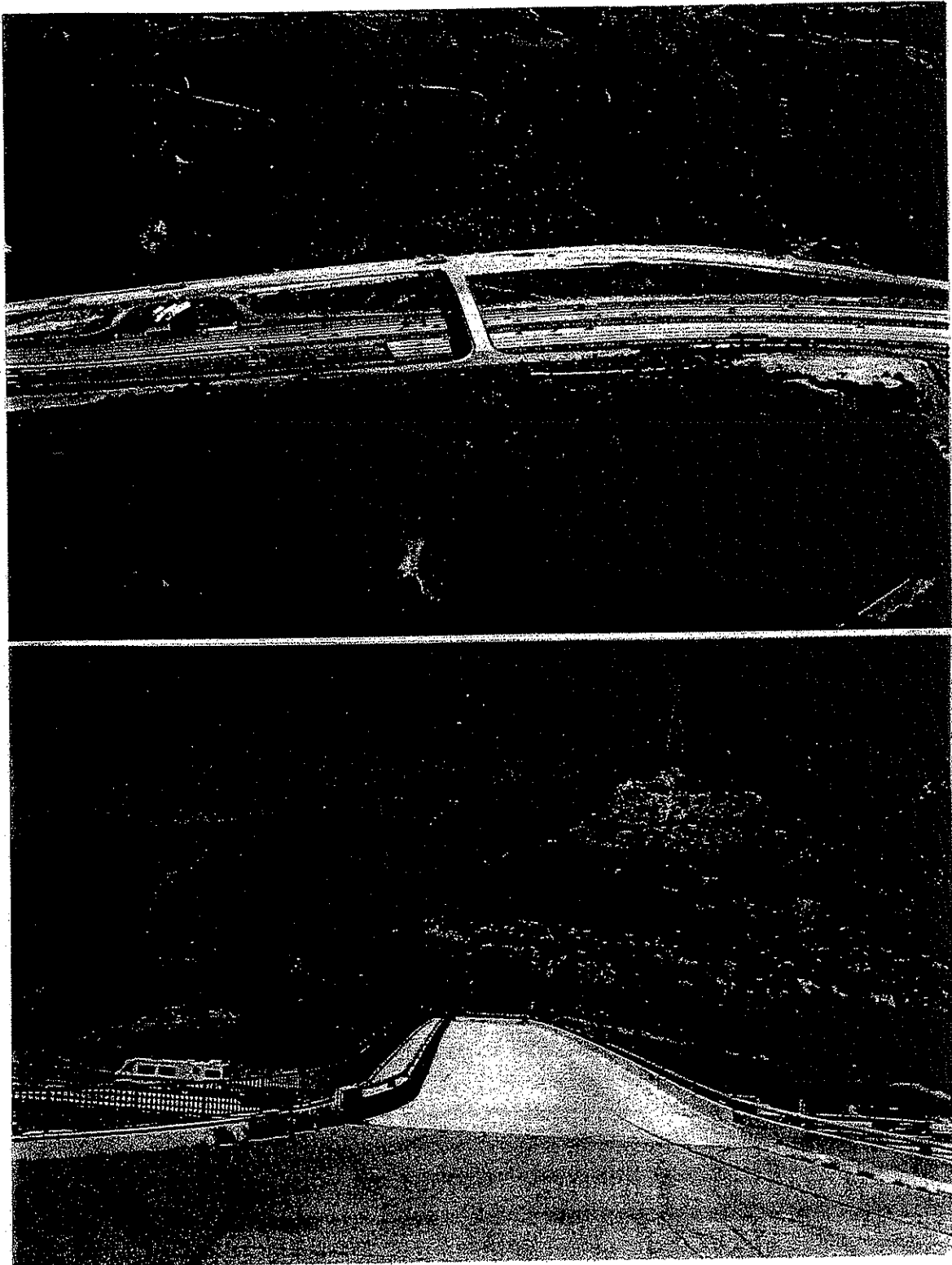


Fig. 17. Photographs of the Weldon Canyon Road overpass over Interstate 5. Top. Aerial photograph as seen from the south showing The Old Road in distance, and Coltrane Avenue nearest camera. Note dense Coastal sage scrub-Chaparral and scattered oaks on distance slopes, more dense oaks on northerly facing slopes below. Bottom. View of Weldon Avenue bridge as seen from south. The bridge is very close to the freeway.

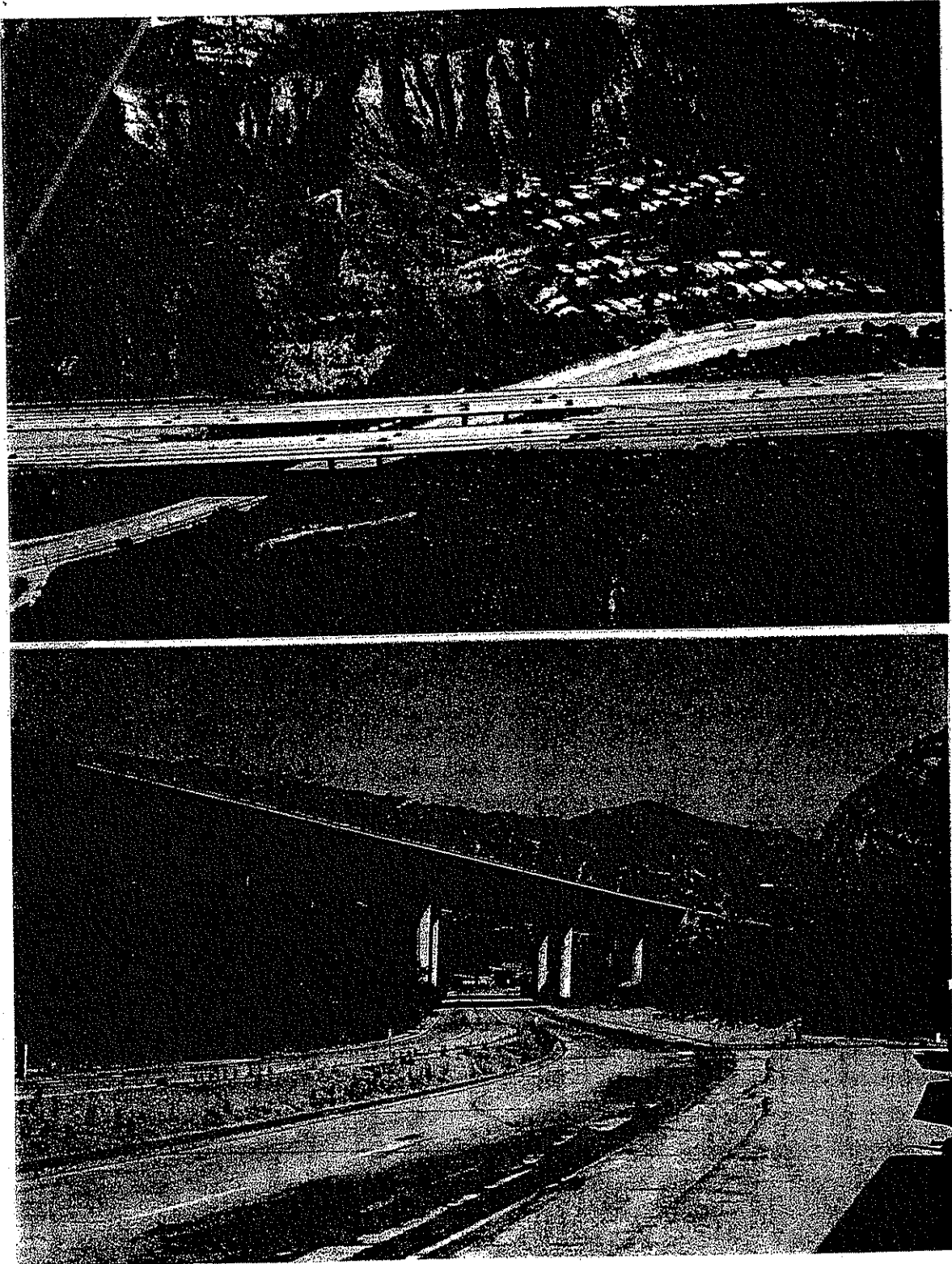


Fig. 19. Aerial photographs of The Old Road undercrossing of Interstate 5. Top. Distance view from south showing crossing and adjacent steep hills. Animals passing to north of site would have to filter to south and pass between steep hill and freeway before finding crossing. Trailer park blocks easy access from hills to south. Bottom. View of crossing as seen from mouth of trailer park looking northwest. Riparian corridor outside Sierra Highway can be followed by animals but they must come out before the drainage enters conduit as it passes under bridge.



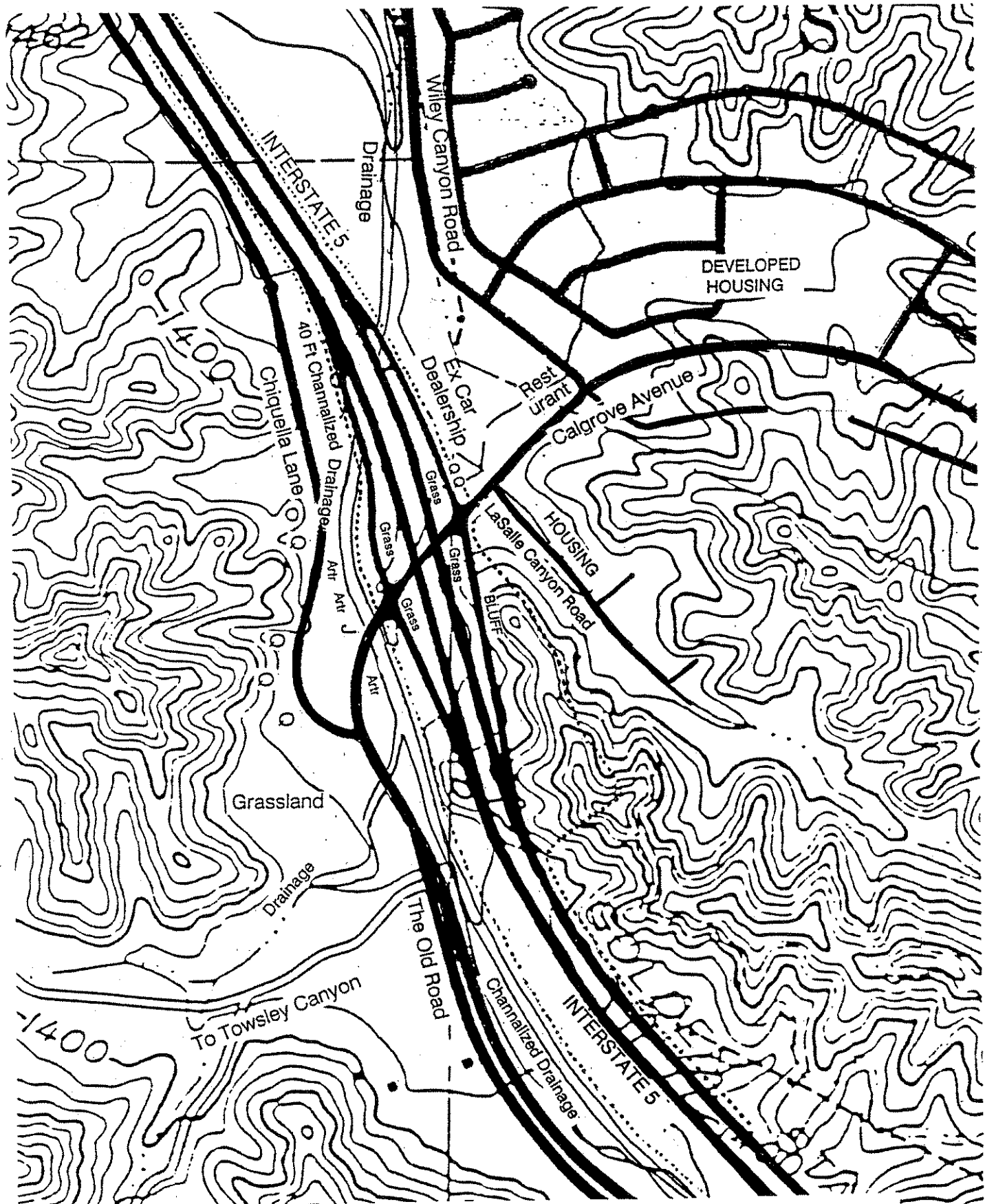


Fig. 20. The Old Road-Calgrove Avenue underpass of Interstate 5 as seen from south. The Old Road becomes Calgrove Avenue at the freeway. Channalized drainage from along The Old Road, picks up additional waters from Towsley Canyon and passes under Interstate 5. The only access to the crossing is by a narrow ridge bordering easterly edge of Interstate west of LaSalle Canyon development.

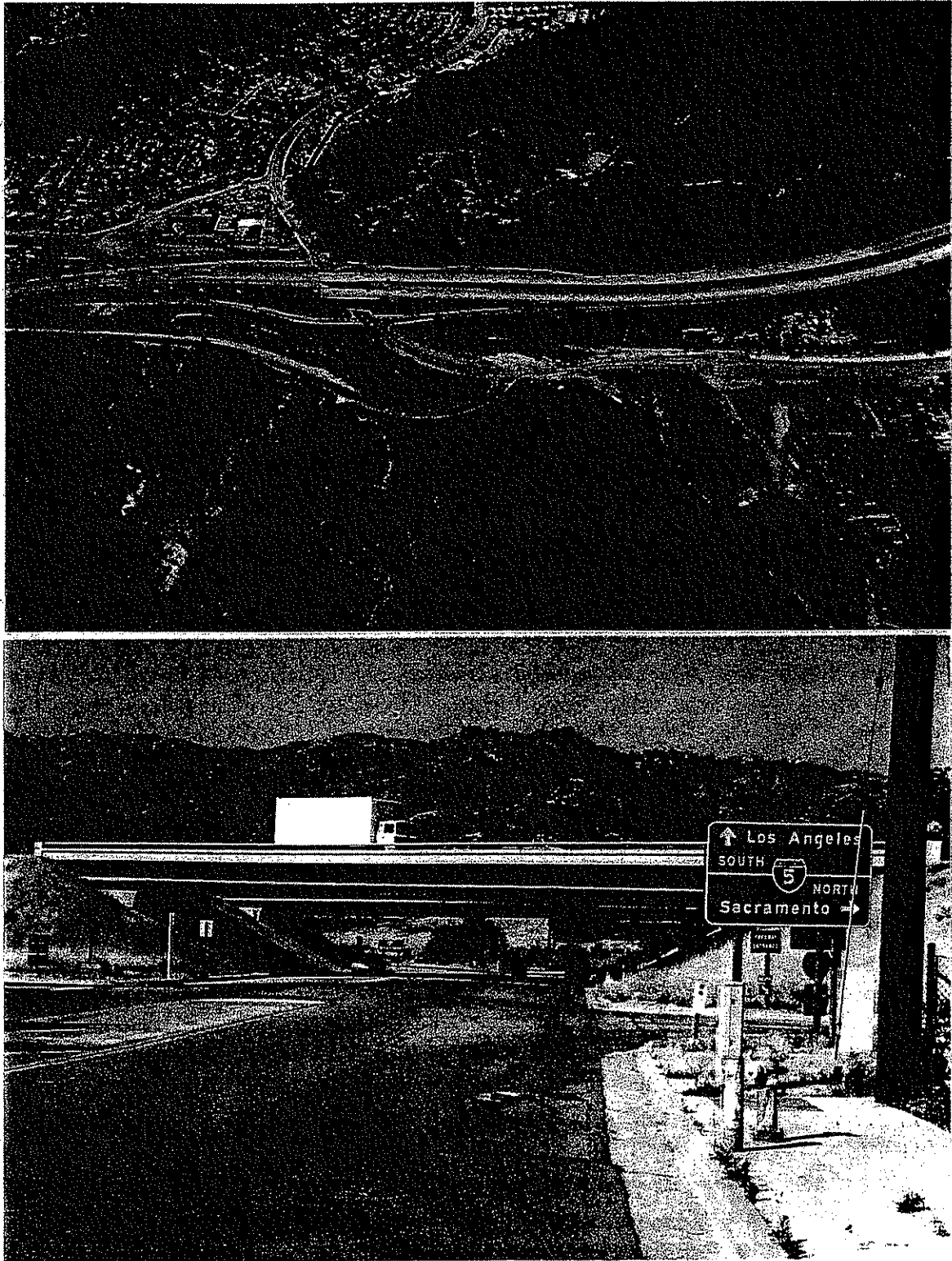


Fig. 21. Photographs of The Old Road-Calgrove Avenue underpass of Interstate 5. Top. Aerial photograph from the west showing adjacent heavy development, ridge along freeway that animals must follow and expanses of open grassland west of Interstate (foreground). Drainage between freeway ramps and Chiquella Lane visible. Bottom. Photo from east of freeway along Calgrove Avenue showing crossing.

# INDEPENDENT ENVIRONMENTAL CONSULTANTS

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Biological Resources of Needham Ranch  
City of Santa Clarita, Los Angeles Co., California  
Tentative Tract No. 50283, December, 1999

This report brings together data on Biological Resources of the Needham Ranch (~~the Gates-King and Arkin properties~~) in the City of Santa Clarita. The combined site constitutes  $\pm$  571 acres, portions of which are proposed for development as a light-manufacturing-office complex.

Observations of the site have been made over a eight year period during the time that oak tree resource surveys were being completed, and the site has been visited many times since then with records maintained on the flora and fauna observed. Resource observations presented herein have been made by James Henrickson Ph.D., botanist, and Dan Guthrie Ph.D. wildlife biologist-ornithologist. Check lists of all plants observed on the site and of animals expected to occur on the site are included as appendix tables.

The site is one of complex topography with elevations ranging from 1320 ft along San Fernando Road to 2030 ft near the southeast end of the site. There is a central ridge that extends across the site in a north-northwest south-southeast direction with secondary ridges extending both to the east towards Sierra Highway and to the west towards Pine Street. The site also extends west of the Railroad over an area of diverse topography formed by a second parallel ridge that is dissected by a drainage. The complex of lateral ridges throughout the site combined with strong topography results in a highly variable physical environment reflected by strong biological diversity. Substrate through the site consists of marine clastic deposits of early Pliocene age, possibly latest Miocene (Dibblee 1992) known as the Towsley Formation. These are light gray to tan coherent to semi-friable sandstone, medium grained to locally gritty and pebbly, bedded, it includes minor micaceous siltstone and in some areas micaceous silty claystones and siltstones. Some slopes are part of the Pico Formation of marine clastic deposits mostly of Pliocene age and are marked as being mostly micaceous siltstone-claystone, bedding with thin sandstone layers. All of this produces a fine clay-silt soil upon grading or disturbance and the site is quite vulnerable to the production of windborne materials and soil-laden runoff. These deposits are vulnerable to strong erosion and this secondarily contributes to the high topography encountered on the site. There are several areas of near vertical cliffs. These slopes, facing various directions, create a myriad of exposure

conditions and the sandy drainages provide favorable habitats for additional plant diversity.

The site is traversed by several right-of-ways. A electrical transmission corridor, consisting of two parallel transmission lines, passes through the site in a northwest-southeast direction; the MTA retains railroad corridor that passes underground in a mile-long tunnel at the southern portion of the site; a Metro Water District easement extends over the site in a southward direction until paralleling the underground portion of the MTA right-of-way; a Southern California Gas Co. easement also snakes its way through the site in a general north-south direction. Each of these right-of-ways has caused disruption to the site through the physical development of their pipelines or towers and the construction and maintenance of roadways.

The site occurs in the a transition area between the San Gabriel Mountains to the northeast and the Santa Susana Mountains to the southwest. Both of these ranges have large natural areas: The San Gabriel contains the Angeles National Forest, a forest reserve that extends for some 60 miles and consists of 1094 square miles and continues as the Bernardino National Forest to form a significant biological reserve. The Santa Susana Mountains, which lies south of Interstate 5, is an approximately 186 square mile range that continues to the west-northwest into Ventura County and extends to the Simi Hills (100 square miles) and Santa Monica Mountains (about 230 square miles). The site is a portion of a about 5? square mile transition area between the San Gabriel Mountains and the Santa Susana-Santa Monica Mountains complex and is important as it can serve as a wildlife corridor between these two major areas of biological diversity.

In 1993 I prepared a report on this corridor for Mr. Gates (Henrickson 1993). The study showed that this an important transitional area between the major source area for megafauna, the San Gabriel Mountains, and smaller receiver areas to the west, i.e. the Santa Susana Mountains, Simi Hills and the Santa Monica Mountains. This critical area is unfortunately traversed by two major freeways, State Highway 14 and Interstate 5 that serve as significant impediments to animal movement. The study focused on the location of potential areas of access through this region, specifically in areas where megafauna could cross Highway 14 and Interstate 5. The megafauna species that occur in the region include Mountain lion (one was seen on this site), Bobcat, Mule deer, Coyote, Raccoon, Long-tailed weasel, Gray fox, skunks, Virginia opossum, all of which are relatively common in the area. There is an underpass under Highway 14 just east of this area that can serve as a corridor passage for wildlife from the San Gabriel Mountains to the old Hondo Oil site, across Sierra Highway, onto this site. From here, passage across Interstate 5 is very difficult and questionable as animals would have to either cross the 8 lanes of Interstate 5 or use various bridges such as the 2-lane Weldon St. or 4-lane Balboa Blvd. or the Old Road underpass near Crescent Valley trailer park and an Interstate 5 underpass at Calgrove Avenue.

A wildfire burned across the property on August 18, 1997. The origin of the fire apparently was at the junction of Sierra Highway where it passes under State

Highway 14. It was called into the Los Angeles County Fire Department at 3:55 PM. As it burned it crossed Sierra Highway and continued northward, burning approximately 70 percent of the site. The fire in late summer after an approximately 7 month period of little or no rainfall. Due to lack of rainfall, the site was in an extremely dry condition at the time of the fire. According to a local source, winds were initially light and built up during the evening and the fire was allowed to burn across the site until it reached properties along Pine Street and the ridge west of Sierra Highway where it was suppressed by the Los Angeles County Fire Department. The site last burned in 27 years ago in the Clampet fire of 1970.

**VEGETATION:** As would be expected for a large topographically diverse area, the vegetation on the site is quite diverse. But the diversity is increased both through disturbance and its location in an area transitional between the more maritime coastal regions and the more arid scrub vegetations bordering the western Mojave Desert. In this region we have a mix of species characteristic of coastal regions and others more characteristic of arid zones.

The original vegetation on the site could have been divided into 4 major types: Coastal Sage Scrub; Chaparral; Oak woodlands-forest; and Riparian. But modifications by man and fire have altered portions of the site and strongly changed the Coastal sage scrub vegetation into an Open Grassland-Buckwheat and introduced an additional disturbed or Ruderal vegetation habitat. The floristic composition of each of these vegetation types is discussed below.

**Open Grassland-Buckwheat:** In this region, the original Coastal sage scrub vegetation consisted of a scrub overstory mixed with native grasses. The dominant shrubs included California sage (*Artemisia californica*), White-leaf sage (*Salvia leucophylla*), Black sage (*Salvia mellifera*), California Buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), Our lords candle (*Yucca* (now *Hesperoyucca*) *whipplei*), various Goldenbushes (*Haplopappus* (now *Hazardia*) *squarrosus* ssp. *grindelioides*), Bush aster (*Corethrogyne* (now *Lessingia*) *filanginifolia*), Golden yarrow (*Eriophyllum confertiflorum*), etc. with an understory of perennial grasses in the genera *Stipa* (now placed erroneously in *Nassella* and *Achnatherum*) and *Elymus*, *Melica*, and *Poa*. In more protected areas the Chamise (*Adenostoma fasciculatum*) a species of lower Chaparral occurs mixed with the above shrubs. This vegetation occurred on the more exposed southerly facing slopes and was adapted to frequent fires. In this transitional region the vegetation also contained some more arid-adapted shrub species that are usually not found in Coastal sage scrub along the coast, including Rabbit brush (*Chrysothamnus nauseosus*), Bush sunflower (*Encelia actonii*), Matchweed (*Gutierrezia californica*), Cottonthorn (*Tetradymia comosa*) and in drainages Great Basin sage (*Artemisia tridentata* ssp. *parishii*) and Scalebroom (*Lepidospartum squamatum*).

With the introduction of large-animal grazing into the region in the 1700's the perennial grasses were strongly impacted and largely replaced by an assortment of introduced weedy annual grasses, characterized by strong winter growth, asexual

reproduction and high seed set including Wild oats (*Avena barbata*, *A. fatua*) various Chess grasses (*Bromus diandrus*, *B. madritensis* var. *rubens*, and *B. mollis*), and later Schismus grass (*Schismus barbatus*), Barley (*Hordeum murinum* ssp. *leporinum*) etc. These annual grasses became particularly abundant after fires and along with post-fire sown Mustards (*Brassica nigra*, *Hirschfeldia incana*, *Sisymbrium* spp.) formed dense stands that out competed the native shrubs, that re-establish via seedlings after fires, to permanently effect the structure of areas that previously were covered with a shrub-dominated Coastal sage scrub. The result can be seen today where areas that were at one time Coastal sage scrub are now covered with a grass and mustard-dominated annual vegetation with only scattered shrubs persisting. The reason for this shift is that the grasses begin growth in the fall-early winter and grow rapidly shading out seedlings of native shrubs and quickly using up the available water supplies. This is more important here than along the coast as coastal areas have a maritime influence of cool moist air during the winter spring that allows some shrub seedlings to survive. Here, in contrast, drying Santa Ana winds and prevailing hotter temperatures contribute to early dieoff of annual grasses as well as the native shrub seedlings so that annual grasses are strongly favored. If we look at much of the site, what was once Coastal sage scrub is now a weed-dominated ephemeral grassland with only a scattering of native shrubs (California buckwheat, Bush sunflower, and sometimes California sage) mostly on the more exposed south-facing sites where it is too dry for the grasses. The grasses dry out completely during the summer and are vulnerable to fires and thus the process is repeated over and over until Coastal sage scrub is completely replaced by this weedy assortment of annual grasses and herbs. At the present time all the elements of the original Coastal sage scrub are here but they are mixed with grasses or are peripheral to Chaparral, along roadsides, or in small patches, but overall the annual grasses and herbs predominate. Further to the east near Agua Dulce, the area is so hot that even the grasses do poorly on exposed sites and California buckwheat (*Eriogonum fasciculatum* var. *polifolium*) becomes dominant. This is less prone to fires and forms a more stable transitional vegetation type, which I have called the Buckwheat Transition vegetation (Henrickson 1976). Much of this grassland burned in the 1997 fire and its recovery as a grass-dominated area is very quick. The grasses and other herbs grow into a dense vegetation that chokes out the shrub species, insuring the continuance of a grass-herb dominated vegetation on these hillsides. It is only where the sites are more exposed where the introduced annuals do poorly that some native annuals can develop. Other species, such as the Chamise, that reproduces via suckershoots return after the fires, however.

This area is not dominated by grasses only because of the recent fire. These grasses and weedy species have been there all during our contact with this site during the past decade and the vegetation is expected to remain as modified in the future.

**Chaparral:** In contrast to the Coastal sage scrub vegetation the Chaparral vegetation is well represented on the site and has maintained its structural integrity. Chaparral vegetation occurs on the more protected northerly, easterly, westerly and some southerly facing steeper slopes that receive less insolation and thus retain more water. On this site the Chaparral comes in several forms. Some is transitional to and intermixed

with Coastal sage scrub components, namely that consisting of Chamise (*Adenotoma fasciculaum*). This widespread species is a component of "Soft" chaparral that occurs at lower elevations in transition to Coastal sage scrub. On the site it often occurs with Black sage etc. but can also form nearly uniform stands on more protected areas. As it suckers after fire, it has been able to persist in the grassland areas, while most Coastal sage species regrow after fires via seeds.

Other higher areas have a distinctly different Chaparral vegetation consisting of nearly pure stands of California lilac (*Ceanothus crassifolius*). Old stands that have not burned are often 10-13 ft high, with a tall canopy of green leaves and an understory of litter and duff--it is too shaded below the plants for an understory vegetation to occur. Some of this area has burned over during the fire of August 1977 and the fires have completely killed off the California lilac. As with Coastal sage species, *Ceanothus crassifolius* redevelops after a fire via seed germination and seedling development. I was initially concerned whether these old stands would regenerate after a fire but am pleased to report that they are strongly redeveloping. Two years after the fire the burned over sites are covered with a dense stand of *Ceanothus crassifolius* seedlings about 1-2 ft high. They occur on open exposed ground, without competing stand of annual grasses. The grasses are not there because their seeds were not there in the first place because they could not grow under the dense canopy of the original plants. Thus, in contrast to Coastal sage scrub, the Chaparral vegetation will come back well after fires and resume its original composition. The heat from fires also trigger germination of annual seeds and these Chaparral areas contain many native annual wildflower species of *Amsinckia*, *Cryptantha*, *Pectocarya*, *Phacelia*, *Phlostoma*, *Emmenanthe*, *Eucrypta*, *Nemophila*, *Gilia*, *Linanthus*, *Eriastrum*, *Antirrhinum*, *Salvia*, *Lupinus*, *Lotus*, *Trifolium*, and *Eriogonum* etc.

Other areas of Chaparral are much more mixed containing in addition to *Ceanothus crassifolia*, Toyon (*Heteromeles arbutifolia*), Elderberry (*Sambucus mexicana*), scrub oak (*Quercus berberidifolia*), Heart-leaf bush penstemon (*Keckiella cordifolia*), Poison oak (*Toxicodendron diversilobum*), as well as Chamise, Black sage, some Current (*Ribies malvaceum*), Buckthorn (*Rhamnus crocea*, and *R. ilicifolia*) and sometimes *Ceanothus oliganthus* and Manzanita (*Arctostaphylos glauca*). Some areas have the viny Wild cucumber (*Marrah macrocarpa*) and perennial herbaceous Perezia (*Acourtia microcephala*). In many areas this chaparral quickly transitions in local, more exposed areas to a sage scrub dominated by species as *Haplopappus squarrosus*, *Artemisia californica*, Yerba santa (*Eriodictyon crassifolium*) and *Hesperoyucca whipplei* etc. In rocky outcroppings additional diversity occurs in the form of Prickly phlox (*Leptodacylon californicum*), Live-forever (*Dudleya lanceolata*) etc. Still other slopes are dominated by Scrub oak (*Quercus berberidifolia*), which may occur in nearly pure stands. Thus, in contrast to the Coastal sage scrub, that has been strongly modified by fire, the Chaparral seems to recover well from fire and remains as viable vegetation type on the site.

**Oak woodlands and forests:** Perhaps the most prominent-conspicuous vegetation type on the site is the Live oak woodlands and forests that occur in the lower drainages and ravines through much of the site. The stands are dominated by Coastal live oak (*Quercus agrifolia*), which may occur in nearly pure stands in the deep sandy alluvial flats, but frequently occur with scattered California walnut (*Juglans californica*), some local Red Willow (*Salix laevigata*), Elderberry, in the more protected areas at higher elevations with Big-cone Douglas spruce (*Pseudotsuga macrocarpa*). In many areas the oaks form a dense canopy and the shaded understory is very open, dominated during the growing season by Ripgut chess grass (*Bromus diandrus*), or a mixture of this and Horehound (*Marrubium vulgare*), Black mustard, Wild heliotrope (*Phacelia ramosissima*) with openings having Squawbush (*Rhus trilobata*), Poison oak, Nightshades (*Solanum douglasii*, *S. xanthii*) and various Coastal sage or Chaparral species. In some steep canyons, the oaks grow with dense stands of *Ceanothus oliganthus*. They will also occur in favorable microhabitats within Chaparral, often in small pockets and in local drainages where favorable conditions exist. The oaks become strongly crowded along some narrow ravines and north-facing slopes. When such crowding exists, the trees suffer from competition and do not grow well.

The entire site has a large number of Coastal live oaks, in excess of 5800. The oaks were surprisingly strongly impacted by the fire of 1997. No attempt was made to protect the stands of oaks from the fire, and in many areas fire continued to smolder at the base of the trees for several days before being put out. Because of this, and the overall dry conditions at the time of the fire, the fires impact on the trees was very strong. Many of the oaks are expected to recover from the fire, many will not. The Coastal live oak is very well adapted to this region and reproduces well and is actually a very weedy, aggressive species wherever a favorable environment exists.

**Drainages and Riparian areas:** The site has many local drainages and one true Riparian habitat along Sierra Highway south of the Cemetery site. The local drainages through the site have sandy substrates and where the sand is deep they have a distinctive flora consisting of Squawbush (*Rhus trilobata*), Elderberry, Wormwood (*Artemisia dranunculus*, *A. douglasii*), sometimes Great Basin sage (*Artemisia tridentata* ssp. *parishii*) and Scalebroom (*Lepidospartum squamatum*), Golden current (*Ribes aureum*) or Mule fat (*Baccharis salicifolia*). In open areas, or where the sand is shallow, the substrates dry quickly after rains making establishment difficult and the flora is very open consisting mostly of scattered Coastal sage scrub species and an assortment of weedy Chess grasses, Black mustard, Tree tobacco (*Nicotiana glauca*), Telegraph weed (*Heterotheca grandiflora*), and Horsetweed (*Coryza canadensis*) etc. As such, the local drainages do not form a distinct vegetative component, few of them contain water very long after rains.

The site does contain one well developed, though artificial riparian system that has some flowing water throughout the year. This parallels Sierra Highway south of the Cemetery site and receives waters from drainages from the San Gabriel Mountains. The vegetation is confined to a deep ditch and continues only for a short distance before



flowing underground and joining the drainage from Elsmere Canyon. This is dominated by Arroyo willow (*Salix lasiolepis*) which occurs in association with some Sycamore (*Platanus racemosa*), Cottonwood (*Populus fremontii*), and an understory of Mule fat (*Baccharis salicifolia*), Wormwood (*Artemisia douglasii*), Poison oak (*Rhus diversiloba*), Cattail, (*Typha cf. dominguisis*), Cocklebur (*Xanthium strumarium*), Sweet clover (*Melilotus* spp.), Horehound (*Marrubium vulgare*), Elderberry, Dewberry (*Rubus ursinus*), Horsetweed, Stinging nettle (*Urtica dioica* ssp. *holosericea*) etc. While this area contains water throughout the year, the summertime flow is very low and the water quality not high. The sides to the drainage are very steep. No development is planned for this portion of the site.

**Ruderal or disturbed habitats.** The site contains many disturbed areas that have been variously modified by grading, cutting, grazing or fires in the past and have a flora dominated by weedy non-native species. These habitats are dominated by annual weedy non-native grasses of the genera *Avena*, *Bromus*, *Cynodon*, *Festuca*, *Hordeum*, *Lamarckia*, and *Schismus*, and such herbs as *Erodium*, *Chenopodium*, *Salsola*, *Ambrosia*, *Centaurea*, *Lactuca*, *Sonchus*, *Silybum*, *Brassica*, *Hirtschfeldia*, *Sisymbrium*, *Coryza*, *Marrubium*, etc. The sites also have some Coastal sage scrub species and completely blend into the Coastal sage scrub-grassland areas.

**The Flora:** A total of 302 species of vascular plants are recorded from the site, of which 234 (77.5 percent) are native and 68 (22.5 percent) are introduced, non-native species. It is expected, that a more thorough study of the post fire habitats would increase the number of native annual species on the site. Overall, a good number of native annual and perennial species occur in the scrub areas that are not dominated by weedy grasses. These are largely confined to very exposed areas with deep sandy soil that are too dry for the introduced grasses to survive thus allowing certain native species to survive without the competition of grasses.

**WILDLIFE RESOURCES:** Wildlife resources reflect the natural and man-modified diversity of the site. While the site presents diverse habitats, the changes in the vegetation due mostly to introduction of exotic species, and the proximity to urban areas has overall reduced the wildlife diversity on the site, but more importantly has reduced the numbers of individuals using the site. While the site has some riparian vegetation, it is very localized in distribution. Water, however, is also available at adjacent homesites but only certain species will utilize these resources. The recent fire may have depressed small mammal populations for a while, but they would be expected to return to normal numbers soon after the fire

**Amphibians and Reptiles:** Appendix Table 2 lists Amphibian and Reptile species expected from the site are region. The amphibians are not well represented on the site being expected mostly along the one riparian area. The California toad, however, would be expected to occur in dryer sites. Reptiles such as Great Basin fence lizard and California Side-blotched lizard would be common on the site and are

frequently observed. Common snakes include the California Kingsnake, the San Diego Gopher snake and the Southern Pacific Rattlesnake.

**Birds:**--Based on the literature there should be at least 76 species of birds using the site at sometime during the year of which 36 were observed during the wildlife survey. Lists of birds actually observed and the expected abundance and status of most birds occurring on the site and their relative abundance in Southern California is listed in an appendix table 3. Most bird species in the study area occur over a wide range of habitat including scrub, chaparral and often weedy areas. A few additional species are listed for the site due to the presence of a some riparian habitat. Large birds of prey, hawks and owls would be expected to feed heavily on the property.

**Mammals:**--Mammals were surveyed by direct observation and by examination of scats and tracks. There are 43 species that possibly occur on the site (see Appendix Table 4), of which evidence of seven were directly observed during the wildlife survey but many others have been observed during the numerous trips to the site. There are several bats species that may fly over the site during the year.

**SIGNIFICANT RESOURCES:** There are many plant and animal taxa in the State of California that are listed as sensitive, threatened, rare, or endangered by State and Federal agencies. In this section we review the locally occurring taxa that are so listed to determine if taxa on, or expected to occur on, this site are sensitive and thus need to be protected or considered in the developmental process.

**Botanical: Sensitive Species:** The California Department of Fish and Game's Natural Diversity Data Base, The California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (fifth edition, California Native Plant Society, 1994, Skinner and Pavlik eds.), and the U.S. Fish and Wildlife Service (Fed.) and California Department of Fish and Game's (State) listings have been consulted for plant species that may occur in this area that are listed as sensitive, protected, or otherwise endangered or rare.

Table 1: Sensitive Plant taxa known from the region:

Common Name	Latin Name	Status
1. Slender-horned spineflower	<i>Dodecahema leptoceras</i>	Fed. FE, State CE, CNPS 1B 1987 1982
2. San Fernando Valley spineflower	<i>Chorizanthe parryi</i> var. <i>fernandina</i>	Fed. SC, State -, CNPS 1A
3. Nevin's barberry	<i>Berberis nevinii</i>	Fed. FE, State CE, CNPS 1B 1998 1987

4. Short-joint beavertail cactus	<i>Opuntia basilaris</i> var. <i>brachyclada</i>	Fed. SC, State -, CNPS 1B
5. Davidson's Bush mallow	<i>Malacothamnus</i> <i>davidsonii</i>	Fed. SC, State -, CNPS 1B
6. Palmer's grapplinghook	<i>Harpagonella</i> <i>palmeri</i>	Fed. SC, State-, CNPS 2
7. Spreading Navarretia	<i>Navarretia fossalis</i>	Fed. FT, State -, CNPS 1B 1998
8. Peirson's morning-glory	<i>Calystegia peirsonii</i>	Fed SC, State -, CNPS 4
9. Santa Susana tarweed	<i>Hemizonia</i> <i>minthornii</i>	Fed SC, State CR, CNPS 1B
10. Plummer's Mariposa lily	<i>Calochortus</i> <i>plummerae</i>	Fed. SC, State -, CNPS 1B
11. Club-haired mariposa lily	<i>Calochortus clavatus</i> var. <i>clavatus</i>	Fed. SC, State CEQA?, CNPS 4
12. Slender mariposa lily	<i>Calochortus clavatus</i> var. <i>gracilis</i>	Fed. SC, State -, CNPS 1B
13. Slender Orcutt grass	<i>Orcuttia californica</i>	Fed. FE, State CE, CNPS 1B 1993 1979

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FE = Federal endangered, FT = Federal threatened; Fed SC, these are listed as such by the State of California Department of Fish and Game, though the federal government has no such status. They are merely species which not enough evidence for Federal endangered or threatened status has been obtained. CE = State listed endangered; CR = state listed rare; CNPS 1A = presumed extinct in California; CNPS 1B = rare or endangered in California and elsewhere; CNPS 2 = plants rare, threatened or endangered in California but more common elsewhere; CNPS 4, plants of limited distribution, a watch list.

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1. The Slender-horned Spineflower [*Dodecahema* (*Chorizanthe* or *Centrostegia leptoceras*)] is Federally listed as endangered as of 1987, by the California DFG in 1982 as endangered and by the California Native Plant Society as endangered on their list 1B, (endangered in California and elsewhere) and has a rarity- endangerment- distribution code of 3-3-3 indicating that its occurrence is limited to one or a few highly

restricted populations, it is endangered throughout its range, and it is endemic to California.

Its name has recently been changed, without supporting arguments, by Reveal and Hardham (1989a) to *Dodecahema leptoceras*, who recognize the taxon as a monotypic genus. It was collected in this general region in May 20, 1893 at Newhall by A. Davidson, and also in Mint Canyon in 1937 by Alice Eastwood and J.T. Howell. It ranges from the foothills of the San Gabriel Mountains in Los Angeles County east along the foothills of the San Bernardino Mountains of San Bernardino County and south to western Riverside County to near the San Diego County line. It is known from historical collections from Big Tujunga Wash, Altadena, San Fernando, west fork of the San Gabriel River in Los Angeles County, from Yucaipa, Colton, Highland, San Bernardino, Cajon Pass in San Bernardino County and from near Hemet, Elsinore, and in the San Jacinto River in Riverside County. Recent collections are known only from Bee Canyon, Big Tujunga Wash near the 210 Freeway in Los Angeles County, in the Cajon Pass, Highland, in San Bernardino County and in the terraces along San Jacinto and Santa Ana Rivers, Temescal Valley, and near Vale Lake in Riverside County. The Slender-horned spineflower is a small (5-15 cm), spreading annual, with a basal rosette of leaves and slender, reddish, divergent branches bearing very small white flowers and the fruiting involucre contains spines both at the tip and base. The species occurs in dry, generally open, undisturbed sandy benches and washes below 2200 ft elevation, in areas where weedy grasses do not develop. The species flowers from April into July and is generally conspicuous through July as the reddish stems contrast well against the generally yellowish dried grasses. The preferred habitat for this species, sandy terraces without a competing overstory of annual grasses, is not well represented on this site. Most of the more common species associated with the Slender horned-spineflowers are not known from this site. Thus it is considered that it probably does not occur on this site.

2. The San Fernando Valley Spineflower (*Chorizanthe parryi* var. *fernandina*) has Federal species of concern listing, (data is insufficient to support Federal listing, it is presumed extinct), is not listed by the State of California, but is listed by the California Native Plant Society in their 1A Category, "presumed extinct in California". It has been collected in this region near Newhall in 1893 by Haase, near Castaic in 1929 by Hoffmann (the last known collection of the species) (Reveal and Hardham 1989b). Its total range is from the Foothills of the San Gabriel Mountains in Los Angeles County to near Santa Ana in Orange County. No evidence of the species was observed on the site. It is presumed to be extinct.

3. Nevin's Barberry (*Berberis nevinii* or *Mahonia nevinii*), is a distinctive shrub with compound, spiny-margined leaves. It is a conspicuous species listed as a Federal endangered in 1998, is considered endangered by the State of California DFG as of 1987 and is given a 1B listing by the California Native Plant Society, with an Rarity-Endangerment-Distribution code of 3-3-3, indicating that it is considered rare or endangered in California, its occurrence is limited to one or a few highly restricted populations, it is endangered throughout its range, and it is endemic to California. The

species occurs in sandy and gravelly places below 2000 ft in Coastal sage scrub and chaparral, from northern Los Angeles Co. (San Francisquito Canyon) through the San Fernando Valley, Dripping springs near Aguanga in Los Angeles County, in Scott Canyon in San Bernardino County, and near Vail Lake in Riverside County with a few other localities where it appears to be introduced. The species is conspicuous, and if present on the site would have been seen. Its closest populations are in the San Francisquito Canyon near DWP's Powerhouse number 2 in lower north-facing slopes in chaparral and on adjacent sandy washes where it may be introduced from cultivation.

4. Short-joint Beavertail cactus (*Opuntia basilaris* var. *brachyclada*) is a Federal Species of Concern species indicating that the threat and/or distribution data are insufficient to support Federal listing, it has no state listing, and is considered by the CNPS in their list 1B with a Rarity- Endangerment- Distribution code of 3-2-3, indicating that they consider the species rare or endangered in California, that it is endangered in a portion of its range, and it is endemic to California. The taxon is characterized by having very narrow, subcylindrical pads instead of the typical flattened pads of var. *basilaris*. Benson (1969) shows a distribution of the species scattered in California from the Desert slopes of the San Gabriel and San Bernardino mountains and in the Vulcan Mts. in San Diego County and in the Providence Mts. in the eastern Mojave Desert, always in occurrence with the typical variety. I strongly feel this is only a form of *Opuntia basilaris* and is without taxonomic merit. While Beavertail cactus was observed, none approached the slender character of var. *branchclada*. There are, however, two records of the "taxon" east of this site.

5. Davidson's Bush mallow (*Malacothamnus davidsonii*) has no state or Federal status (except as a Species of Concern) but is listed by the CNPS in their list 1B, with a Rarity- Endangerment- Distribution code of 2-2-3. This indicates that the CNPS considers the species to be rare or endangered in California, its occurrence is confined to several populations, it is endangered in a portion of its range, and it is endemic to California where it is known from Los Angeles, Monterey and San Luis Obispo counties. I have collected this species near the Santa Clara River near here. The bush mallows seen on this site, were all *Malacothamnus fascicularis*, which common in the general area.

6. Palmer's grapplinghook (*Harpagonella palmeri*) has Federal Species of Concern listing (threat and/or distribution data are insufficient to support Federal listing), it has no state status, and is listed by the CNPS on "List 2", with a Rarity- Endangerment- Distribution code of 1-2-1 indicating that it is considered to be rare, threatened or endangered in California, but it is more common elsewhere, and that it is rare but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time, that it is endangered in a portion of its range, and that it is more or less widespread outside the state of California. The genus is very similar to *Pectocarya* and possibly should be included within that genus. I have seen it in the Newhall-Sand Canyon area occurring in clay flats. It is a low growing species appearing very much like a *Pectocarya*, but has only one mature fruit per flower and it fragments soon after it matures leaving little trace of its previous existence. It thus can only be located during

the month of April. It is known from collections in central and coastal San Diego County, western Riverside and adjacent Orange counties and from a few collections in south-central, and west Los Angeles County. In this area the species is recorded from Newhall Quad. The species also occurs in on Santa Catalina Island, south and western Arizona and south to central Baja California.

7. Spreading Navarretia (*Navarretia fossalis*) has a Federal Threatened Category status as of 1998, no state listing, and a CNPS 1B listing with a Rarity-Endangerment- Distribution code 2-3-2 indicating that its occurrence is distributed in a limited number of occurrences, it is endangered throughout its range, and it is rare outside of California. It is known from populations in eastern Riverside, San Diego counties and adjacent Baja California in vernal pools, various shallow, freshwater marshes and other such wet depressions. It is being impacted by agriculture, road construction, grazing, and urbanization. It was recently found in the Newhall area within vernal pools. As this site does not have vernal pools, it is not expected on this site.

8. Peirson's morning-glory (*Calystegia peirsonii*) has Federal Species of Concern listing (threat and/or distribution data are insufficient to support Federal listing), it has no state status, and is listed by the CNPS on "List 4", with a Rarity- Endangerment- Distribution code of 1-1-3 indicating that it is on their plants of limited distribution-a watch list, rare, but found in sufficient numbers and distributed widely enough that the potential for extinction or extirpation is low at this time, not endangered, and limited in distribution to California. It was initially thought to be rare in Southern California as it is a species that blooms in early summer when few botanists collect and looks very much like the common weedy Hedgebindweed (*Convolvus arvensis*). After its initial endangered listing by the CNPS and the Federal DFW, it was found to be very common in the Santa Clarita region, and moved to the CNPS list 4 in 1984. It is common in the Newhall region and often proves to be very common after fires. Many records are known from the Mint Canyon-Saugus-Santa Clarita area in Coastal Sage Scrub with sandy-clayey substrates. It is often overlooked in mature scrub, but is often much more conspicuous after fires. It is not rare in the area and is abundant in some areas within the adjacent Angeles National Forest. It was infrequent on the site. The species is very common in the general region.

9. Santa Susana tarweed (*Hemizonia minthornii*) has a Federal Species of Concern listing, a state Rare listing and a CNPS 1B listing with a Rarity- Endangerment- Distribution code of 2-2-3 indicating that its occurrence is confined to several populations, it is endangered in a portion of its range, and is endemic to California. It is a species largely confined to rocky sandstone outcroppings in the Santa Susana Mountains. The CNDDB records the species from this quad at the Santa Susana Pass area about 11 miles southeast of this site. It is not expected to occur on this site proper as suitable habitat does not occur on the site.

10. Plummer's mariposa lily (*Calochortus plummerae*) has Federal Species of Concern listing, it is not listed by the state, and has a CNPS 1B listing with a

Rarity- Endangerment- Distribution code of 2-2-3 indicating that its occurrence is confined to several populations, it is endangered in a portion of its range, and it is endemic to California. It is a bulb-bearing perennial herb with large whitish, distinctive flowers. The species is being impacted primarily by housing developments that modify Coastal sage scrub-chaparral and grasslands. It occurs from Ventura, Los Angeles, to San Bernardino and Riverside counties. The CNDDDB records its presence from the Santa Susana Pass area about 8 miles southeast of this site. It would be expected in the area. If present on the site it would be expected in undisturbed, open areas.

11. Club-haired mariposa lily (*Calochortus clavatus* var. *clavatus*) has no Federal or state standing, but may qualify as a valued plant under CEQA, the California Environmental Quality Act. CEQA provides protection not only for State-listed species but for any species which can be shown to meet the criteria for state listing. While this taxon has a relatively low CNPS rating of list 4 (the watch list) with a Rarity-Endangerment-Distribution code of 1-1-3 indicating that the species is found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time, that is not endangered and that it is endemic to California. The variety is quite common in the eastern Santa Clarita valley particularly on clayish flats and slopes in open Coastal sage scrub and Chaparral. It is moderately widespread in California ranging from San Benito to Santa Barbara, and Los Angeles counties, but threats exist as many of its habitats are being developed in Southern California. It is a robust and attractive taxon with bright yellow flowers and reddish anthers. It is recorded from this site in open Chaparral in moderate numbers.

12. Slender mariposa lily (*Calochortus clavatus* var. *gracilis*) has a Federal Category 2 listing, no state listing, a CNPS 1B listing with a Rarity-Endangerment- Distribution code 3-2-3 indicating that its occurrence is highly restricted, it is endangered in a portion of its range, and is endemic to California. It is known only from populations in Los Angeles County occurring in Chaparral. The CNDDDB lists three records from this quad, near this site, between Interstate 5 and Highway 14. It may be expected to occur in this region, but its occurrence would be expected in the upper slopes and adjacent chaparral zones, not in the lower flats.

13. Slender Orcutt grass (*Orcuttia californica*) has a Federal Endangered status as of 1993, a state endangered listing as of 1979 and a CNPS 1B listing with a Rarity- Endangerment- Distribution code of 2-3-3 indicating that its occurrence is distributed in a limited number of occurrences, endangered throughout its range, and endemic to California (it barely extends into northern Baja California). The Slender Orcutt grass is a species that develops along the margins of vernal pools in the spring-early summer. It is known from collections in Ventura, central and southern Los Angeles, eastern Riverside, San Diego counties and adjacent northern Baja California. It is overall known from fewer than 20 localities and is seriously threatened by agriculture, development and non-native plants, grazing, and vehicles (CNPS 1994). It was recently found in vernal pools on Cruzan Mesa about 10 miles northeast of this site. This site does not have suitable habitat for the species and it would not be expected from the site.

Of the above listed species Peirson's Morning glory and Club-haired Mariposa Lily are known from the site. and I would expect Plummer's Mariposa Lily, and the Slender Club-haired Mariposa Lily to occur on the site, but these are relatively common in the local area.

**Significant Resources--Wildlife:** As noted previously this region is a transition area between coastal regions of true Coastal Sage Scrub, a vegetation type that continues from Ventura to San Diego Cos. and beyond, and a more arid form of this vegetation type that continues to the western margin of the Mojave Desert. The coastal areas of Coastal sage scrub have been strongly impacted by development resulting in loss of habitat and many of the animal taxa restricted to these areas are now listed by State and Federal agencies as threatened, rare or endangered. In many animals, the coastal species continues into the arid zones bordering the Mojave Desert or into the Mojave Desert proper as a more arid-adapted subspecies. As this area is less developed and of large size, these taxa are more often not listed as threatened or rare. In many animal species, such as the Horned lizard and Western Jack rabbit the coastal subspecies are listed as threatened, while the desert subspecies are not and this region lies in a zone between the two subspecies and it is often not known which subspecies will occur in this region as they may sort out depending on local environment.

The region contains a moderately large number of animals that are listed by federal and state agencies as "special", "sensitive", rare or endangered. Most of these are taxa whose rarity is established by their decline in the coastal developed areas of Southern California. Those known from the region either from direct sightings or from the literature are listed separately below (Table 2).

Table 2: Sensitive wildlife taxa known from the region:

Common name	Latin name	Status
1. Unarmored threespine stickleback	<i>Gasterosteus aculeatus williamsoni</i>	Fed FE, State CE.
2. Red legged frog	<i>Rana aurora draytoni</i>	Fed. C1, State CSC.
3. Coast horned lizard	<i>Phrynosoma coronatum blainvillei</i>	Fed. SC, State CSC.
4. Coastal western whiptail	<i>Cnemidophorus tigris multiscutatus</i>	Fed. SC.
5. Coastal rosy boa	<i>Lichamura trivirgata rosafusca</i>	Fed. SC.
6. Coast patch-nosed snake	<i>Salvadora hexlepis virgultea</i>	Fed. SC, State CSC.
7. Two-striped garter snake	<i>Thamnophis hammondii</i>	Fed. SC, State CSC.



8. Prairie falcon	<i>Falco mexicanus</i>	Fed. -, State CSC
9. White-tailed kite	<i>Elanus caeruleus</i>	Fed. -, State CSC
10. Burrowing owl	<i>Athene cunicularia</i>	Fed. -, State CSC.
11. California horned lark	<i>Eremophila alpestris actia</i>	Fed. SC.
12. California gnatcatcher	<i>Polioptila californica</i>	Fed. FE, State CSC.
13. Southwestern Willow flycatcher	<i>Empidonax traillii extimus</i>	Fed, FE, State CE
14. Loggerhead shrike	<i>Lanius ludovicianus</i>	Fed. SC, State CSC.
15. Least Bell's vireo	<i>Vireo bellii pusillus</i>	Fed. FE, State CE.
16. Yellow warbler	<i>Dendroica petechia</i>	Fed. -, State CSC
17. Yellow-brested chat	<i>Icteria virens</i>	Fed. -, State CSC
18. Summer tanager	<i>Piranga rubra</i>	Fed. -, State CSC
19. Bell's sage sparrow	<i>Amphispiza belli belli</i>	Fed. SC, State CSC.
20. Southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	Fed. SC, State CSC.
21. Pallid bat	<i>Antrozous pallidus</i>	Fed. -, State CSC.
22. Pale big-eared bat	<i>Plecotus townsend pallescens</i>	Fed. SC, State CSC.
23. Greater western mastiff bat	<i>Eumops perotis californicus</i>	Fed. SC, State CSC
24. California leaf-nose bat	<i>Macrotus californicus</i>	Fed. SC, State CSC
25. Townsend's big- eared bat	<i>Plecotus townsendii townsendii</i>	Fed. SC, State CSC
26. Southern grasshopper mouse	<i>Onychomys torridus ramona</i>	Fed. SC, State CSC.
27. American badger	<i>Taxidea taxus berlandieri</i>	Fed. -, State CSC.
28. San Diego desert woodrat	<i>Neotoma lepida intermedia</i>	Fed. SC, State CSC.
29. San Diego black- tailed jackrabbit	<i>Lepus californicus bennetti</i>	Fed SC, State CSC.
30. Quino Checkerspot	<i>Euphydryas editha quino</i>	Fed FEE.

butterfly

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Fed FE = U.S. Fish and Wildlife Service, Endangered; Fed. FT, federal threatened; Fed SC = (Federal Special Concern) these were previously designated by the FWS as Category 2 level, taxa for which information indicates that proposing to list as endangered or threatened is possibly appropriate, but for which conclusive data on biological vulnerability and threat are not available to support the proposal. This designation has been dropped, these are thus listed as Federal Special Concern taxa; State CE = State of California Department of Fish and Game, Endangered; State CSC = State of California Department of Fish and Game "Species of Special Concern", indicating that populations of the species appear to be declining in the state.

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There are seven species that are listed by both the U.S. Fish and Wildlife Service and California Department of Fish and Game as endangered in Los Angeles County, including five species of birds, one reptile, and one fish that do not occur in this region. Three of the bird species listed as endangered, Brown pelican (*Pelicanus occidentalis*), California clapper rail (*Rallus longirostris obsoletus*) and California least tern (*Sterna antillarum*) are coastal species and would not be expected on this inland site. The endangered California Condor (*Gymnogyps californianus*) has part of its historical range in the region, but is now extirpated in this area and occurs in the wild only in controlled colonies in Ventura County and Arizona. A discussion of potential occurrence of this species is given below. The recently listed Desert tortoise (*Gopherus agassizii*), is State threatened and Federally endangered, but is species of the Mojave desert and would not be expected in this non-desert site.

1. The State and Federal endangered Unarmored threespine stickleback fish (*Gasterosteus aculeatus williamsoni*) is known from three main areas in the Newhall region in the Santa Clara and San Francisquito River systems. The western-most population occurs west of Interstate 5 with populations also in Castaic Creek in wet years. The area west of Interstate 5 has been designated as a portion of the critical habitat for this species.

Other populations occur far upstream in San Francisquito Creek below Drinkwater reservoir, and 10-18 miles further east up the Santa Clara River in Soledad Canyon from near Lang, through the Soledad Canyon into Arrastre Canyon. The presence of the Unarmored threespine stickleback is the causal factor for the erection of the county of Los Angeles' Significant Ecological Area Nos. 23 (Santa Clara River) and 19 (San Francisquito Creek). The Stickleback prefers pools with slow-moving clear water for habitat and breeding. As this site occurs within 5.5 miles of the Santa Clara River and drains into the Santa Clara River through the South Fork of the Santa Clara River, there is a possibility of impact on SEA 23 caused by runoff of silt and clay from the site. Overall the impact of this site on the Santa Clara River would be comparatively small judging from the massive impacts generated from other areas bordering the river.

2. The Red-legged frog (*Rana aurora draytonii*) is a Federal listed threatened taxon (as of May 1996) and State Species of Special Concern. This frog requires permanent water of good quality and the probability of its occurrence on this site is small and its occurrence would be limited to the small area of wet riparian areas near Sierra Highway where the water is not of high quality and is of low volume during the summer droughts. If it does occur there it would not be impacted by development of this site as no development is planned in that region. It needs to be searched for if that area is modified.

3. Coastal horned lizard. The San Diego horned lizard (*Phrynosoma coronatum blainvillei*) is a Federal threatened taxon (as of 1996) and a State Species of Special Concern. The site is at the northern limit of this subspecies range and it is not known if the San Diego subspecies or the more common desert subspecies *frontale* would occur on the site. Both taxa have been collected in the Santa Clarita Valley region. The local area could support this lizard, as the main food source of the species, Harvester ants, were seen on the site. It is limited in Southern California mainly due to habitat destruction and their collection by children. Survey ?

4. The Coast western whiptail (*Cnemidophorus tigris multiscutatus*) is a Federal Special Concern taxon, and a State Species of Special Concern, is considered declining in Southern California due to loss of habitat. It occurs in dry scrub and chaparral habitats, but may also occur in dry washes, oak woodlands and open, dry riparian habitats. The species is an active predator that forages for small vertebrates and arthropods in the understory of scrub. It may occur in the open areas of scrub around the site where its presence would be noted by the patterns of disturbance to the litter under the plants as the animal forages for prey.

5. Coastal rosy boa (*Lichanura trivirgata rosafusca*) is also a Federal and State species of Special Concern. This secretive evening-to-morning-active snake inhabits rocky brushlands, canyon sides and dry scrublands. It is known from the Santa Clarita region. It could occur on the site. 7

6. Coast patch-nosed snake (*Salvadora hexalepis virgulata*) is a Federal Special Concern taxon. This secretive evening-to-morning-active snake inhabits Coastal sage scrub, Chaparral, and woodland areas and feeds on lizards and small mammals. It appears to be declining throughout its range due to habitat loss and habitat fragmentation. It is known from old records from the Santa Clarita region and has historically been collected in Placerita, Mint, San Francisquito, Sand and Soledad canyons. If present on the site it would be confined to the regions of scrub and chaparral. 7

7. The Two-striped garter snake (*Thamnophis hammondi*) is a Federal Special Concern 2 species. This snake requires the presence of water for its prey items, the probability of occurrence directly on the site is slight and it would be limited to the area of permanent water along Sierra Highway.

8. The Prairie falcon, (*Falco mexicanus*) is a Federal and State Special Concern species. It occurs only rarely in the Santa Clarita Valley. The species may pass over the site and rarely use the site for foraging but would not be expected to use the site for nesting as it preferably nests in rocky areas. Development of the site would have little effect on the species.

9. The White-tailed kite, (*Elanus caeruleus*) is not federally listed, but has a California Special Concern designation and is considered by the California Natural Diversity Data Base as declining throughout its range in California due to loss of habitat. Kites nest in trees along the Santa Clara River and hunt widely over grasslands. They may also nest in Oak woodlands such as the type on this property. The site represents a portion of their range and the species was observed on the site during the wildlife survey.

10. The Burrowing owl (*Athene cunicularia*) is a Federal Special Concern and State Species of Special Concern species. It is a small owl that nests in burrows in usually open habitats most often on banks and roadsides. It is definitely known to occur in the region and has recently been seen in grassy understory areas in Valley oak woodlands in Santa Clarita. It is a widespread species throughout the western United States, but has declined in this and many other areas due to habitat modification, poisoning of its prey items, and introduced nest predators. No evidence of the species was seen directly on the site but it may occur in the open areas of site and has been seen in the area.

11. California horned lark (*Eremophila alpestris actia*) is a Federal Special Concern species and State Species of Special Concern. It is a ground-nesting bird that nests in and beneath grasses and other herbaceous vegetation, often preferring open or disturbed habitats. It has declined in California due to loss of habitat to agricultural and urban development, grazing, predation and direct human disturbance. It is present in the general region and has been observed in grain fields in the general region where they typically nest. They may occur in the local area but in small numbers.

12. California gnatcatcher (*Polioptila californica californica*) is listed as a threatened species under the Federal Endangered Species Act. Although some of the Coastal sage vegetation, particularly on south-facing slopes, seems suitable for California gnatcatchers, the area is drier than the more coastal locations where this species is found. It is unlikely that this species exists on the property, the property is within the zone for which the Fish and Wildlife service requires that surveys for this species be conducted. The guidelines for such surveys require 6 visits during breeding season (March 15-June 30) or 9 visits during the remainder of the year. The Blue-gray gnatcatcher is a more suitable species for the habitat present in this region. The California gnatcatcher is not expected to occur on this site.

13. Southwestern willow flycatcher (*Empidonax traillii extimus*) is a Federal Endangered species and a State Species of Special Concern. They was once

widespread in wet riparian woodlands in Southern California but now only a few individuals exist. Once common along the Santa Clara River, it is now very rare in wet riparian areas. The taxon has declined drastically due to habitat loss and parasitism by the Brown-headed cowbird. The main California breeding populations of this species occur along the Kern River and north of Santa Barbara. It was not seen on the property and if present would be very rare on this site as the zone of riparian habitat is very small.

14. Loggerhead shrike (*Lanius ludovicianus*) is a Federal Special Concern species, a State Species of Special Concern. It is also on the Audubon California watch list. It is predatory bird noted for impaling lizards on branches for later eating. It occurs in open sage and chaparral scrub. Its populations have declined throughout much of its range due to habitat destruction and loss of prey items. They are present throughout the Santa Clarita Valley where the species is confined to the open scrub areas. Impact to the species comes from local loss of habitat. They would be expected to occur on the site at some time of the year.

15. The Least Bell's vireo (*Vireo bellii pusillus*) is a Federal and State endangered species and is known from the Santa Clara River in low riparian vegetation. The species is an insect feeder that prefers feeding in open herbaceous riparian habitats, but will also feed in marginal area of Coastal sage scrub and Chaparral. It is very rare in the area but is known to inhabit the riparian woodlands along the Santa Clara River below Interstate 5. It would be expected more in areas with extensive herbaceous riparian habitat. As such habitats are very rare on the site, it would not be expected to occur locally as better habitats occur along the Santa Clara River of Ventura County. The species would not be expected on the site. 16 children = 5/1/22

16. Yellow warbler (*Dendroica petechia*) is a State Species of Special Concern. It nests along riparian corridors in California and has declined strongly due to habitat loss and nest parasitism by Brown-headed cowbirds. It was once common along the Santa Clara River and remains fairly common along cottonwoods and wet riparian areas in the Santa Clara River. It may also occur in Oak woodlands of the type on the site but generally with more of a riparian aspect.

17. Yellow-breasted chat (*Icteria virens*) is a State Species of Special Concern that nests sparingly in larger trees in wet and dry riparian zones along the Santa Clara River and could nest in the Oak woodland habitats particularly along riparian zones. More suitable habitats of this nature occur off the site and overall it would not be expected on this site.

18. Summer tanager (*Piranga rubra*) is a State Species of Special Concern. There are a few sight records along the Santa Clara River in this general region; the bird has not been observed breeding in this region for 30 years. It prefers large cottonwoods for habitat, but is known to occur in Oak woodlands with riparian interfaces.

19. Bell's sage sparrow (*Amphispiza belli belli*) is another Federal Special Concern species and a State Species of Special Concern. This coastal form of the species has suffered decline as its habitat requirement, dense stands of Coastal sage scrub, is being converted to housing. This sparrow was observed on the site, and is to be expected in dry and burnt over Coastal sage scrub.

20. Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) is another Federal Special Concern taxon, a State Species of Special Concern and is also on the Audubon California Watch List. This sparrow inhabits steep, sparsely vegetated slopes. It is relatively common in the region in Coastal sage scrub. This species is still common in the region, but populations are diminishing as continued development occurs in regions of Coastal sage scrub in Southern California. It was observed on the site.

Other Birds: In addition to the birds listed as above, three other bird species in the region are regarded as Species of Special Concern by the State of California but are not Federally listed. These are all raptors: Cooper's hawk, Sharp-shinned hawk and Merlin. The Cooper's hawk (*Accipiter cooperi*) is a permanent resident in wooded areas in Southern California and is a State listed Species of Special Concern. Oak woodland is considered prime habitat for the species and it often nests in oaks. One was observed on the site during the wildlife survey. The Sharp-shinned hawk (*Accipiter striatus*) winters in southern California woodlands and is also on the State list of Species of Special Concern and is on the Audubon "Blue List." It is expected to hunt over this area, but was not observed on the site. The Merlin (*Falco columbarius*) is a State species of Special Concern and was observed on the site. It has no Federal status.

The California Condor: Regarding the State and Federally endangered California Condor, the open slopes above the site could potentially be used by the California Condor (*Gymnogyps californianus*). The Condor Research Center of the National Audubon Society has developed a map of the Recent and Expected Future California Condor Range. This range outlines areas where most condors have been active and areas that they may use if their recovery program is successful in increasing condor numbers. The range includes most of the Los Padres National Forest in northern Ventura and Santa Barbara counties, extending northward on both sides of the San Joaquin Valley to Fresno on the east and almost to Monterey Bay on the west. A small extension extends westward from the Los Padres National Forest across Interstate 5 to the Angeles National forest in the San Gabriel Mountains. This section passes a few miles from this site and includes a known condor nesting site in the Angeles National forest north of Saugus. The preferred nesting sites are high sandstone cliff faces with ledges above 2000 ft elevation. Preferred foraging areas are grasslands around cattle operations and more montane areas where deer are hunted.

This site contains no suitable nesting sites for Condors as no sandstone cliffs occur on the site. The absence of cattle and the encroachment of surrounding developments make the area unproductive as a condor foraging area. Furthermore, one

would not want to attract condors to the site due to development and population in the area, which could result in a random condor shooting or an accidental encounter with power lines.

21. Pallid bat (*Antrozous pallidus pacificus*) California Species of Special Concern and is considered Sensitive by the Forest Service. Pallid bats forage in dry, open fields and mesas for terrestrial spiders. The site contains some suitable habitats for feeding by this species, but the occurrence of the species would be expected to only be transitory. As with the case with all the bats listed below, there is a potential that they could find nesting sites in the sandstone outcroppings near the main ridge of the site and in the canyon above the MTA tunnel as there are some near vertical cliffs present. The latter site will not be developed or molested by development of the site.

22. Pale big-eared bat (*Plecotus townsendii pallescens*) is a Federal Special Concern and State Species of Special Concern. It is an insect-feeding species and may use the site for foraging. Again, there are no real suitable roosting sites for the species on the site.

23. Greater western mastiff bat (*Eumops perotis californicus*), Federal Special Concern species, and State Species of Special Concern. The species was once widespread but has decreased in numbers recently for unknown reasons. This species roosts in crevices on cliffs, but also in buildings, and hunts widely for insects at night. No specimens have been collected near the study site (D. F. Williams, Mammalian species of Special Concern in California, 1986) and there are no suitable roosting locations on the site for this species. Although the site is included within the potential range of this species, its occurrence and nesting on the site is very unlikely.

24. California leaf-nose bat (*Macrotus californicus*), Federal Special Concern species and State Species of Special Concern. This bat once occupied the coastal basins of southern California, but is now restricted to the arid desert regions. They roost in caves and mines and would not be expected on this site and no habitats occur on the site for the species to roost or reside.

25. Pacific or Townsend's big-eared bat (*Corynorhinus (Plecotus) townsendii townsendii*), a Special Concern taxon and a California DFG Species of Special Concern. This bat occurs sporadically throughout California and has experienced a strong population decline in the last 40 years. The bat is completely incompatible with humans and only roosts in remote regions free from human visitation. The species could fly over this site during its foraging.

26. Southern grasshopper mouse (*Onychomys torridus ramona*), a Special Concern taxon. This nomadic, predatory mouse prefers sandy desert habitats and would not be expected in this region. It has been occasionally found in open scrub habitats but overall is secretive and difficult to find. It is not expected to occur on the site.

27. American badger (*Taxidea taxus berlandieri*) has neither State or Federal protection. The American badger occurs widely over nearly all of California and much of the United States. It has declined in numbers due to habitat destruction, poisoning of rodents, part of its food supply, and inability to avoid cars in developed areas. The woodland habitat would be good habitat for Badgers.

28. San Diego desert woodrat (*Neotoma lepida intermedia*) is a Federal Special Concern taxon and a State Species of Special Concern. It occurs in rocky south-facing slopes in more desertic areas. It is not the species that would be expected in this dense chaparral-scrub habitats. The species here would be the dusky-footed woodrat (*Neotoma fuscipes*). The species is being impacted by development of habitats and is subject to predation by domestic pets and capture when they enter residences in their nocturnal forages.

29. San Diego Black-tailed jackrabbit or hare (*Lepus californicus bennetti*) is a State Species of Special Concern. This species occurs in open flat scrub areas and may occur on and around the site. This is an instance where the coastal subspecies, *bennetti*, not the desert subspecies, is the critical taxon and it is not known which subspecies would occur on the site. The coastal subspecies has declined due to habitat loss, hunting by man, and hunting by pets, as well as introduced predators.

30. Quino Checkerspot Butterfly (*Euphydryas editha quino*) was listed as a Federal Endangered species in 1997. It was once very common throughout southern California, but now is in strong decline. A survey protocol for the species has been established by the Fish and Wildlife Service to determine if an intensive survey is needed to establish the presence of this species on a site. They have established a map of potential habitat area and known occurrence, and data on known larval food plants and adult nectar sources. The area under consideration lies within the established Potential Habitat Area for the species. As such, an analysis of conditions and food plants in the area must be completed to determine if suitable Quino habitat is present and a full scale survey would need be conducted. This is done by surveying for the presence of suitable larval food plants (primarily *Plantago erecta*, secondarily *Antirrhinum coulterianum*, *Collinsia concolor* and *Castilleja exserta*, adult nectar sources (species of *Lotus*, *Cryptantha*, *Gilia*, *Salvia columbariae*, *Lasthenia*), open sparsely vegetated (often disturbed) areas and suitable topographic features (hilltops and ridgelines) is to be completed. This site has no *Plantago erecta*, but as almost all areas in the region it has *Castilleja exserta*, which has long been known as *Orthocarpus purpurascens*--the very showy purple-yellow-red Owl's clover, is present, but very local on the site as well as *Antirrhinum coulterianum* (rare) and *Salvia columbariae* (rare and restricted to the recent burn areas along with a second species of *Antirrhinum multiflorum*, which is abundant after fires and is now common on the site). The adult nectar plants occur throughout the area. The site also has much open disturbed habitat and ridgetops are present on this site. The survey can only be completed by approved personal who can sight-recognize the butterflies of Southern California. The survey is to be done over a 7 day period when the adults are known to be flying. The U.S. fish and Wildlife Service will determine each



year when the surveys can be done, but the period is usually between mid March and May. Food surveys should be conducted after February.

Of the animals listed or mentioned above, White tailed kite, Rufous-crowned sparrow, Bell's sage sparrow, Loggerheaded shrike, Merlin and Cooper's hawk were observed on the site. None of these have endangered or threatened status but are species of special concern that are declining throughout the areas, primarily due to continued development, disruption of their habitats and in the case of raptors, poisoning of their prey items.

The site may possibly hold Coast Horned Lizard, Coast western whiptail, Coast Patch-nosed snake, Burrowing owl, California horned lark, and San Diego Black-tailed jackrabbit, several of the bat species and the Badger. In all cases the species would be expected to occur in oak woodland, chaparral or open scrub areas of the site, either under oaks or in association with the scrub and grassland interfaces. Much of the oak woodland and forest area and Chaparral on the site will be set aside as a natural area. None of these are listed as endangered or threatened by State or Federal agencies.

There remains two taxa, whose presence on the site has to be determined, though in each case it is very doubtful that they would permanently occur on the site. These are the federally listed California gnatcatcher and the newly listed Quino checkerspot butterfly. Both of these have established protocols to determine their presence.

### III. Summary and Conclusions:

1. The site is one of high topographic diversity with elevations ranging from 1320 to 2030 ft elevation. The site has a central ridge from which radiate a series of lateral ridges creating a great diversity of slopes of varied exposure to the sun. The soil on the site is mostly a sandy-silt soil derived from marine deposits. The site is traversed by a number of right-of-ways, including those for electrical transmission, water, natural gas and a major railroad. The site is part of a natural large-animal corridor to allow movement of animals between the San Gabriel Mountains and the Santa Susana Mountains and eventually into the Santa Monica Mountains. The central portion of the site burned over during August 1997.

2. Vegetation on the site has been divided into five communities. What was once Coastal sage scrub has been modified into a grass-weed dominated vegetation as the annual, non-native grasses and weeds have suppressed regeneration of the constituent shrub species characteristic of Coastal Sage Scrub. In contrast, the Chaparral vegetation, which is often very dense and lacks an association with weedy annuals, regenerates well after fires and has remained as a viable, natural community. The Coastal live oak woodland-forest areas are defined by the presence of the Coastal live oak, which is well represented on the site. The woodlands and forests occur in flats with deep soils and along protected ravines and drainages and northerly and easterly facing

slopes. Where dense the oaks shade out most associates, leaving an open understory. While the Ravines do not have a characteristic vegetation type of their own, some of them harbor interesting and often dense associations of plants. Riparian habitats are not well represented on the site being confined to a small area south of the cemetery just west of Sierra Highway. This area has permanent water, though the flow is very low during the summer, and has a gallery forest dominated by willows. The site also has scattered Ruderal or disturbed habitats along roadways and in area of disturbance.

3. A total of xxx species of vascular plants are recorded from the site, of these percent are native species, and percent are introduced species, mostly weeds, some cultivars. A listing of amphibians, reptiles, birds and mammals expected to occur on the site is also presented.

4. The plant and animal Rare and Threatened and Special Concern listing of the Federal Department of Fish and Wildlife and the State of California Department of Fish and Game were consulted to determine which species of plants and animals that occur in the region should be sought on the site. We present a listing of 13 plant taxa considered rare, threatened or of special concern in the Santa Clarita Valley. Only one listed species occurs on the site and this is a local endemic and relatively common in the area, the Peirson's Morning glory. Over 30 taxa of animals are listed as Endangered, Threatened or of Special Concern by State and Federal agencies. Of these, several such taxa were observed on the site (White-tailed kite, Cooper's Hawk, Merlin, Loggerheaded shrike) were seen on the site, all species of Special Concern. Several are expected on the site but not observed.

5. Two recently listed Federal Endangered species are noted to have once occurred in the Santa Clarita area in habitat types presently found on the site, these are the Quino Checkerspot butterfly and the California gnatcatcher. The Quino Checkerspot as a larvae primarily feeds on *Plantago ovalis*, which is not recorded from the site. It's larvae also feeds on *Castilleja*, *Antirrhinum* species that are on the site, particularly on the burned over Chaparral areas. Many of the adult feeding plants are also on the site. Under normal conditions the larvae feed plants are not well represented on the site but these larval-feed plants have become available in numbers because of the fire. There is a potential that the California gnatcatcher will be on the site, but as the Coastal sage scrub is so highly disturbed here, it is doubtful that it will actually be found on the site.

6. We have not discussed the proposed developmental plans for the site in the document. The preliminary plans for development are presented as an attached document. The development is largely centered in the area of disturbed grassland that was once Coastal sage scrub vegetation and in areas of Chaparral. The areas of concentrated Oak trees are avoided. Still there will be some loss of oak trees, the totals not yet determined.

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September 25, 1996

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2. We have shown the causal features resulting in the permanent modification of what was once good Coastal sage sage scrub vegetation--cattle followed by exotic annual grasses replacing the perennial grasses

The site has extensive areas of well developed Coastal live oak woodlands-forests. These are considered as highly valued resources. Interestingly the understory associates are not well developed as they have been taken over by weedy annual grasses.

While the site has some strong natural values, it has and

The 98-acre site occurs south of Interstate 5, in the crest between the San Fernando Valley and the Newhall-Santa Clarita Valley along Coltrane Avenue. The site contains approximately 10 acres of flat land that has been used for a vermiculture operation and for storage of trucks, trailers, and cars. The remainder of the site consists of steep slopes with a highly natural Coastal live oak-Walnut-Big cone Douglas spruce woodland.

9. Cumulative Impacts: The flat-land portions of the site, in the past, have been used for various commercial endeavors, most recently a worm farm and for vehicle storage. The adjacent properties are being used for commercial enterprises, an Equestrian center, and a skeet-shooting range. Other properties along The Old Road consist of private ranches, homesites, a trailer park, or places that sell firewood, or have paint-gun games. There are few home-site proposals in the immediate region. Phase 4 of Stevenson's Ranch is shown at the top of the Oat Mountain quad. sheet (Fig. 2) but this is apparently inactive. The Valley Gateway Project, an office complex, has been approved for the old Hondo Oil and Gas site between State Highway 14 and Sierra Highway.. There are a few small projects proposed for the land between the Interstate and Sierra Highway and continued estate development occurs along Wildwood Canyon (Fig. 2). The biggest land-use change in the immediate area has been the development of the Santa Clarita Woodlands, which, with purchased lands, added County lands, BLM lands, City of Santa Clarita lands, add up to approximately 4000 acres of public land. This includes an area that once was considered as a site for a major land fill--Towsley Canyon.



**VANDERMOST CONSULTING SERVICES, INC.**  
Government Affairs • Community Relations • Regulatory Assistance

<b>TO:</b> Dave Wolf		<b>COMPANY:</b> Rincon
<b>FROM:</b> Sherri Cohen	<b>DATE:</b> April 6, 2001	<b>ATTACHMENTS:</b> 1

**REGARDING:**

Gates Site

**ADDITIONAL COMMENTS:**

Attached is a copy of the Jurisdictional Delineation Report for the Gates site.

Please call me at (949) 489-2700 ext. 206 with any questions.

Thank you



VANDERMOST CONSULTING SERVICES, INC.  
Government Affairs • Community Relations • Regulatory Assistance

March 27, 2001

Mr. Ronald Horn  
Sikand Engineering Associates  
15230 Burbank Blvd.  
Van Nuys, CA 91411

**SUBJECT: Preliminary Jurisdictional Delineation of the 571-acre Gates Site, Santa Clarita, California**

Dear Mr. Horn:

This letter report summarizes our preliminary findings of U.S. Army Corps of Engineers (Corps) and California Department of Fish and Game (CDFG) jurisdictions for the Gates site.

The property comprises approximately 571 acres, located north of the merger of Interstate 5 (I-5) and the Antelope Valley Freeway (SR-14). The site is bordered on the east by Sierra Highway and to the North by San Fernando Road (SR-126). Site access is taken from Pine Street, which runs parallel to 126. The site is traversed by several right-of-ways including electrical transmission, natural gas and a major railroad. Regional and local vicinity maps are attached as Figures 1 and 2. The U.S. Geological Survey (USGS) 7.5-Minute quadrangle map is attached as Figure 3.

On December 13, 14 and 15, 2000 and January 22 and 23, 2001, Vandermost Consulting Services, Inc. (VCS) examined the project site to determine the limits of Corps jurisdiction pursuant to Section 404 of the Clean Water Act and limits of CDFG jurisdiction pursuant to Section 1600 of the California Fish and Game Code. Attached as Figure 4 is a 200-scale topographic map depicting the areas of Corps and CDFG jurisdictions. Photographs of the current topography, vegetative communities, and general widths of the "waters of the U.S. and State" are provided as Figures 6-34.

As currently proposed, development of the property will result in impacts to approximately 4.70 acres of Corps jurisdictional non-wetland "waters of the U.S." and 6.85 acres of CDFG jurisdictional "waters of the State."

## METHODOLOGY

Prior to beginning the field delineation, a 200-scale topographic map and 200-scale aerial map of the property were examined to determine the locations of potential areas of Corps and CDFG jurisdiction. Potential jurisdictional areas within and adjacent to the project footprint were field checked for the presence of definable channels and/or wetland vegetation, soils, and hydrology. Upon confirmation of jurisdiction, drainages were measured for length and width and recorded onto the topographic map using visible landmarks for guidance. Additional data, including soil characteristics and vegetation types, were recorded on field data sheets. Suspected wetlands on-site were evaluated using the methodology set forth in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual and guidelines set forth by California Department of Fish and Game.

Open space areas located outside of the project footprint were examined for jurisdictional drainages using the topographic and aerial maps of the site. The open space areas were surveyed, using the existing roads, to determine the presence of potential jurisdictional areas. Potential jurisdictional drainages were not field delineated by measuring the lengths and widths of drainages. Instead, the acreage of jurisdictional waters in the open space areas was estimated based on the delineation conducted on similar topographic and vegetated areas within the project footprint.

## JURISDICTION

### U.S. Army Corps of Engineers (Corps)

#### *A. Definition of "Waters of the U.S."*

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into "waters of the United States." The term "waters of the United States" is defined at 33 CFR part 328 to include: 1) all navigable waters (including all waters subject to the ebb and flow of the tide), 2) all interstate waters and wetlands, 3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use degradation or destruction of which could affect interstate or foreign commerce, 4) all impoundments of waters mentioned above, 5) all tributaries to waters mentioned above, 6) the territorial seas, and 7) all wetlands adjacent to waters mentioned above.

With the exception of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the ordinary high water mark (OHWM), which is defined at 33 CFR 328.3(e) as: *...that line on the shore established by the fluctuation of water indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*



Wetlands are defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support ...a prevalence of vegetation typically adapted for life in saturated soil conditions."

The methodology set forth in the 1987 Wetland Manual generally requires that, in order to be considered a wetland, the vegetation, soils and hydrology of an area must exhibit at least minimal hydric characteristics. While the manual provides great detail in methodology and allows for varying special conditions, a wetland should normally meet each of the following three criteria:

1. Hydrophytic Vegetation: More than fifty percent of the dominant plant species at the site must be typical of wetlands (i.e. rated as facultative or wetter in Region 0/California in the U.S. Fish and Wildlife Service 1988 *National List of Plant Species that Occur in Wetlands*);
2. Hydric Soils: Soils must exhibit physical and or chemical characteristics indicative of permanent or periodic saturation (for example, a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and,
3. Hydrology: Hydrologic characteristics must indicate that the ground is saturated to within 12 inches of the surface for at least five-percent of the growing season during a normal rainfall year. For most of low-lying southern California, five percent of the growing season is equivalent to 18 days.

#### *B. Corps Permit Mechanisms*

There are two distinct permit categories under the Section 404 process, the Nationwide Permit (NWP) and the Individual Permit (IP). NWPs are previously authorized permits for specific categories of activities. A NWP is issued to cover those activities with minimal impacts on aquatic resources. The project applicant must demonstrate compliance with the conditions set forth by the NWP program in order to qualify.

An IP is required if over 0.50 acre of jurisdictional "waters of the U.S." will be impacted by a proposed project, or if over 300 linear feet of jurisdictional non-ephemeral waters are to be impacted. IP applications are much more complex and are based on the premise that wetlands can be avoided. In accordance with Section 404(b)(1) of the Clean Water Act, impacts to special aquatic sites, i.e., wetlands, must overcome the presumption that a less damaging practicable alternative is available through analysis of on-site and off-site alternatives. As such, preparing and processing an IP application takes considerably longer than a NWP application.

Mr. Ronald Horn

March 27, 2001

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Pursuant to the Corps Section 404 permitting process, an applicant must first avoid and minimize impacts to jurisdictional "waters of the U.S." to the largest extent practicable. When these actions have been accomplished, mitigation may be proposed to offset impacts to jurisdictional areas and ensure "no net-loss of waters of the U.S." However, if impacts to jurisdictional waters total less than 1/10 of an acre and less than 300 linear feet of streambed, are not within a FEMA mapped flood plain, and do not impact special aquatic sites, endangered species, or waterways with flows of 1 cfs or greater, only notification of the project is required.

#### **Regional Water Quality Control Board (RWQCB)**

Pursuant to Section 401 of the Clean Water Act, the RWQCB regulates "waters of the U.S. and State" with similar jurisdiction as the Corps. The RWQCB focuses on water quality issues and beneficial uses related to a project and the effects of that project on downstream water quality conditions. To obtain a Section 401 Water Quality Certification, the project must be in compliance with the California Environmental Quality Act (CEQA). To file a 401 Permit application, a fee of \$1,000 is required per acre, or part thereof, of impacts to "waters of the U.S. and State," up to the maximum of \$10,000.

#### **California Department of Fish and Game (CDFG)**

In addition to the Section 404 and 401 regulatory processes, the State of California regulates water resources under Section 1601-1603 of the Fish and Game Code. Section 1601 pertains to state, local government, or public utility projects and Section 1603 pertains to private projects. Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the Fish and Game Code, the CDFG regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife. Section 1603 states that "...it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed or bank of any river, stream or lake designated by the department, or use any material from the streambeds, without first notifying the department of that activity..."

CDFG considers most drainages to be "streambeds" unless it can be demonstrated otherwise. A stream (which includes creeks and rivers) is defined as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes water courses having a surface or subsurface flow that supports or has supported riparian vegetation." Additionally, CDFG defines "lake" to include "natural lakes or man-made reservoirs." CDFG jurisdiction includes ephemeral, intermittent and perennial watercourses and is extended to the limit of riparian habitat that is located contiguous to the water resource and that functions as part of the watercourse system. According to the Fish and Game Code of California, *riparian habitat* is defined as "...lands which contain habitat which grows close to and which depends on soil moisture from a nearby freshwater source."

CDFG jurisdiction within artificial or altered watercourses is based upon the value of the watercourse to fish and wildlife. Altered or disturbed natural watercourses, which maintain the potential for fish, aquatic insects, wildlife and riparian vegetation, are considered jurisdictional. Artificial watercourses that have acquired the physical attributes and functions of a natural watercourse are also jurisdictional. Artificial watercourses that do not exhibit the physical attributes and functions of a natural watercourse are not subject to CDFG jurisdiction.

To obtain a CDFG Section 1600 Streambed Alteration Agreement, the project must be in compliance with CEQA, which is exhibited by submittal of a certified CEQA document (which includes a Notice of Determination and proof of filing fees). Fees associated with the CDFG Section 1603 application are as follows:

For projects costing:	The fee is:
Less than \$25,000	\$132.00
From \$25,000 to \$500,000	\$772.75
Greater than \$500,000	\$1,390.50

## DELINEATION RESULTS

Based on VCS's delineation of the site, Corps jurisdiction totals approximately 6.70 acres of "waters of the U.S." and CDFG jurisdiction totals approximately 24.66 acres of "waters of the State". Based on the project footprint map, impacts to Corps jurisdictional waters total approximately 4.70 acres and impacts to CDFG jurisdictional waters total approximately 6.85 acres. Attached as Appendix A is a complete table of widths, lengths and acreages for all drainages on-site, including impacts and preservation areas. Attached as Figure 4, is a delineation map graphically showing the drainages on-site. A brief summary of the Corps and CDFG jurisdictions for the property is provided in the attached Tables 1 and 2. Tables 1 and 2 categorize Corps and CDFG jurisdiction by drainage complexes and wilderness open space areas. Drainage complexes include a main drainage and several tributary drainages. Drainages not described as complexes consist of one main drain with no tributary drainages.

As shown on the attached land use plan, Figure 5, the project development is concentrated in the eastern portion of the site. In addition, five open space lots totaling 223.4 acres, are located in the southern portion of the site and are designated as a wilderness area. Impact areas and wilderness open space areas are discussed in more detail below.

### Impact Areas

In the portion of the site proposed for development, a central ridgeline separates the property into two distinct portions. These sections, west of the ridgeline and east of the ridgeline, display similar jurisdictional characteristics as described below:

**TABLE 1  
CORPS JURISDICTIONAL "WATERS OF THE U.S."**

<b>DRAINAGE AREA</b>	<b>ACREAGE</b>	<b>IMPACTED</b>	<b>PRESERVED</b>
A*	0.013	0.013	0.000
B*	0.006	0.006	0.000
C Complex*	0.030	0.030	0.000
D Complex*	0.251	0.251	0.000
E Complex*	0.248	0.248	0.000
F'	0.007	0.007	0.000
G Complex'	0.020	0.020	0.000
H Complex'	0.030	0.030	0.000
I	0.040	0.040	0.000
J*	0.010	0.010	0.000
K*	0.032	0.032	0.000
L*	0.011	0.011	0.000
M Complex*	0.094	0.094	0.000
N	0.011	0.000	0.011
O	0.024	0.000	0.024
P	0.025	0.000	0.025
Q	0.028	0.000	0.028
S Complex	0.186	0.000	0.186
T Complex*'	0.010	0.010	0.000
U Complex*	0.458	0.458	0.000
V	0.005	0.005	0.000
W Complex*	0.314	0.314	0.000
X Complex*	0.376	0.376	0.000
Y Complex	0.004	0.000	0.004
Z Complex*	0.181	0.181	0.000
AA Complex	0.015	0.015	0.000
BB Complex	0.078	0.078	0.000
CC Complex	0.215	0.215	0.000
DD Channel*	1.860	1.860	0.000
EE Complex*'	0.021	0.021	0.000
FF	0.597	0.344	0.253
Channel*	0.030	0.030	0.000
<b>SUB- TOTAL</b>	<b>5.23</b>	<b>4.699</b>	<b>0.531</b>
Wilderness Open Space	1.467	0.000	1.467
<b>TOTAL</b>	<b>6.70</b>	<b>4.70</b>	<b>2.00</b>

' Potential isolated drainage pending Corps Jurisdictional Determination  
\* Includes indirect impacts pending review of Drainage Plans

**TABLE 2  
CDFG JURISDICTIONAL "WATERS OF THE STATE"**

<b>DRAINAGE AREA</b>	<b>ACREAGE</b>	<b>IMPACTED</b>	<b>PRESERVED</b>
A**	0.019	0.019	0.000
B*	0.006	0.006	0.000
C Complex*	0.030	0.030	0.000
D Complex*	0.261	0.261	0.000
E Complex*	0.362	0.362	0.000
F'	0.007	0.007	0.000
G Complex'	0.139	0.139	0.000
H Complex'	0.222	0.222	0.000
I	0.064	0.064	0.000
J*	0.072	0.072	0.000
K*	0.241	0.241	0.000
L*	0.011	0.011	0.000
M Complex*	0.291	0.291	0.000
N	0.063	0.000	0.063
O	0.080	0.000	0.080
P	0.631	0.000	0.631
Q	0.138	0.000	0.138
S Complex	0.526	0.000	0.526
T Complex**	0.010	0.010	0.000
U Complex*	0.510	0.510	0.000
V	0.005	0.005	0.000
W Complex*	0.314	0.314	0.000
X Complex*	0.376	0.376	0.000
Y Complex	0.004	0.000	0.004
Z Complex*	0.181	0.181	0.000
AA Complex	0.015	0.015	0.000
BB Complex	0.078	0.078	0.000
CC Complex	0.215	0.215	0.000
DD Channel*	1.860	1.860	0.000
EE Complex**	0.063	0.063	0.000
FF	2.537	1.463	1.073
Channel*	0.030	0.030	0.000
<b>SUB- TOTAL</b>	<b>9.361</b>	<b>6.845</b>	<b>2.515</b>
Wilderness Open Space	15.300	0.000	15.300
<b>TOTAL</b>	<b>24.66</b>	<b>6.85</b>	<b>17.82</b>

' Potential isolated drainage pending Corps Jurisdictional Determination

\* Includes indirect impacts pending review of Drainage Plans

*West*

The western portion of the site, from the dominant ridgeline toward the railroad, was burned in August 1997 and is dominated by chaparral vegetation. Drainages A through E and T through DD are located on this portion of the site. The drainages are similar in vegetation type and hydrological characteristics. The majority of the drainages on this portion of the site consist of a main drainage with several smaller tributary drainages. The drainages have highly erosive sandy, cobble bottoms with incised banks. The western drainages have little to no vegetation growing within the ordinary high water mark and lack hydric soils. The upland areas are primarily vegetated with chaparral and scattered coast live oaks. Due to the lack of hydric soils and typical wetland vegetation, these drainages are considered to be ephemeral non-wetland waters. These drainages serve small watersheds and lack downstream hydrological connections due to improvements associated with the railroad. In addition, Complex U was previously disturbed by the collapse of a water tank.

In addition to the drainages described above, an improved channel (DD) traverses the site, between the existing development and the railroad. The channel extends approximately 5,600 feet, of which 2,700 feet is on-site. The channel has a sandy bottom approximately 30 feet wide. The sides of the channel are improved with concrete or dirt berms as shown in the attached photographs, Figure 32. The channel begins near the downstream end of Drainage Complex U and is primarily fed by a culvert under the railroad, which conveys water from the south side of the property. The channel continues off-site, under San Fernando Road and eventually outlets into Newhall Creek.

Channel DD also receives water from a concrete channel, which parallels the railroad at the downstream portions of drainages V through Y. The channel is approximately 2 feet wide at the top, with a bottom width of 1 foot, and extends approximately 1,300 feet in length. The channel terminates near drainage Complex U. Tributary U10 represents the 1 foot in width and 400 feet in length between the terminus of the channel and the beginning of Channel DD, were water is assumed to flow during a storm event. During the site visit, the channel was filled with leaf litter and did not exhibit an ordinary high water mark (OHWM). However, the channel may be considered jurisdictional according to page 12823 of the preamble of the March 9, 2000 Corps Nationwide Permit Federal Register document which states that:

*"drainage ditches constructed in uplands that connect two waters of the United States may be considered waters of the United States if those ditches constitute a surface water connection between those two waters of the United States"*

The channel meets this definition because it conveys a surface water connection between the drainages on-site and Newhall Creek, via Channel DD. The Corps can determine on a case-by-case basis the jurisdictional extent of drainage ditches during the Jurisdictional Determination process.

The drainages on the western portion of the site total 4.094 acres of Corps jurisdiction and 4.276 acres of CDFG jurisdiction. Impacts to the western drainages total 4.090 acres of Corps jurisdiction and 4.272 acres of CDFG jurisdiction. Photographs of the drainages are attached as Figures 6-10 and 20-32.

### *East*

The eastern portion of the site, from the dominant ridgeline towards the Antelope Valley Freeway, is dominated by steep canyons and coast live oak woodland. Drainages F through S, and EE are located on this portion of the site. These drainages have sandy bottoms and lack hydric soils. The drainages on this portion of the site have incised channels and coast live oak woodland dominates the upland areas outside of the ordinary high water mark. Due to the lack of hydric soils and typical wetland vegetation, these drainages are considered to be ephemeral non-wetland waters. In addition to drainages described above, Drainage FF originates off-site and is conveyed onto the site through a concrete energy dissipating structure under Sierra Highway. The drainage flows across the site for approximately 1,300 feet as a natural drainage course dominated by typical riparian habitat including mulefat and willows. The drainage exits the site at the property boundary with the neighboring cemetery and continues under Sierra Highway.

In addition to the drainages described above, a detention basin may exist downstream from Drainage Complex M, north of Sierra Highway. During the December site visit, the basin area did not exhibit an ordinary high water mark and is therefore not considered jurisdictional.

The drainages on this portion of the site total 1.136 acres of Corps jurisdiction and 5.085 acres of CDFG jurisdiction. Impacts to the eastern drainages total 0.609 acre of Corps jurisdiction and 2.573 acres of CDFG jurisdiction. Photographs of the drainages are attached as Figures 11-19, 33 and 34.

### Open Space Areas

As shown in the attached topographic map, Figure 4, approximately 223.4 acres of the site are proposed as preserved wilderness open space. The majority of the wilderness open space is located near the southern boundary of the site and is significantly outside of the proposed grading footprint. However, two of the open space lots are located adjacent to the proposed development near the eastern boundary of the site. The wilderness open space areas consist of high quality coast live oak woodland, and were not affected by the 1997 fire.

Due to the size and topography of the site, the formal delineation concentrated on the areas within and immediately adjacent to the proposed project footprint. The wilderness open space areas were examined for the presence of jurisdictional drainages using the topographic and aerial maps and by surveying the site from the existing roads. The acreage of jurisdictional waters in the wilderness areas was estimated by applying jurisdictional results found in similar areas on-

Mr. Ronald Horn

March 27, 2001

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site. Specifically the coast live oak woodland areas in the wilderness open space on the eastern boundary of the site are similar in topography and vegetation to the other wilderness open space areas on-site. Complexes N, O, P and Q occur in approximately 13.3 acres of wilderness open space on Lot 55. Jurisdiction associated with these complexes total 0.088 acres of Corps jurisdiction and 0.912 acres of CDFG jurisdiction. The jurisdictional drainages compared to the 13.3 acres of open space were converted to a ratio and applied to the remaining wilderness areas to estimate Corps and CDFG jurisdiction. The amount of Corps and CDFG jurisdictional waters located in the 223.4 acres of wilderness open space is estimated to be approximately 1.47 acres of Corps jurisdiction and 15.30 acres of CDFG jurisdiction. As described below, the preservation of this high quality area will provide partial mitigation for the jurisdictional impacts described above.

## CONCLUSION

### Permitting Requirements

As currently proposed, development of the property will result in impacts to approximately 4.70 acres of Corps jurisdictional non-wetland "waters of the U.S." and 6.85 acres of CDFG jurisdictional "waters of the State." Therefore, a Corps Section 404 Individual Permit, a CDFG Section 1603 Streambed Alteration Agreement, and a RWQCB Section 401 Certification will be required.

### *Mitigation*

Typically, the mitigation ratio for impacts to jurisdictional non-wetland "waters of the U.S. and State" is less than the ratio for mitigation to jurisdictional wetland "waters of the U.S. and State." A minimum mitigation ratio of 1:1 is required per the "no net loss" policy, which the Corps is mandated to uphold. The regulatory agencies are at liberty to request reasonable higher mitigation ratios to compensate for the temporary loss of the function and value of the drainage habitat area that occurs between the time the existing habitat is impacted and the time the mitigation area is established. Typically, mitigation is based on the acreage of impact compared to the acreage of preservation. If the project design can significantly avoid and minimize impacts to jurisdictional waters, the mitigation ratio for unavoidable impacts may be reduced accordingly. As described above, the preservation of high quality habitat and jurisdictional drainages in the open space areas of the site should decrease the amount of mitigation required.

Mitigation typically consists of the creation of wetlands on-site but could include off-site opportunities. An appropriate area for mitigation will be discussed with the regulatory agencies. Mitigation will involve the submittal and approval of a habitat mitigation monitoring plan, which outlines the location of the mitigation area, specimens to be planted, success criteria and the 5-year monitoring and reporting requirements. Depending on the project site's current habitat function and value, a higher mitigation ratio may be requested by the regulatory agencies.



*Threatened or Endangered Species*

Based on the preliminary biological report, *Biological Resources of Needham Ranch*, conducted by Independent Environmental Consultants, dated September 25, 1999, the site may contain some federally listed threatened or endangered species. We recommend that focused surveys for threatened or endangered species as listed in the Biological Resources report be conducted. If the site contains threatened or endangered species, coordination with the U.S. Fish and Wildlife Service (Service) may be necessary.

Coordination, in the form of a Section 7 Consultation, occurs when an endangered species may be adversely affected by a proposed project, and the project has a federal nexus. The Section 7 Consultation is initiated by the Corps and processed by the Service. The Consultation involves the preparation of a Biological Assessment (BA) by the applicant describing the effect of the permitted action on Federally listed species existing on-site. The Biological Opinion (BO), prepared by the Service, may contain alternatives intended to minimize the effects to the species. The Corps may adopt these alternatives as special conditions to the permit. Once initiated by the Corps and deemed complete by the Service, the Section 7 Consultation has a 135-day time clock.

**NEXT STEPS**

We recommend that the next step include the request for a Jurisdictional Determination (JD) from the U.S. Army Corps of Engineers. The JD is a confirmation of the delineation and is useful in confirming limits of jurisdiction and the proposed project's impacts for future negotiations with the regulatory agencies. This site contains several atypical drainage features that may not be considered jurisdictional by the Corps. Atypical features on-site include concrete lined channels and several drainages which may be considered isolated water bodies. We recommend reviewing these features with the Corps in an effort to limit the amount of jurisdictional waters and required mitigation.

Based on the acreage of impacts described above, the project will require the following permits:

- U.S. Army Corps of Engineers Section 404 Individual Permit
- Regional Water Quality Control Board Section 401 Water Quality Certification
- California Department of Fish and Game Section 1603 Streambed Alteration Agreement

If you have any questions or comments regarding this report, please call me at (949) 489-2700, extension 208.

Sincerely,

*Sherril Cohen FOR*

Peter Carlson  
Vice President

Mr. Ronald Horn  
March 27, 2001  
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ATTACHMENTS:

Figure 1 Regional Location Map  
Figure 2 Local Site Vicinity Map  
Figure 3 USGS Topographic Map  
Figure 4 Corps and CDFG Delineation Map  
Figure 5 Land Use Map  
Figures 6-34 Photographs of Drainages A through FF  
Appendix A Jurisdictional Acreage Spreadsheets



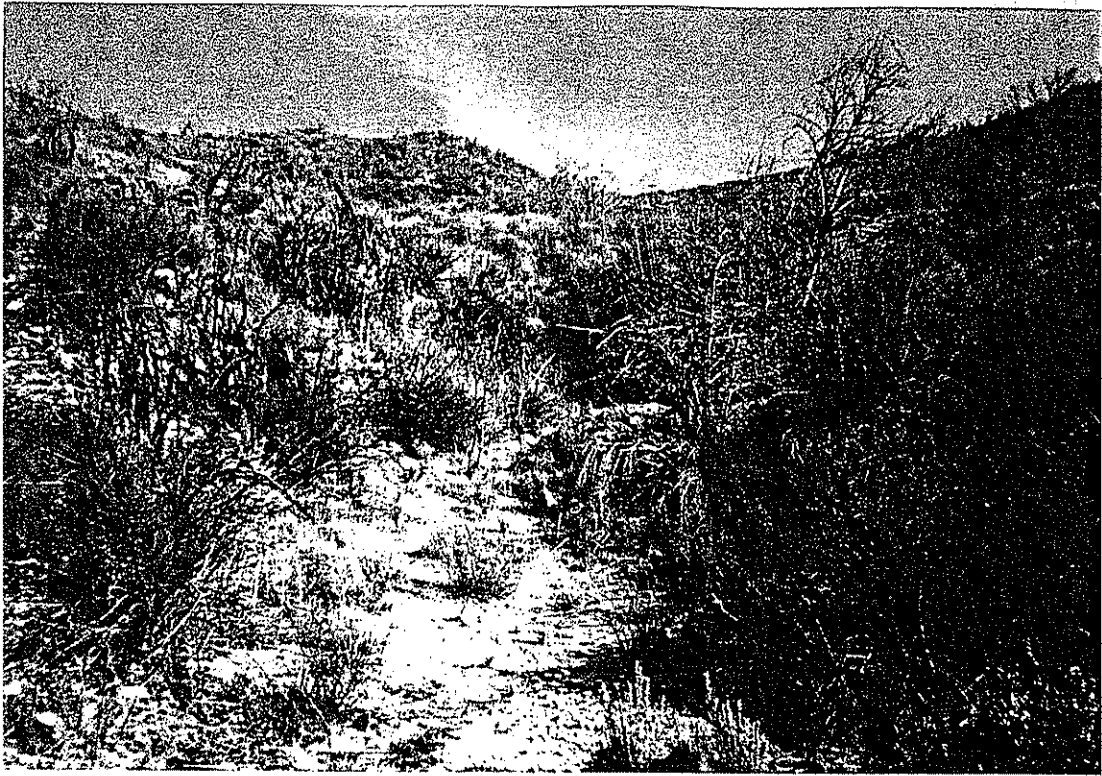


Drainage A



Drainage B

Figure 6



Drainage C



Tributary to Drainage C



Drainage D



Drainage D

Figure 8



Tributaries of Drainage D



Figure 9

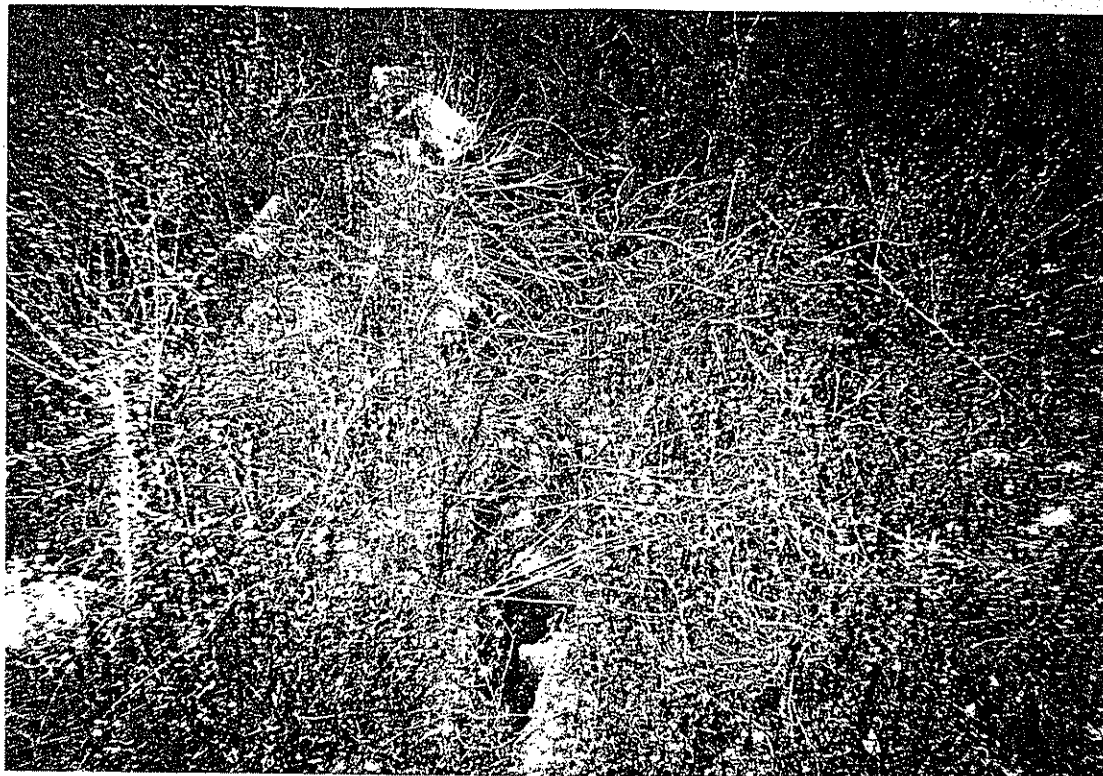


Drainage E



Tributary to Drainage E





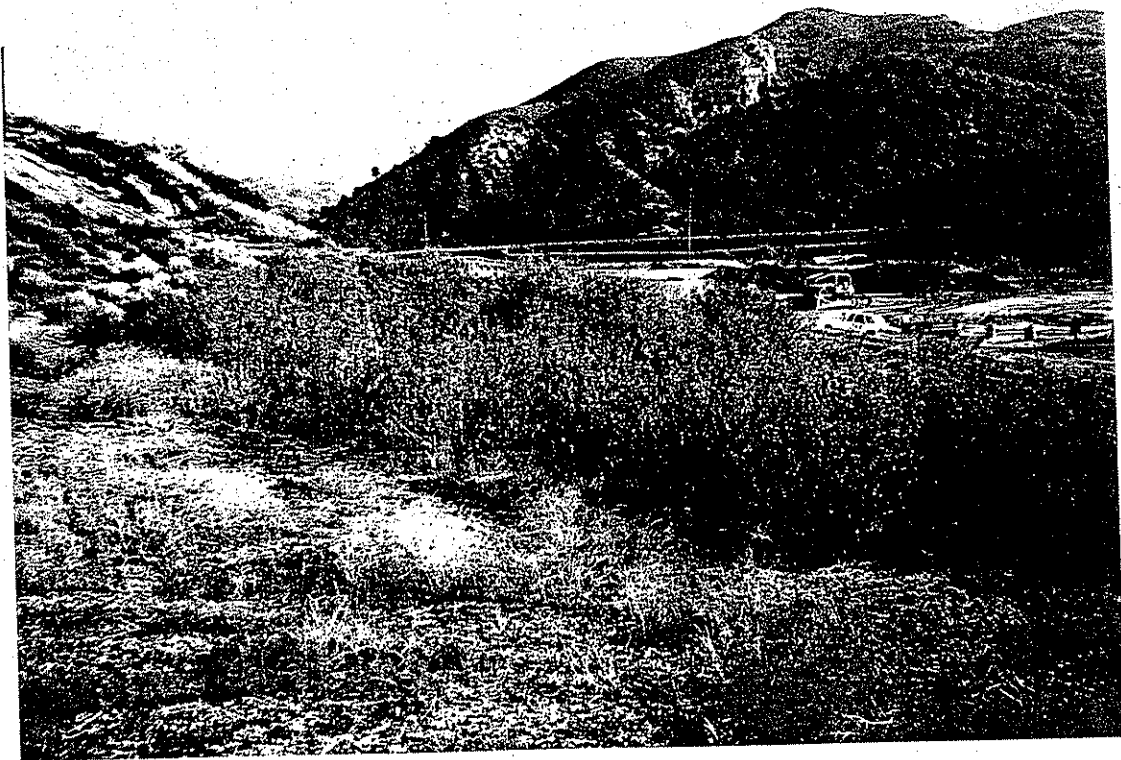
Drainage F



Drainage H



Drainage G



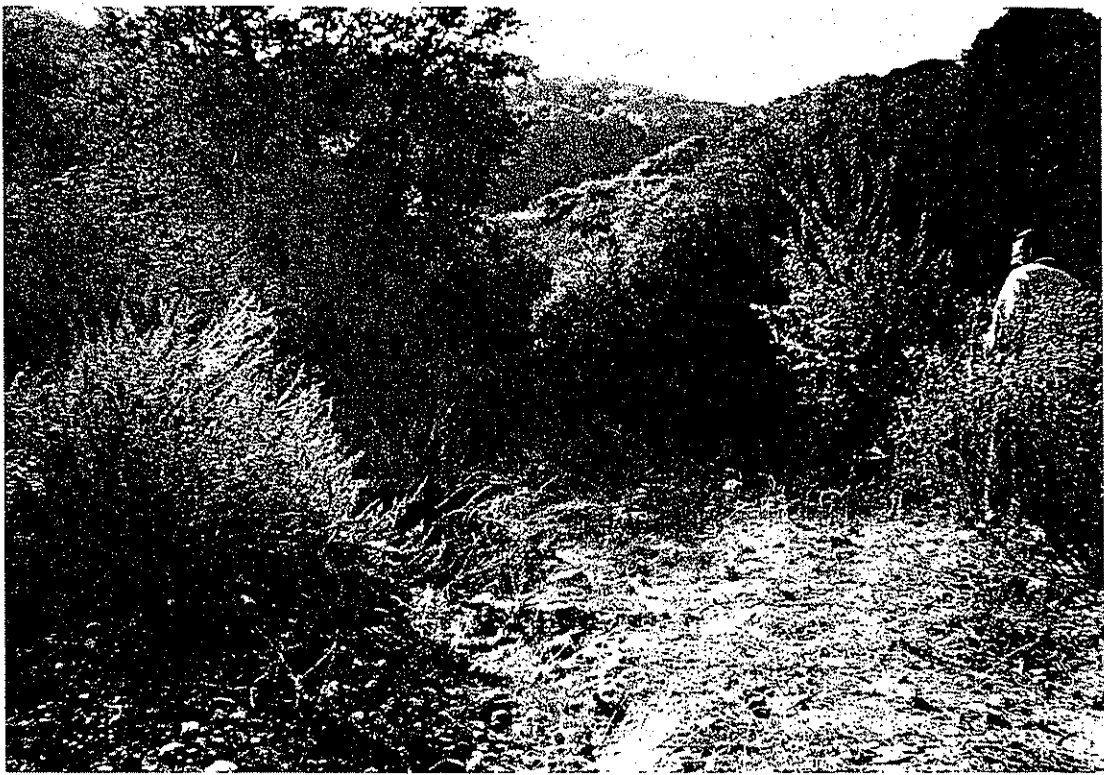
Drainage G



Drainage I



Drainage J



Drainage K



Drainage L



Drainage M



Drainage M



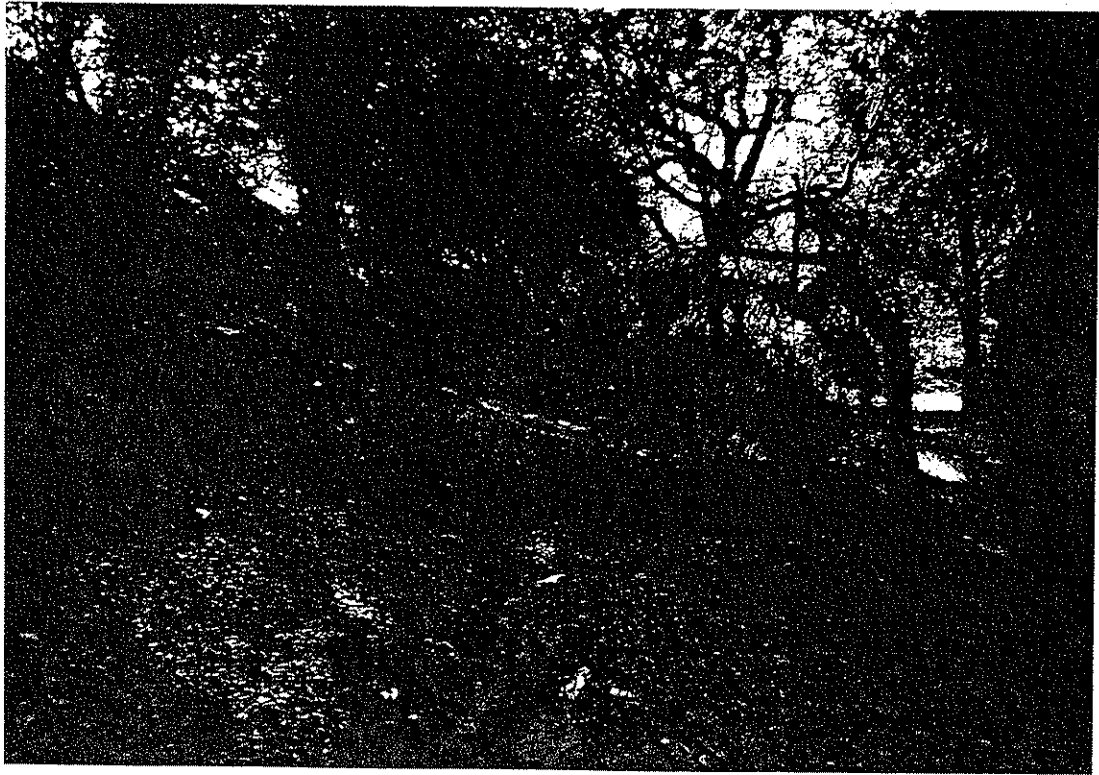
Drainage N



Drainage O



Drainage P



Drainage P



Drainage Q



Drainage Q





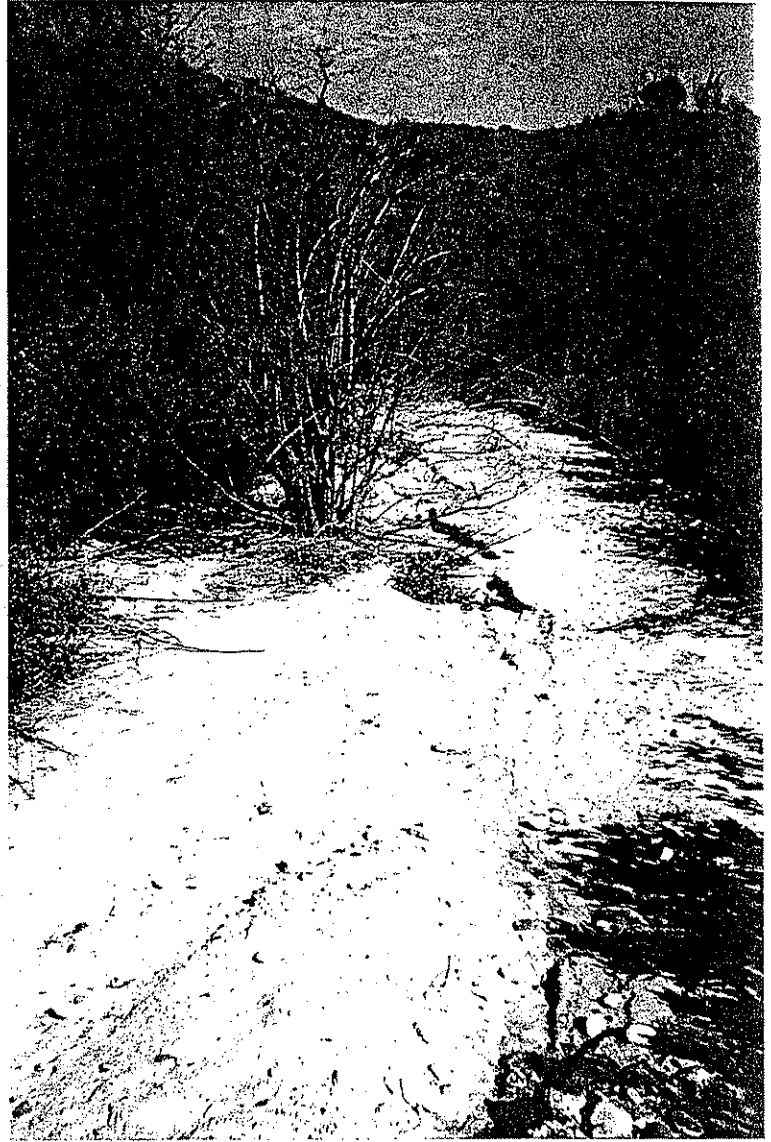
Drainage S



Drainage S



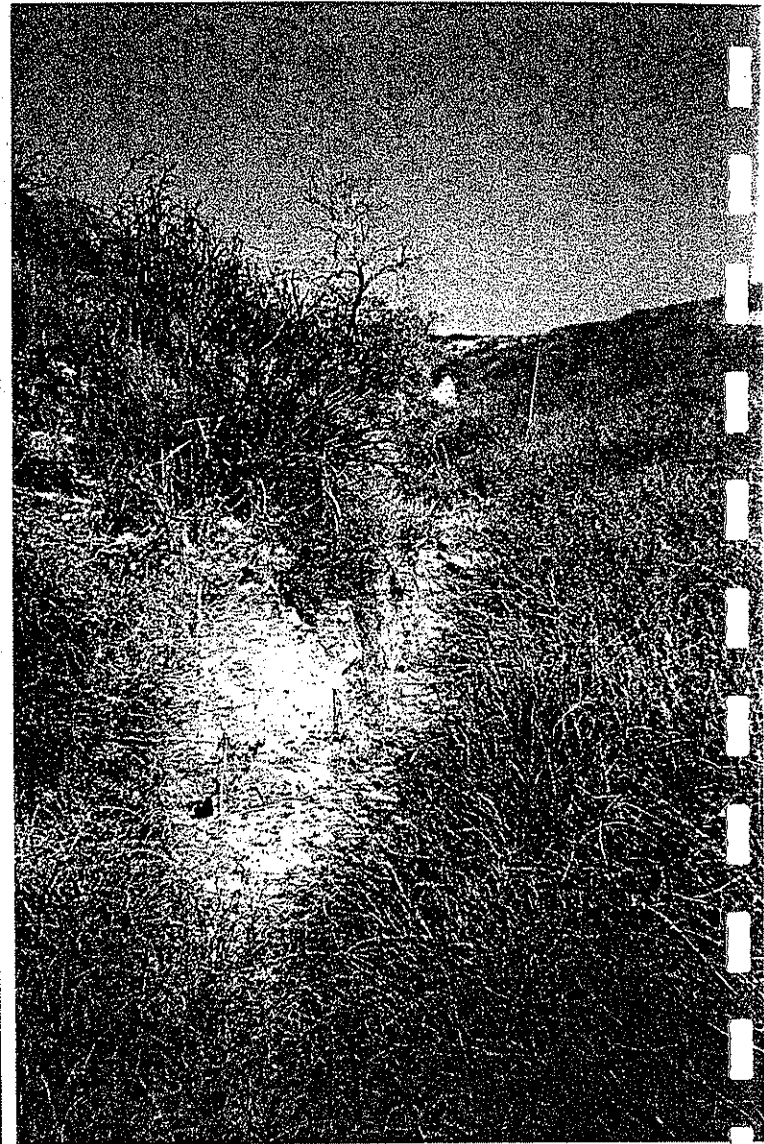
Drainage T



Drainage U



Drainage U



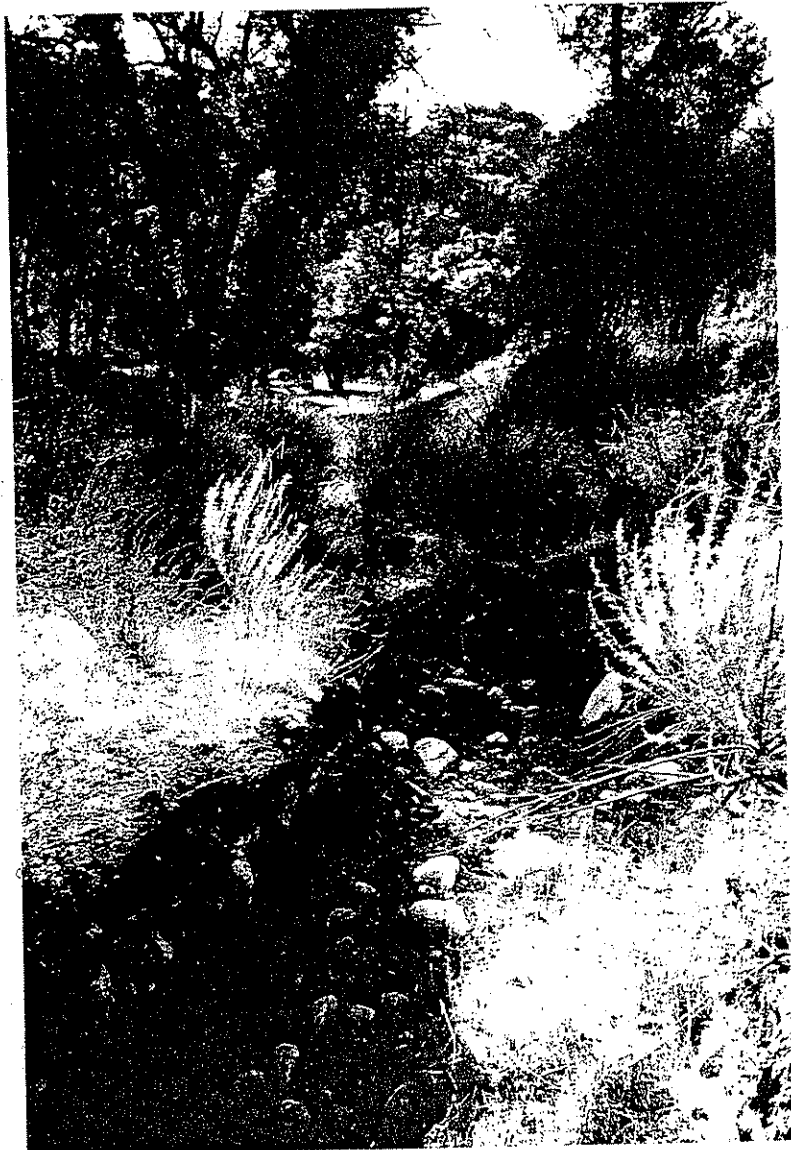
Tributary to Drainage U



Tributaries to Drainage U



Drainage V



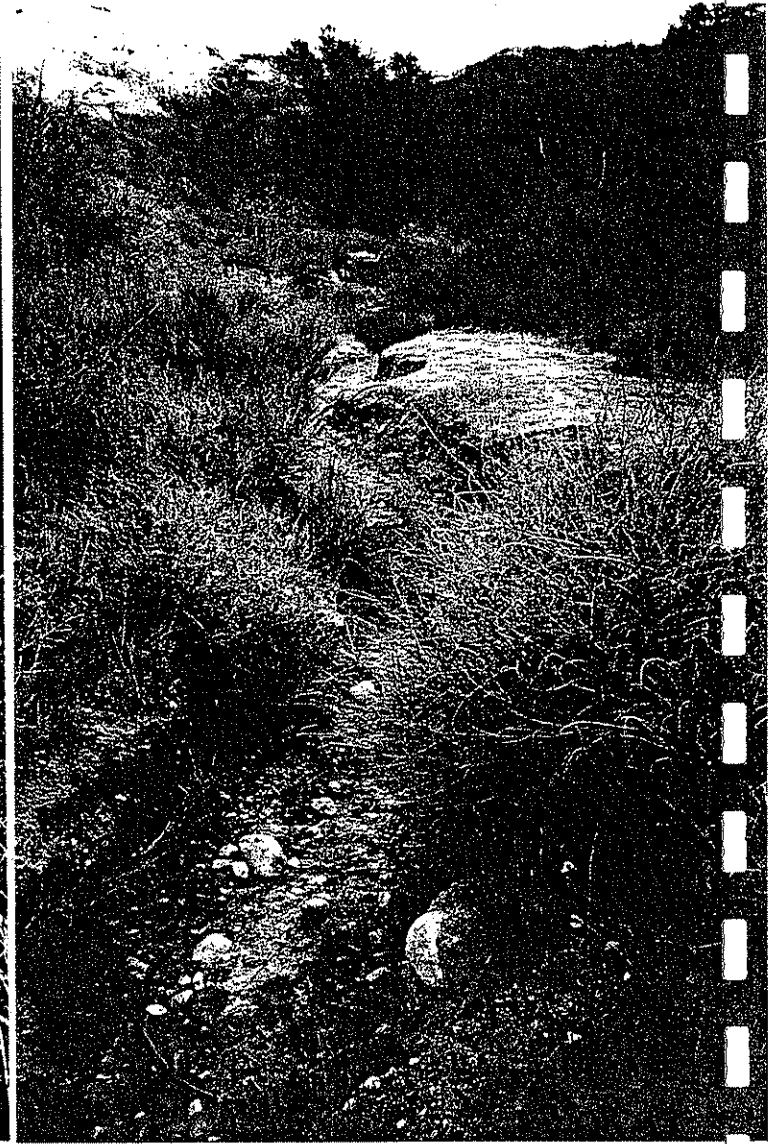
Drainage W



Tributary to Drainage W



Drainage X



Tributary to Drainage X



Tributaries to Drainage X





Drainage Y



Drainage Z

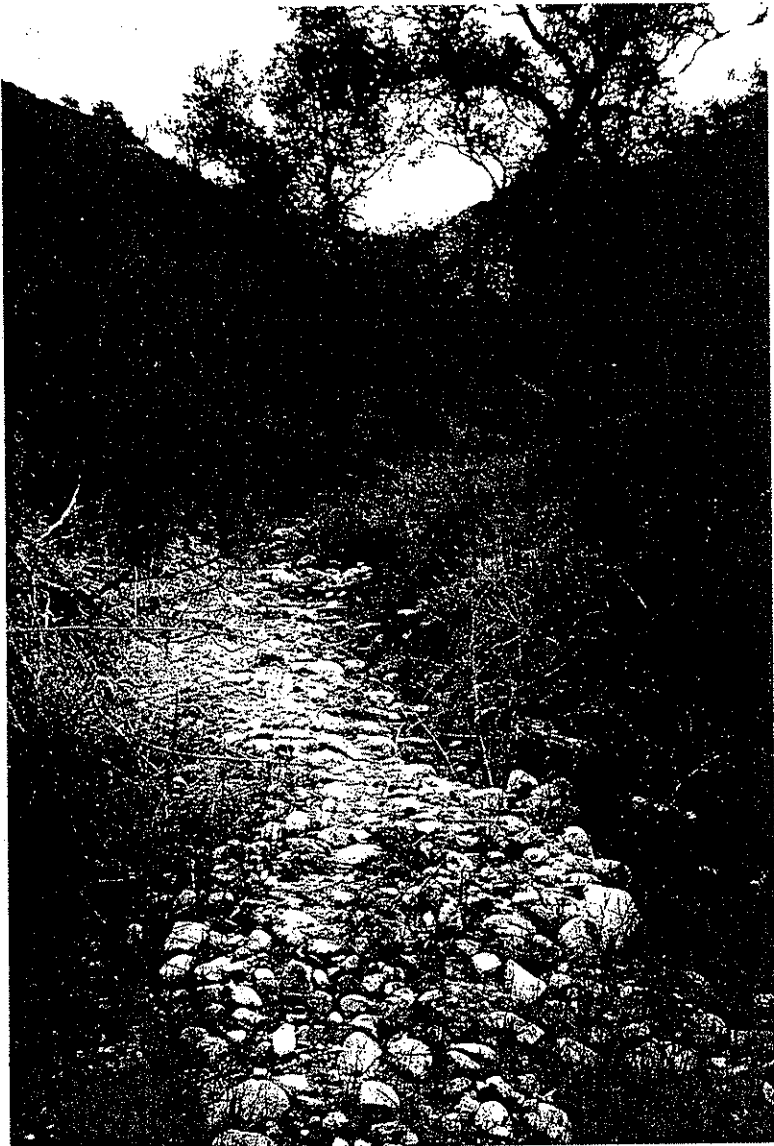


Tributary to Drainage Z

Figure 28



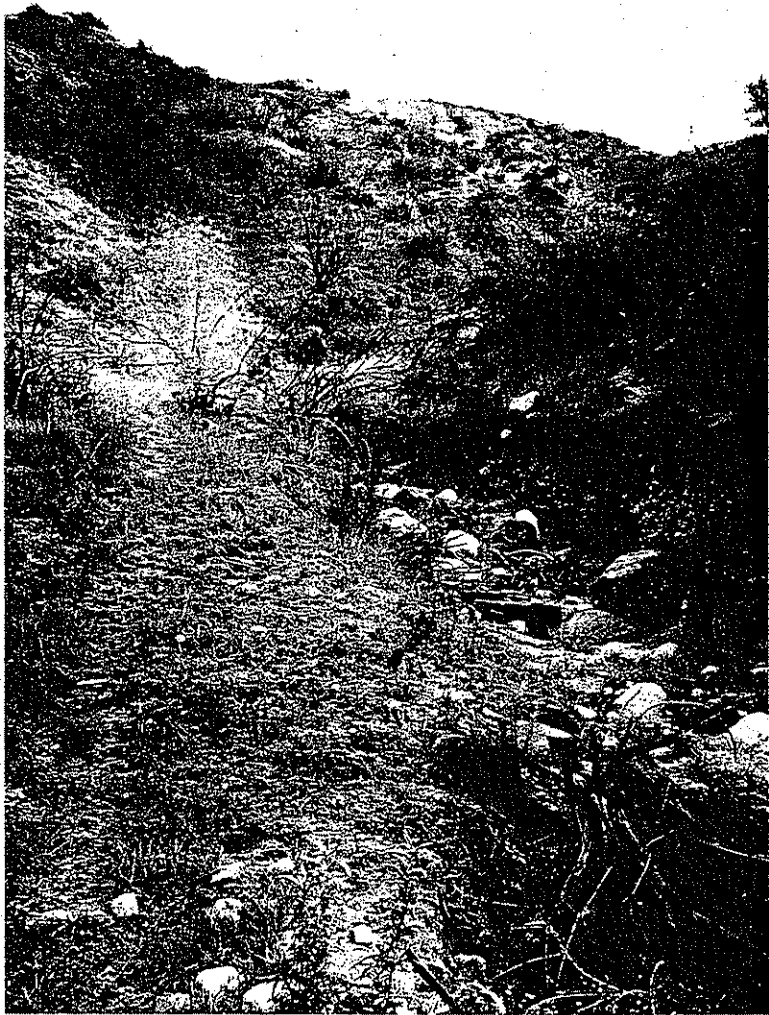
Drainage AA



Drainage BB



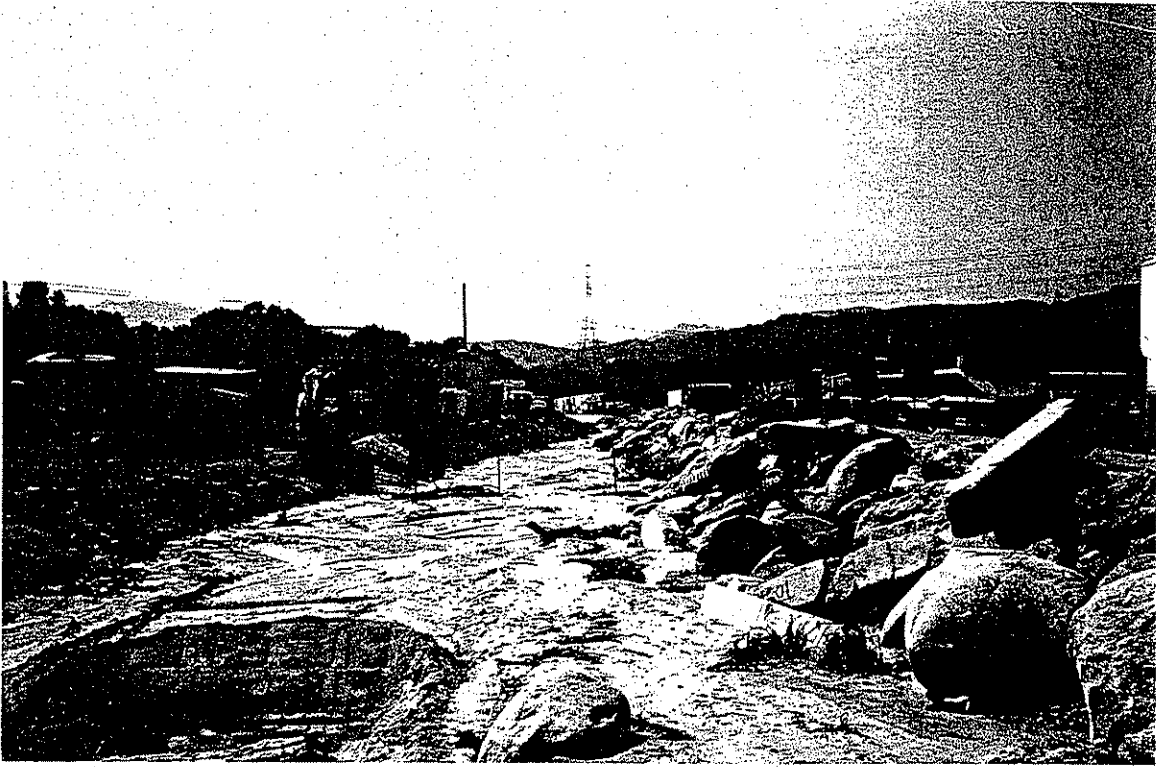
Tributary to Drainage BB



Drainage CC



Tributary to Drainage CC



Channel DD



Channel DD



Drainage EE



Drainage EE



Drainage FF



Drainage FF



CORPS  
JURISDICTIONAL  
WATERS

REACH	LENGTH	WIDTH	ACREAGE	IMPACTED	PRESERVED
A*	40	5	0.005	0.005	0.000
A*	20	5	0.002	0.002	0.000
A	150	1	0.003	0.003	0.000
A*	100	1	0.002	0.002	0.000
<b>A TOTAL</b>	<b>310</b>		<b>0.013</b>	<b>0.013</b>	<b>0.000</b>
B	150	1	0.003	0.003	0.000
B*	100	1	0.002	0.002	0.000
<b>B TOTAL</b>	<b>250</b>		<b>0.006</b>	<b>0.006</b>	<b>0.000</b>
C*	110	2	0.005	0.005	0.000
CL*	80	1	0.002	0.002	0.000
CL*	125	1	0.003	0.003	0.000
CL	215	1	0.005	0.005	0.000
CL1	100	1	0.002	0.002	0.000
CR*	100	2.5	0.006	0.006	0.000
CR*	200	1	0.005	0.005	0.000
CR	100	1	0.002	0.002	0.000
<b>C COMPLEX</b>	<b>1030</b>		<b>0.030</b>	<b>0.030</b>	<b>0.000</b>
D	350	4.5	0.036	0.036	0.000
D	630	5	0.072	0.072	0.000
D	350	4.5	0.036	0.036	0.000
D	350	4.3	0.035	0.035	0.000
D1*	450	1	0.010	0.010	0.000
D2	225	2	0.010	0.010	0.000
D3	375	3	0.026	0.026	0.000
D3	250	2	0.011	0.011	0.000
D3A	50	2.5	0.003	0.003	0.000
D3A	150	1	0.003	0.003	0.000
D4	160	2	0.007	0.007	0.000
<b>D COMPLEX</b>	<b>3340</b>		<b>0.251</b>	<b>0.251</b>	<b>0.000</b>
E*	950	5	0.109	0.109	0.000
E1	200	1	0.005	0.005	0.000
E2	350	1	0.008	0.008	0.000
E3	550	3.5	0.044	0.044	0.000
E3	220	2	0.010	0.010	0.000
E4	650	4	0.060	0.060	0.000
E4	200	2	0.009	0.009	0.000
E31	130	1	0.003	0.003	0.000
<b>E COMPLEX</b>	<b>2950</b>		<b>0.248</b>	<b>0.248</b>	<b>0.000</b>
F	300	1	0.007	0.007	0.000
<b>F TOTAL</b>	<b>300</b>		<b>0.007</b>	<b>0.007</b>	<b>0.000</b>
G	200	1.5	0.007	0.007	0.000
GL	100	1	0.002	0.002	0.000
GR	100	1	0.002	0.002	0.000
GR	175	2	0.008	0.008	0.000
<b>G COMPLEX</b>	<b>575</b>		<b>0.020</b>	<b>0.020</b>	<b>0.000</b>

CORPS  
JURISDICTIONAL  
WATERS

REACH	LENGTH	WIDTH	ACREAGE	IMPACTED	PRESERVED
H	155	2	0.007	0.007	0.000
H	375	2.7	0.023	0.023	0.000
<b>H COMPLEX</b>	<b>530</b>		<b>0.030</b>	<b>0.030</b>	<b>0.000</b>
I	40	3	0.003	0.003	0.000
I	100	3	0.007	0.007	0.000
I	50	3	0.003	0.003	0.000
I	260	3	0.018	0.018	0.000
I	150	2.5	0.009	0.009	0.000
<b>I TOTAL</b>	<b>600</b>		<b>0.040</b>	<b>0.040</b>	<b>0.000</b>
J*	150	1	0.003	0.003	0.000
J*	300	1	0.007	0.007	0.000
<b>J TOTAL</b>	<b>450</b>		<b>0.010</b>	<b>0.010</b>	<b>0.000</b>
K*	200	2	0.009	0.009	0.000
K	500	2	0.023	0.023	0.000
<b>K TOTAL</b>	<b>700</b>		<b>0.032</b>	<b>0.032</b>	<b>0.000</b>
L*	500	1	0.011	0.011	0.000
<b>L TOTAL</b>	<b>500</b>		<b>0.011</b>	<b>0.011</b>	<b>0.000</b>
M*	450	2.5	0.026	0.026	0.000
M	500	2.5	0.029	0.029	0.000
M1	150	1	0.003	0.003	0.000
M2	475	2.5	0.027	0.027	0.000
M2	100	3	0.007	0.007	0.000
M2A	75	1	0.002	0.002	0.000
<b>M COMPLEX</b>	<b>1750</b>		<b>0.094</b>	<b>0.094</b>	<b>0.000</b>
N	75	1	0.002	0.000	0.002
N	125	2	0.006	0.000	0.006
N	150	1	0.003	0.000	0.003
<b>N TOTAL</b>	<b>350</b>		<b>0.011</b>	<b>0.000</b>	<b>0.011</b>
O	350	3	0.024	0.000	0.024
<b>O TOTAL</b>	<b>350</b>		<b>0.024</b>	<b>0.000</b>	<b>0.024</b>
P	550	2	0.025	0.000	0.025
<b>P TOTAL</b>	<b>550</b>		<b>0.025</b>	<b>0.000</b>	<b>0.025</b>
Q	300	4	0.028	0.000	0.028
<b>Q TOTAL</b>	<b>300</b>		<b>0.028</b>	<b>0.000</b>	<b>0.028</b>
S	125	6	0.017	0.000	0.017
S1	150	3	0.010	0.000	0.010
S2	300	2	0.014	0.000	0.014
S2	80	2	0.004	0.000	0.004
S3	450	4	0.041	0.000	0.041
S3	350	8	0.064	0.000	0.064
S4	100	1.5	0.003	0.000	0.003
S5	100	1.5	0.003	0.000	0.003
S6	250	1	0.006	0.000	0.006
S7	200	5	0.023	0.000	0.023
<b>S COMPLEX</b>	<b>2105</b>		<b>0.186</b>	<b>0.000</b>	<b>0.186</b>

CORPS  
JURISDICTIONAL  
WATERS

REACH	LENGTH	WIDTH	ACREAGE	IMPACTED	PRESERVED
T1	180	1	0.004	0.004	0.000
T1*	50	1	0.001	0.001	0.000
T2	160	1	0.004	0.004	0.000
T2*	50	1	0.001	0.001	0.000
<b>T COMPLEX</b>	<b>390</b>		<b>0.010</b>	<b>0.010</b>	<b>0.000</b>
U	700	5	0.080	0.080	0.000
U*	650	5	0.075	0.075	0.000
U	550	3	0.038	0.038	0.000
U	300	1	0.007	0.007	0.000
U1	130	1	0.003	0.003	0.000
U2	100	1	0.002	0.002	0.000
U3	110	1	0.003	0.003	0.000
U4	140	1	0.003	0.003	0.000
U5	150	4	0.014	0.014	0.000
U6	310	4	0.028	0.028	0.000
U7	150	4	0.014	0.014	0.000
U8	650	3	0.045	0.045	0.000
U9*	700	4	0.064	0.064	0.000
U9	800	4	0.073	0.073	0.000
U10*	400	1	0.009	0.009	0.000
<b>U COMPLEX</b>	<b>5840</b>		<b>0.458</b>	<b>0.458</b>	<b>0.000</b>
V	200	1	0.005	0.005	0.000
<b>V TOTAL</b>	<b>200</b>		<b>0.005</b>	<b>0.005</b>	<b>0.000</b>
W*	350	5	0.040	0.040	0.000
W	1250	5	0.143	0.143	0.000
W1*	150	1	0.003	0.003	0.000
W2	150	1	0.003	0.003	0.000
W3	250	1	0.006	0.006	0.000
W4	800	5	0.092	0.092	0.000
W5	355	2	0.016	0.016	0.000
W6	200	2	0.009	0.009	0.000
<b>W COMPLEX</b>	<b>3505</b>		<b>0.314</b>	<b>0.314</b>	<b>0.000</b>
X	400	15	0.138	0.138	0.000
X1	150	2	0.007	0.007	0.000
X2	200	3	0.014	0.014	0.000
X3	100	2	0.005	0.005	0.000
X3*	100	2	0.005	0.005	0.000
X3	350	2	0.016	0.016	0.000
X4	660	3	0.045	0.045	0.000
X5	210	4	0.019	0.019	0.000
X6	450	2	0.021	0.021	0.000
X7*	200	3	0.014	0.014	0.000
X7	300	3	0.021	0.021	0.000
X7A	480	3	0.033	0.033	0.000
X7B	300	3	0.021	0.021	0.000
X8A	280	3	0.019	0.019	0.000
<b>X COMPLEX</b>	<b>4180</b>		<b>0.376</b>	<b>0.376</b>	<b>0.000</b>

CORPS  
JURISDICTIONAL  
WATERS

REACH	LENGTH	WIDTH	ACREAGE	IMPACTED	PRESERVED
Y1	50	1	0.001	0.000	0.001
Y	140	1	0.003	0.000	0.003
<b>Y COMPLEX</b>	<b>190</b>		<b>0.004</b>	<b>0.000</b>	<b>0.004</b>
Z	740	6	0.102	0.102	0.000
Z*	200	6	0.028	0.028	0.000
Z1	100	3	0.007	0.007	0.000
Z2	200	2	0.009	0.009	0.000
Z3	300	1	0.007	0.007	0.000
Z4	100	3	0.007	0.007	0.000
Z4A	130	2	0.006	0.006	0.000
Z4B	150	2	0.007	0.007	0.000
Z5	400	1	0.009	0.009	0.000
<b>Z COMPLEX</b>	<b>1920</b>		<b>0.181</b>	<b>0.181</b>	<b>0.000</b>
AA	300	2	0.014	0.014	0.000
AA1	50	1	0.001	0.001	0.000
<b>AA COMPLEX</b>	<b>350</b>		<b>0.015</b>	<b>0.015</b>	<b>0.000</b>
BB	450	6	0.062	0.062	0.000
BB1	100	1	0.002	0.002	0.000
BB2	150	2	0.007	0.007	0.000
BB3	150	2	0.007	0.007	0.000
<b>BB COMPLEX</b>	<b>850</b>		<b>0.078</b>	<b>0.078</b>	<b>0.000</b>
CC	150	6	0.021	0.021	0.000
CC*	250	6	0.034	0.034	0.000
CC1	800	4	0.073	0.073	0.000
CC1A	100	2	0.005	0.005	0.000
CC1B	100	2	0.005	0.005	0.000
CC2	500	3	0.034	0.034	0.000
CC2A	250	3	0.017	0.017	0.000
CC2B*	300	3	0.021	0.021	0.000
CC3*	200	1	0.005	0.005	0.000
<b>CC COMPLEX</b>	<b>2650</b>		<b>0.215</b>	<b>0.215</b>	<b>0.000</b>
Channel DD*	1500	30	1.033	1.033	0.000
Channel DD	1200	30	0.826	0.826	0.000
<b>Channel DD*</b>	<b>2700</b>		<b>1.860</b>	<b>1.860</b>	<b>0.000</b>
EE*	150	2	0.007	0.007	0.000
EE*	150	3	0.010	0.010	0.000
EE*	50	3	0.003	0.003	0.000
<b>EE COMPLEX*</b>	<b>350</b>		<b>0.021</b>	<b>0.021</b>	<b>0.000</b>
FF	750	20	0.344	0.344	0.000
FF	550	20	0.253	0.000	0.253
<b>FF TOTAL</b>	<b>1300</b>		<b>0.597</b>	<b>0.344</b>	<b>0.253</b>
<b>CHANNEL</b>	<b>1300</b>	<b>1</b>	<b>0.030</b>	<b>0.030</b>	<b>0.000</b>
Open Space	N/A		1.467	0.000	1.467
<b>TOTAL</b>	<b>42665</b>		<b>6.70</b>	<b>4.70</b>	<b>2.00</b>

\*Includes indirect impacts pending review of Drainage Plans

## APPENDIX A

CDFG JURISDICTIONAL  
WATERS

REACH	LENGTH	WIDTH	ACREAGE	IMPACTED	PRESERVED
A*	40	5	0.005	0.005	0.000
A*	20	19	0.009	0.009	0.000
A	150	1	0.003	0.003	0.000
A*	100	1	0.002	0.002	0.000
<b>A TOTAL</b>	<b>310</b>		<b>0.019</b>	<b>0.019</b>	<b>0.000</b>
B	150	1	0.003	0.003	0.000
B*	100	1	0.002	0.002	0.000
<b>B TOTAL</b>	<b>250</b>		<b>0.006</b>	<b>0.006</b>	<b>0.000</b>
C*	110	2	0.005	0.005	0.000
CL*	80	1	0.002	0.002	0.000
CL*	125	1	0.003	0.003	0.000
CL	215	1	0.005	0.005	0.000
CL1	100	1	0.002	0.002	0.000
CR*	100	2.5	0.006	0.006	0.000
CR*	200	1	0.005	0.005	0.000
CR	100	1	0.002	0.002	0.000
<b>C COMPLEX</b>	<b>1030</b>		<b>0.030</b>	<b>0.030</b>	<b>0.000</b>
D	350	4.5	0.036	0.036	0.000
D	630	5	0.072	0.072	0.000
D	350	4.5	0.036	0.036	0.000
D	350	4.3	0.035	0.035	0.000
D1*	450	1	0.010	0.010	0.000
D2	225	4	0.021	0.021	0.000
D3	375	3	0.026	0.026	0.000
D3	250	2	0.011	0.011	0.000
D3A	50	2.5	0.003	0.003	0.000
D3A	150	1	0.003	0.003	0.000
D4	160	2	0.007	0.007	0.000
<b>D COMPLEX</b>	<b>3340</b>		<b>0.261</b>	<b>0.261</b>	<b>0.000</b>
E*	950	8	0.174	0.174	0.000
E1	200	1	0.005	0.005	0.000
E2	350	1	0.008	0.008	0.000
E3	550	5	0.063	0.063	0.000
E3	220	8	0.040	0.040	0.000
E4	650	4	0.060	0.060	0.000
E4	200	2	0.009	0.009	0.000
E31	130	1	0.003	0.003	0.000
<b>E COMPLEX</b>	<b>2950</b>		<b>0.362</b>	<b>0.362</b>	<b>0.000</b>
F	300	1	0.007	0.007	0.000
<b>F TOTAL</b>	<b>300</b>		<b>0.007</b>	<b>0.007</b>	<b>0.000</b>
G	200	3	0.014	0.014	0.000
GL	100	1	0.002	0.002	0.000
GR	100	1	0.002	0.002	0.000
GR	175	30	0.121	0.121	0.000
<b>G COMPLEX</b>	<b>575</b>		<b>0.139</b>	<b>0.139</b>	<b>0.000</b>

## APPENDIX A

CDFG JURISDICTIONAL  
WATERS

REACH	LENGTH	WIDTH	ACREAGE	IMPACTED	PRESERVED
H	155	2	0.007	0.007	0.000
H	375	25	0.215	0.215	0.000
<b>H COMPLEX</b>	<b>530</b>		<b>0.222</b>	<b>0.222</b>	<b>0.000</b>
I	40	3	0.003	0.003	0.000
I	100	3	0.007	0.007	0.000
I	50	3	0.003	0.003	0.000
I	260	6	0.036	0.036	0.000
I	150	4.5	0.015	0.015	0.000
<b>I TOTAL</b>	<b>600</b>		<b>0.064</b>	<b>0.064</b>	<b>0.000</b>
J*	150	1	0.003	0.003	0.000
J*	300	10	0.069	0.069	0.000
<b>J TOTAL</b>	<b>450</b>		<b>0.072</b>	<b>0.072</b>	<b>0.000</b>
K*	200	15	0.069	0.069	0.000
K	500	15	0.172	0.172	0.000
<b>K TOTAL</b>	<b>700</b>		<b>0.241</b>	<b>0.241</b>	<b>0.000</b>
L*	500	1	0.011	0.011	0.000
<b>L TOTAL</b>	<b>500</b>		<b>0.011</b>	<b>0.011</b>	<b>0.000</b>
M*	450	6	0.062	0.062	0.000
M	500	6	0.069	0.069	0.000
M1	150	20	0.069	0.069	0.000
M2	475	4	0.044	0.044	0.000
M2	100	20	0.046	0.046	0.000
M2A	75	1	0.002	0.002	0.000
<b>M COMPLEX</b>	<b>1750</b>		<b>0.291</b>	<b>0.291</b>	<b>0.000</b>
N	75	1	0.002	0.000	0.002
N	125	20	0.057	0.000	0.057
N	150	1	0.003	0.000	0.003
<b>N TOTAL</b>	<b>350</b>		<b>0.063</b>	<b>0.000</b>	<b>0.063</b>
O	350	10	0.080	0.000	0.080
<b>O TOTAL</b>	<b>350</b>		<b>0.080</b>	<b>0.000</b>	<b>0.080</b>
P	550	50	0.631	0.000	0.631
<b>P TOTAL</b>	<b>550</b>		<b>0.631</b>	<b>0.000</b>	<b>0.631</b>
Q	300	20	0.138	0.000	0.138
<b>Q TOTAL</b>	<b>300</b>		<b>0.138</b>	<b>0.000</b>	<b>0.138</b>
S	125	10	0.029	0.000	0.029
S1	150	5	0.017	0.000	0.017
S2	300	8	0.055	0.000	0.055
S2	80	4	0.007	0.000	0.007
S3	450	12	0.124	0.000	0.124
S3	350	25	0.201	0.000	0.201
S4	100	3	0.007	0.000	0.007
S5	100	5	0.011	0.000	0.011
S6	250	1	0.006	0.000	0.006
S7	200	15	0.069	0.000	0.069
<b>S COMPLEX</b>	<b>2105</b>		<b>0.526</b>	<b>0.000</b>	<b>0.526</b>

## APPENDIX A

CDFG JURISDICTIONAL  
WATERS

REACH	LENGTH	WIDTH	ACREAGE	IMPACTED	PRESERVED
T1	180	1	0.004	0.004	0.000
T1*	50	1	0.001	0.001	0.000
T2	160	1	0.004	0.004	0.000
T2*	50	1	0.001	0.001	0.000
<b>T COMPLEX</b>	<b>390</b>		<b>0.010</b>	<b>0.010</b>	<b>0.000</b>
U	700	5	0.080	0.080	0.000
U*	650	5	0.075	0.075	0.000
U	550	3	0.038	0.038	0.000
U	300	1	0.007	0.007	0.000
U1	130	1	0.003	0.003	0.000
U2	100	1	0.002	0.002	0.000
U3	110	1	0.003	0.003	0.000
U4	140	1	0.003	0.003	0.000
U5	150	6	0.021	0.021	0.000
U6	310	5	0.036	0.036	0.000
U7	150	5	0.017	0.017	0.000
U8	650	3	0.045	0.045	0.000
U9*	700	5	0.080	0.080	0.000
U9	800	5	0.092	0.092	0.000
U10*	400	1	0.009	0.009	0.000
<b>U COMPLEX</b>	<b>5840</b>		<b>0.510</b>	<b>0.510</b>	<b>0.000</b>
V	200	1	0.005	0.005	0.000
<b>V TOTAL</b>	<b>200</b>		<b>0.005</b>	<b>0.005</b>	<b>0.000</b>
W*	350	5	0.040	0.040	0.000
W	1250	5	0.143	0.143	0.000
W1*	150	1	0.003	0.003	0.000
W2	150	1	0.003	0.003	0.000
W3	250	1	0.006	0.006	0.000
W4	800	5	0.092	0.092	0.000
W5	355	2	0.016	0.016	0.000
W6	200	2	0.009	0.009	0.000
<b>W COMPLEX</b>	<b>3505</b>		<b>0.314</b>	<b>0.314</b>	<b>0.000</b>
X	400	15	0.138	0.138	0.000
X1	150	2	0.007	0.007	0.000
X2	200	3	0.014	0.014	0.000
X3	100	2	0.005	0.005	0.000
X3*	100	2	0.005	0.005	0.000
X3	350	2	0.016	0.016	0.000
X4	660	3	0.045	0.045	0.000
X5	210	4	0.019	0.019	0.000
X6	450	2	0.021	0.021	0.000
X7*	200	3	0.014	0.014	0.000
X7	300	3	0.021	0.021	0.000
X7A	480	3	0.033	0.033	0.000
X7B	300	3	0.021	0.021	0.000
X8A	280	3	0.019	0.019	0.000
<b>X COMPLEX</b>	<b>4180</b>		<b>0.376</b>	<b>0.376</b>	<b>0.000</b>

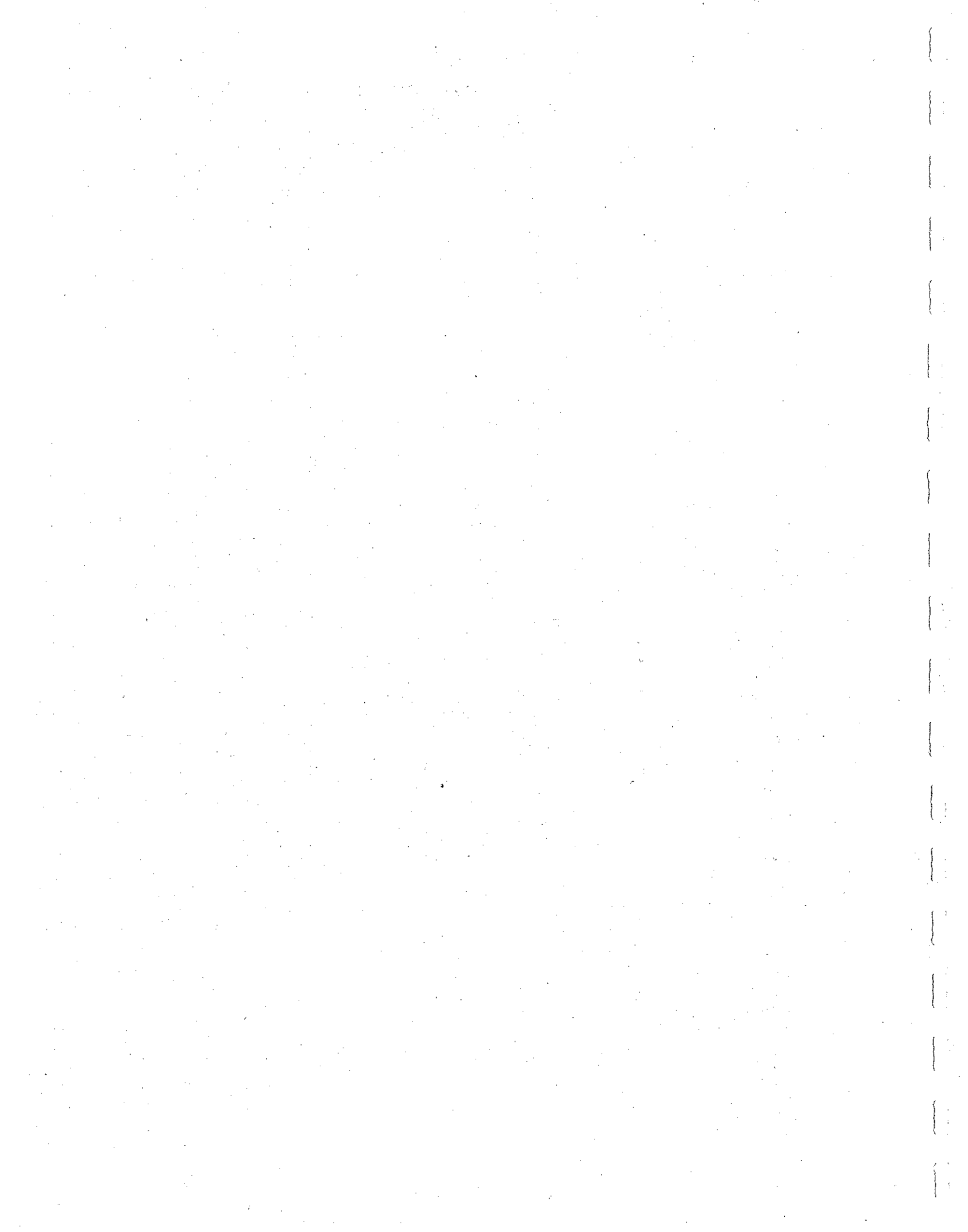
## APPENDIX A

CDFG JURISDICTIONAL  
WATERS

REACH	LENGTH	WIDTH	ACREAGE	IMPACTED	PRESERVED
Y1	50	1	0.001	0.000	0.001
Y	140	1	0.003	0.000	0.003
<b>Y COMPLEX</b>	<b>190</b>		<b>0.004</b>	<b>0.000</b>	<b>0.004</b>
Z	740	6	0.102	0.102	0.000
Z*	200	6	0.028	0.028	0.000
Z1	100	3	0.007	0.007	0.000
Z2	200	2	0.009	0.009	0.000
Z3	300	1	0.007	0.007	0.000
Z4	100	3	0.007	0.007	0.000
Z4A	130	2	0.006	0.006	0.000
Z4B	150	2	0.007	0.007	0.000
Z5	400	1	0.009	0.009	0.000
<b>Z COMPLEX</b>	<b>1920</b>		<b>0.181</b>	<b>0.181</b>	<b>0.000</b>
AA	300	2	0.014	0.014	0.000
AA1	50	1	0.001	0.001	0.000
<b>AA COMPLEX</b>	<b>350</b>		<b>0.015</b>	<b>0.015</b>	<b>0.000</b>
BB	450	6	0.062	0.062	0.000
BB1	100	1	0.002	0.002	0.000
BB2	150	2	0.007	0.007	0.000
BB3	150	2	0.007	0.007	0.000
<b>BB COMPLEX</b>	<b>850</b>		<b>0.078</b>	<b>0.078</b>	<b>0.000</b>
CC	150	6	0.021	0.021	0.000
CC*	250	6	0.034	0.034	0.000
CC1	800	4	0.073	0.073	0.000
CC1A	100	2	0.005	0.005	0.000
CC1B	100	2	0.005	0.005	0.000
CC2	500	3	0.034	0.034	0.000
CC2A	250	3	0.017	0.017	0.000
CC2B*	300	3	0.021	0.021	0.000
CC3*	200	1	0.005	0.005	0.000
<b>CC COMPLEX</b>	<b>2650</b>		<b>0.215</b>	<b>0.215</b>	<b>0.000</b>
Channel DD*	1500	30	1.033	1.033	0.000
Channel DD	1200	30	0.826	0.826	0.000
<b>Channel DD*</b>	<b>2700</b>		<b>1.860</b>	<b>1.860</b>	<b>0.000</b>
EE	150	2	0.007	0.007	0.000
EE	150	3	0.010	0.010	0.000
EE	50	40	0.046	0.046	0.000
<b>EE COMPLEX*</b>	<b>350</b>		<b>0.063</b>	<b>0.063</b>	<b>0.000</b>
FF	750	85	1.463	1.463	0.000
FF	550	85	1.073	0.000	1.073
<b>FF TOTAL</b>	<b>1300</b>		<b>2.537</b>	<b>1.463</b>	<b>1.073</b>
<b>CHANNEL</b>	<b>1300</b>	<b>1</b>	<b>0.030</b>	<b>0.030</b>	<b>0.000</b>
Open Space	N/A		15.300	0.000	15.300
<b>TOTAL</b>	<b>42665</b>		<b>24.66</b>	<b>6.85</b>	<b>17.82</b>

\*Includes indirect impacts pending review of Drainage Plans





# **Appendix F**

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## Noise Calculations

Gate-King Noise Measurement Data  
7/30/01

C:\SLMUTIL\JUL30GK.bin Interval Data

Meas Number	Date	Time	Duration	Leq	SEL	Lmax	Lmin	Peak	L(10)	L(33)	L(50)	L(90)
1a	30Jul01	12:01:34	109.7	74	94.4	83.9	60.9	97.7	77.4	73.8	71.7	66.4
1b	30Jul01	12:04:24	1200	70.9	101.7	80.4	54.2	95.6	74.4	71.1	69.3	63.1
2	30Jul01	13:00:50	1200	73.5	104.3	88.2	52.7	103.8	76.8	73.7	71.8	63.7
3	30Jul01	13:34:42	1200	65.4	96.2	87.8	42.3	99.8	64.2	56.1	52.2	46.1
4	30Jul01	14:15:18	1200	71.5	102.3	97.8	58.9	118.4	73.5	69.5	66.7	62.3
5	30Jul01	14:44:46	1200	59.6	90.5	76.6	47.7	93.9	63.3	56.9	54.4	50.4

- 1a Measurement cancelled, too windy
- 1b San Fernando Road, near Sierra Hwy
- 2 San Fernando Road, near Pine St
- 3 Pine St
- 4 Sierra Hwy, near Remsen
- 5 Eternal Valley Cemetery

# ROADWAY TRAFFIC NOISE

Project: Gate-King Project No. 00-50280  
 Date: 9-Aug-01  
 Roadway: San Fernando Road w/o Pine

## PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO TNM)  
 Distance to Receptor: 100 feet  
 Site Condition (Hard or Soft): Soft  
 Upgrade longer than 1 mile: 0 %  
 Existing Total Traffic Volume (ADT): 41,000 vehicles  
 Ambient Growth Factor: 0.0%  
 Future Year: 2005  
 Total Project Volume (ADT): 5000 vehicles  
 Total Background Growth Volume (ADT): -9000 vehicles  
 Source of Traffic Data Austin-Foust, 2001.

### Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	92.0%	96.8%
Medium Truck	1.8%	4.0%	2.1%
Heavy Truck	0.7%	4.0%	1.1%

Source: Assumed given land use and road characteristics

### Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

### Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

# ROADWAY TRAFFIC NOISE

Project: Gate-King  
 Date: 9-Aug-01

Project No. 00-50280

Roadway: San Fernando Road w/o Pine

Vehicle Noise Emission Levels\*: TNM

## RESULTS

### DAY-NIGHT AVERAGE LEVEL (Ldn)

	Ldn at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	69.5 dBA	28	93	201	432	931
Interim Year	68.4 dBA	22	78	168	362	780
Interim Year + Project	69.3 dBA	27	89	193	415	895

Change in Noise Levels  
 Due to Ambient Growth -1.1 dBA  
 Due to Ambient Growth + Project -0.3 dBA

### COMMUNITY NOISE EXPOSURE LEVEL (CNEL)

	CNEL at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	70.1 dBA	32	101	218	469	1011
Interim Year	68.9 dBA	25	85	183	394	848
Interim Year + Project	69.8 dBA	30	97	209	450	969

Change in Noise Levels  
 Due to Ambient Growth -1.1 dBA  
 Due to Ambient Growth + Project -0.3 dBA

\*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

# ROADWAY TRAFFIC NOISE

Project: Gate-King Project No. 00-50280  
 Date: 9-Aug-01  
 Roadway: San Fernando Road e/o Valle de Oro

## PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO TNM)  
 Distance to Receptor: 100 feet  
 Site Condition (Hard or Soft): Soft  
 Upgrade longer than 1 mile: 0 %  
 Existing Total Traffic Volume (ADT): 37,000 vehicles  
 Ambient Growth Factor: 0.0%  
 Future Year: 2005  
 Total Project Volume (ADT): 5000 vehicles  
 Total Background Growth Volume (ADT): -1000 vehicles  
 Source of Traffic Data Austin-Foust, 2001.

### Daily Vehicle Mix

	Existing	Project	Future
Automobile	97.5%	92.0%	96.8%
Medium Truck	1.8%	4.0%	2.1%
Heavy Truck	0.7%	4.0%	1.1%

Source: Assumed given land use and road characteristics

### Percentage of Daily Traffic

	Existing and Future		
	Day (7 am-7 pm)	Evening (7-10 pm)	Night (10 pm - 7 am)
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	Project		
	Day (7 am-7 pm)	Evening (7-10 pm)	Night (10 pm - 7 am)
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

### Average Speed

	Existing		
	Day (7 am-7 pm)	Evening (7-10 pm)	Night (10 pm - 7 am)
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

	Future		
	Day (7 am-7 pm)	Evening (7-10 pm)	Night (10 pm - 7 am)
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

# ROADWAY TRAFFIC NOISE

Project: Gate-King Project No. 00-50280  
 Date: 9-Aug-01

Roadway: San Fernando Road e/o Valle de Oro

Vehicle Noise Emission Levels\*: TNM

## RESULTS

### DAY-NIGHT AVERAGE LEVEL (Ldn)

	Ldn at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	69.1 dBA	26	87	187	403	869
Interim Year	69.0 dBA	25	85	184	396	853
Interim Year + Project	69.8 dBA	30	96	207	447	963

#### Change in Noise Levels

Due to Ambient Growth -0.1 dBA  
 Due to Ambient Growth + Project 0.7 dBA

### COMMUNITY NOISE EXPOSURE LEVEL (CNEL)

	CNEL at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	69.6 dBA	29	94	203	438	944
Interim Year	69.5 dBA	28	93	200	430	926
Interim Year + Project	70.3 dBA	34	104	225	484	1042

#### Change in Noise Levels

Due to Ambient Growth -0.1 dBA  
 Due to Ambient Growth + Project 0.6 dBA

\*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ©", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

# ROADWAY TRAFFIC NOISE

Project: Gate-King Project No. 00-50280  
 Date: 9-Aug-01  
 Roadway: Sierra Highway n/o San Fernando

## PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO TNM)  
 Distance to Receptor: 100 feet  
 Site Condition (Hard or Soft): Soft  
 Upgrade longer than 1 mile: 0 %  
 Existing Total Traffic Volume (ADT): 13,000 vehicles  
 Ambient Growth Factor: 0.0%  
 Future Year: 2005  
 Total Project Volume (ADT): 2000 vehicles  
 Total Background Growth Volume (ADT): 4000 vehicles  
 Source of Traffic Data Austin-Foust, 2001.

### Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	92.0%	96.9%
Medium Truck	1.8%	4.0%	2.0%
Heavy Truck	0.7%	4.0%	1.0%

Source: Assumed given land use and road characteristics

### Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

### Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed



# ROADWAY TRAFFIC NOISE

Project: Gate-King Project No. 00-50280  
 Date: 9-Aug-01

Roadway: Sierra Highway n/o San Fernando

Vehicle Noise Emission Levels\*: TNM

## RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	64.5 dBA	#N/A	28	93	201	433
Interim Year	65.8 dBA	#N/A	52	112	242	521
Interim Year + Project	66.4 dBA	14	58	125	268	578

Change in Noise Levels  
 Due to Ambient Growth 1.2 dBA  
 Due to Ambient Growth + Project 1.9 dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	65.1 dBA	#N/A	32	101	218	470
Interim Year	66.3 dBA	13	57	122	263	566
Interim Year + Project	66.9 dBA	16	63	135	290	626

Change in Noise Levels  
 Due to Ambient Growth 1.2 dBA  
 Due to Ambient Growth + Project 1.9 dBA

\*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

# ROADWAY TRAFFIC NOISE

Project: Gate-King Project No. 00-50280  
 Date: 9-Aug-01

Roadway: Sierra Highway s/o San Fernando

## PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO TNM)

Distance to Receptor: 100 feet  
 Site Condition (Hard or Soft): Soft  
 Upgrade longer than 1 mile: 0 %  
 Existing Total Traffic Volume (ADT): 13,000 vehicles  
 Ambient Growth Factor: 0.0%  
 Future Year: 2005  
 Total Project Volume (ADT): 11000 vehicles  
 Total Background Growth Volume (ADT): 1000 vehicles  
 Source of Traffic Data Austin-Foust, 2001.

### Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	92.0%	95.1%
Medium Truck	1.8%	4.0%	2.8%
Heavy Truck	0.7%	4.0%	2.2%

Source: Assumed given land use and road characteristics

### Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

### Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Assumed average speed

# ROADWAY TRAFFIC NOISE

Project: Gate-King Project No. 00-50280  
 Date: 9-Aug-01

Roadway: Sierra Highway s/o San Fernando

Vehicle Noise Emission Levels\*: TNM

## RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	64.5 dBA	#N/A	28	93	201	433
Interim Year	64.9 dBA	#N/A	31	99	213	459
Interim Year + Project	68.2 dBA	21	76	163	351	756
Change in Noise Levels						
Due to Ambient Growth	0.4 dBA					
Due to Ambient Growth + Project	3.6 dBA					

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	65.1 dBA	#N/A	32	101	218	470
Interim Year	65.5 dBA	#N/A	35	107	231	498
Interim Year + Project	68.6 dBA	23	81	175	377	812
Change in Noise Levels						
Due to Ambient Growth	0.4 dBA					
Due to Ambient Growth + Project	3.6 dBA					

\*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model @", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

# ROADWAY TRAFFIC NOISE

Project: Gate-King Project No. 00-50280  
 Date: 9-Aug-01  
 Roadway: Pine Street s/o San Fernando

## PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO TNM  
 Distance to Receptor: 100 feet  
 Site Condition (Hard or Soft): Soft  
 Upgrade longer than 1 mile: 0 %  
 Existing Total Traffic Volume (ADT): 0 vehicles  
 Ambient Growth Factor: 0.0%  
 Future Year: 2005  
 Total Project Volume (ADT): 2000 vehicles  
 Total Background Growth Volume (ADT): 0 vehicles  
 Source of Traffic Data Austin-Foust, 2001.

### Daily Vehicle Mix

	Existing	Project	Future
Automobile	97.5%	92.0%	92.0%
Medium Truck	1.8%	4.0%	4.0%
Heavy Truck	0.7%	4.0%	4.0%

Source: Assumed given land use and road characteristics

### Percentage of Daily Traffic

	Existing and Future		
	Day (7 am-7 pm)	Evening (7-10 pm)	Night (10 pm - 7 am)
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	Project		
	Day (7 am-7 pm)	Evening (7-10 pm)	Night (10 pm - 7 am)
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

### Average Speed

	Existing		
	Day (7 am-7 pm)	Evening (7-10 pm)	Night (10 pm - 7 am)
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	Future		
	Day (7 am-7 pm)	Evening (7-10 pm)	Night (10 pm - 7 am)
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

# ROADWAY TRAFFIC NOISE

Project: Gate-King  
 Date: 9-Aug-01

Project No. 00-50280

Roadway: Pine Street s/o San Fernando

Vehicle Noise Emission Levels\*: TNM

## RESULTS

### DAY-NIGHT AVERAGE LEVEL (Ldn)

	Ldn at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	#NUM! dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Interim Year	#NUM! dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Interim Year + Project	55.4 dBA	#N/A	#N/A	#N/A	35	106
Change in Noise Levels						
Due to Ambient Growth	#NUM! dBA					
Due to Ambient Growth + Project	#NUM! dBA					

### COMMUNITY NOISE EXPOSURE LEVEL (CNEL)

	CNEL at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	#NUM! dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Interim Year	#NUM! dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Interim Year + Project	55.8 dBA	#N/A	#N/A	#N/A	52	113
Change in Noise Levels						
Due to Ambient Growth	#NUM! dBA					
Due to Ambient Growth + Project	#NUM! dBA					

\*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

# ROADWAY TRAFFIC NOISE

Project: Gate-King Project No. 00-50280  
 Date: 9-Aug-01  
 Roadway: "A" Street s/o San Fernando

## PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO TNM)  
 Distance to Receptor: 100 feet  
 Site Condition (Hard or Soft): Soft  
 Upgrade longer than 1 mile: 0 %  
 Existing Total Traffic Volume (ADT): 0 vehicles  
 Ambient Growth Factor: 0.0%  
 Future Year: 2005  
 Total Project Volume (ADT): 10000 vehicles  
 Total Background Growth Volume (ADT): 0 vehicles  
 Source of Traffic Data Austin-Foust, 2001.

### Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	97.5%	92.0%	92.0%
Medium Truck	1.8%	4.0%	4.0%
Heavy Truck	0.7%	4.0%	4.0%

Source: Assumed given land use and road characteristics

### Percentage of Daily Traffic

	<i>Existing and Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	<i>Project</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

### Average Speed

	<i>Existing</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	<i>Future</i>		
	<i>Day (7 am-7 pm)</i>	<i>Evening (7-10 pm)</i>	<i>Night (10 pm - 7 am)</i>
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

# ROADWAY TRAFFIC NOISE

Project: Gate-King  
 Date: 9-Aug-01

Project No. 00-50280

Roadway: "A" Street s/o San Fernando

Vehicle Noise Emission Levels\*: TNM

## RESULTS

### DAY-NIGHT AVERAGE LEVEL (Ldn)

	Ldn at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	#NUM! dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Interim Year	#NUM! dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Interim Year + Project	62.4 dBA	#N/A	17	67	144	311
Change in Noise Levels						
Due to Ambient Growth	#NUM! dBA					
Due to Ambient Growth + Project	#NUM! dBA					

### COMMUNITY NOISE EXPOSURE LEVEL (CNEL)

	CNEL at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	#NUM! dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Interim Year	#NUM! dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Interim Year + Project	62.8 dBA	#N/A	19	71	153	329
Change in Noise Levels						
Due to Ambient Growth	#NUM! dBA					
Due to Ambient Growth + Project	#NUM! dBA					

\*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ©", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

# ROADWAY TRAFFIC NOISE

Project: Gate-King Project No. 00-50280  
 Date: 9-Aug-01

Roadway: "A" Street w/o Sierra Hwy

## PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO TNM)

Distance to Receptor: 100 feet  
 Site Condition (Hard or Soft): Soft  
 Upgrade longer than 1 mile: 0 %  
 Existing Total Traffic Volume (ADT): 0 vehicles  
 Ambient Growth Factor: 0.0%  
 Future Year: 2005  
 Total Project Volume (ADT): 7000 vehicles  
 Total Background Growth Volume (ADT): 0 vehicles  
 Source of Traffic Data Austin-Foust, 2001.

### Daily Vehicle Mix

	Existing	Project	Future
Automobile	97.5%	92.0%	92.0%
Medium Truck	1.8%	4.0%	4.0%
Heavy Truck	0.7%	4.0%	4.0%

Source: Assumed given land use and road characteristics

### Percentage of Daily Traffic

	Existing and Future		
	Day (7 am-7 pm)	Evening (7-10 pm)	Night (10 pm - 7 am)
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	Project		
	Day (7 am-7 pm)	Evening (7-10 pm)	Night (10 pm - 7 am)
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

### Average Speed

	Existing		
	Day (7 am-7 pm)	Evening (7-10 pm)	Night (10 pm - 7 am)
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed

	Future		
	Day (7 am-7 pm)	Evening (7-10 pm)	Night (10 pm - 7 am)
Automobile	35	35	35
Medium Truck	35	35	35
Heavy Truck	35	35	35

Source: Assumed average speed



# ROADWAY TRAFFIC NOISE

Project: Gate-King  
 Date: 9-Aug-01

Project No. 00-50280

Roadway: "A" Street w/o Sierra Hwy

Vehicle Noise Emission Levels\*: TNM

## RESULTS

### DAY-NIGHT AVERAGE LEVEL (Ldn)

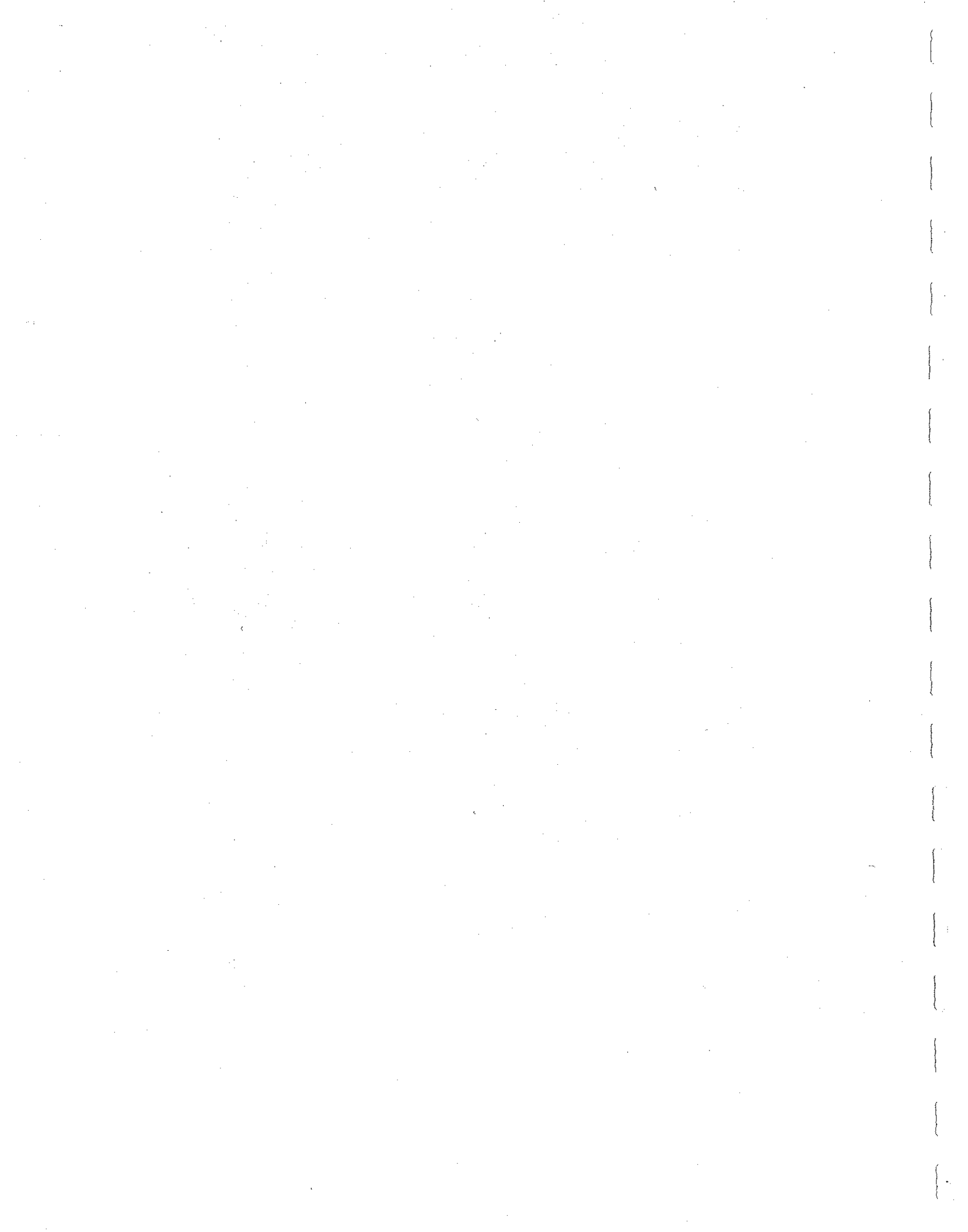
	Ldn at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	#NUM! dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Interim Year	#NUM! dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Interim Year + Project	60.8 dBA	#N/A	#N/A	53	114	245
Change in Noise Levels						
Due to Ambient Growth	#NUM! dBA					
Due to Ambient Growth + Project	#NUM! dBA					

### COMMUNITY NOISE EXPOSURE LEVEL (CNEL)

	CNEL at Site 100 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	#NUM! dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Interim Year	#NUM! dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Interim Year + Project	61.2 dBA	#N/A	13	56	120	259
Change in Noise Levels						
Due to Ambient Growth	#NUM! dBA					
Due to Ambient Growth + Project	#NUM! dBA					

\*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model @", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable



# **Appendix G**

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## Cultural Resource Peer Review

Peer Review and Field Investigation of  
Tentative Tract No. 50282 (Gates-King EIR)  
a 582.5 acre parcel within the  
City of Santa Clarita, County of Los Angeles, California

Original report prepared by  
Louis James Tartaglia  
Archaeological Consultant  
3154 Rikkard Drive  
Thousand Oaks, California 91362

Report prepared and submitted by  
*Robert J. Wlodarski*  
Principal Investigator  
Historical, Environmental, Archaeological, Research, Team  
8701 Lava Place, West Hills, California 91304-2126  
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Prepared and submitted to  
Rincon Consultants, Inc.  
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Ventura, California 93001  
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January, 2001

# I.

## INTRODUCTION

### 1.1 Project Location

The project area is located north of the San Fernando Valley, and south of Saugus between the Santa Susana Mountains on the west and the San Gabriel Mountains on the east (Figure 1). The property is situated on a portion of Tract Number 2703 and Tract Number 3205 (now referred to as Tentative Tract No. 50282 [Gates-King EIR] a 582.5 acre parcel within the City of Santa Clarita, County of Los Angeles, California, and bordered by San Fernando Road on the north and Sierra Highway on the east. More specifically, the project area is positioned on the Oat Mountain 7.5 minute USGS topographic quadrangle (1952 - photorevised 1969) within an unsectioned portion of Rancho San Francisco. Elevations on the property are approximately 1400 feet in the northwestern portion, and 2000 feet in the southwestern portion (Figure 2).

### 1.2 Project Description

Generally speaking, the proposed project is situated in undeveloped mountainous terrain that has been used for a number of purposes since the early 1900s including railroad right-of-way, oil related development, transmission line construction, underground gas pipelines, the underground tunneling associated with the construction of the California aqueduct, minor homesteading, commercial ventures and off-road use.

### 1.3 Scope of Work

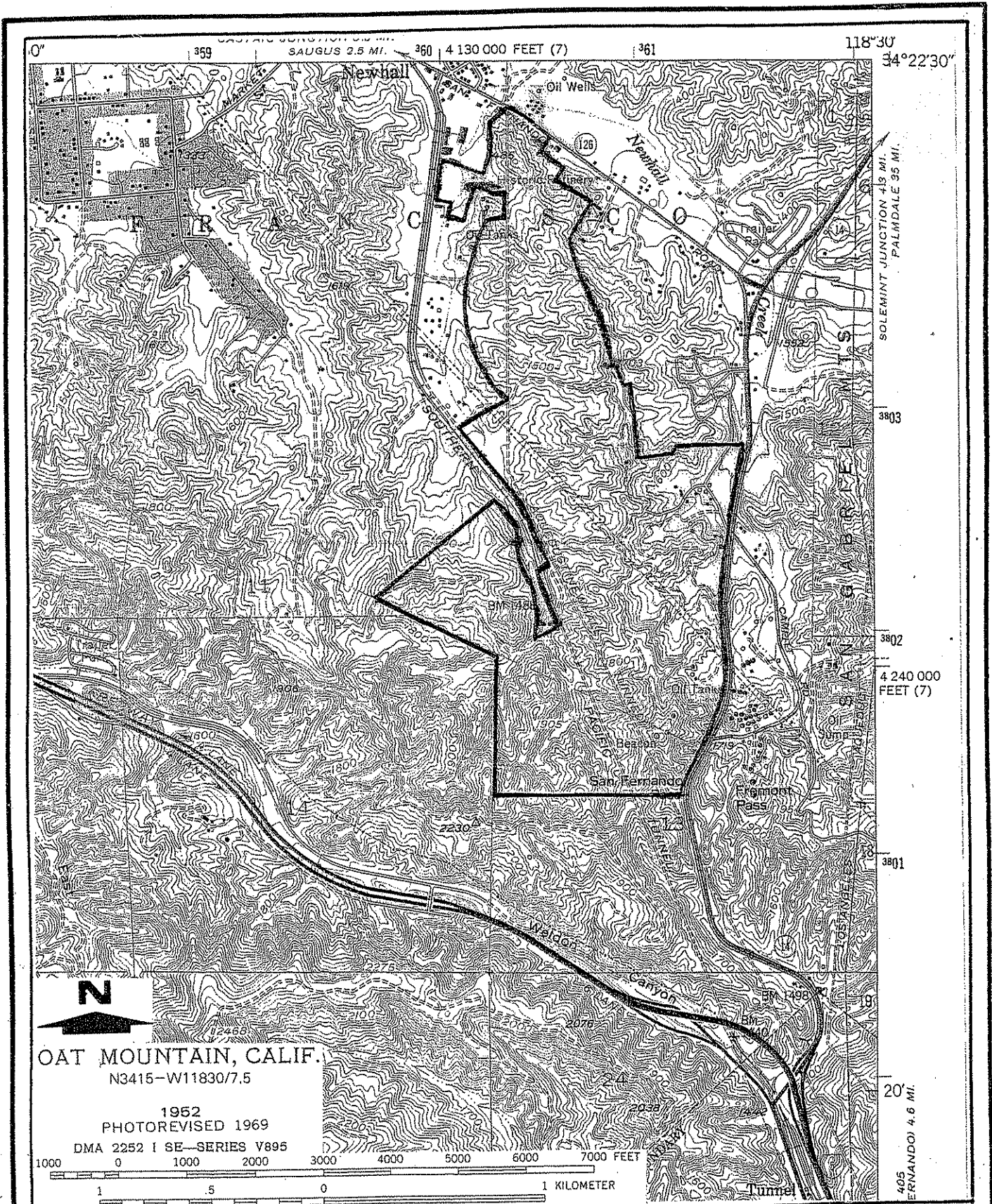
The scope of this study involves a peer review of prior work performed by Dr. Louis James Tartaglia (2000) involving archaeological and historic resources within the project area. The four-phased approach will be conducted as follows:

- \* Review existing reports and documentation pertaining to the project.
- \* Synthesize the past history of activities that have occurred at the site including prior disturbance factors that have affected the landscape.
- \* Provide a summary of previously recorded archaeological resources at the project site.
- \* Discuss the significance of any resources within the project area
- \* Evaluate the methodologies used during prior studies and determine whether the methodologies are appropriate to ensure that cultural resources are adequately protected under federal and state law.
- \* Using federal, state and county guidelines regarding resource significance, identify direct and indirect impacts that will occur to existing cultural resources within the project area.
- \* Discuss proposed mitigation methodology (avoidance, scientific collecting, fencing during construction, monitoring, or relocation of any resources as dictated by the project results).
- \* Identify mitigation measures that are to be implemented should unanticipated cultural resources be encountered during project construction.

A general programmatic approach to this project will include:

Peer Review: A review of existing cultural resource documentation prepared as part of the EIR process for the City of Santa Clarita for the Gates/King Development will be performed to ensure compliance with state, and City of Santa Clarita cultural resource guidelines, policies, and procedures. Additionally, proper mitigation measures will be presented based on the results of the cultural resource investigation of the 582.5 acre parcel.





LOCATION OF THE PROJECT

FIGURE  
2

Archival Research: A review of the original report (Louis James Tartaglia (2000) Cultural Resources Survey Report: Tentative Tract No. 50283 (comprising 549 acres), City of Santa Clarita, California. Report submitted to Sikand Engineering Associates, Van Nuys, California and a records search prepared by the South Central Coastal Information Center at the University of California Los Angeles (February 1, 2000 by Juliet Keehan, Information Center Staff.

Field Reconnaissance: An inspection of previously recorded cultural resources will be performed as part of this study to ensure that the recorded resources have been properly delineated and evaluated for significance under CEQA. Additionally RPA qualified archaeologists will re-survey potentially sensitive locations within the project area to further ensure that cultural resource remains were not inadvertently missed during the prior field phase since field conditions often change seasonally.

Report Preparation: Upon completion of the field work, a report detailing the results of the peer review, initial records search and limited field inspection phases will be prepared. The report results will be presented in a format which complies with federal and state legislative enactments pertaining to the recordation, protection and enhancement of cultural resources within the State of California. Furthermore, management recommendations and appropriate mitigation measures will be presented as dictated by the results of this project. A copy of the final report will be submitted to the South Central Coastal Information Center, California Historical Resources Information System, California State University, Fullerton, Department of Anthropology.

## II. BACKGROUND RESEARCH

### 2.1 Records Search Results

Based on the original report (Louis James Tartaglia (2000) Cultural Resources Survey Report: Tentative Tract No. 50283 (comprising 549 acres), City of Santa Clarita, California. Report submitted to Sikand Engineering Associates, Van Nuys, California a records search was prepared by the South Central Coastal Information Center at the University of California Los Angeles (February 1, 2000 by Juliet Keehan, Information Center Staff.

The records and literature search revealed that no prehistoric-aboriginal period sites were recorded within the project property and that 23 previous archaeological surveys and/or excavations have been conducted within a one half mile radius of the project property. Furthermore, 15 historic period sites have been identified within a one-half mile radius of the project property as follows:

The Pioneer Oil Refinery: (National Register of Historic Places; California State Landmark No. 172; Los Angeles County Point of Historical Interest; and Los Angeles City Cultural Heritage Board) is located adjacent to the proposed project.

The St. Francis Dam site: California State Landmark No. 919

Rancho San Francisco Adobe site: California State Landmark No. 556

Andrada State Station Adobe: County List No. 148

Ortiz (Miguel) Casa (Adobe): County List No. ?

Major Gorman's Stage Post (Adobe): County List No. 149 - Historic American Buildings Survey 1941

Martin Ruiz Adobe: California State Landmark No. 158 - County List No. 146 (65s)



Rancho San Francisco Adobe site: California State Landmark No. 556 - Los Angeles City Cultural Heritage Board No. 124

Lyons Station: California State Landmark No. 688 - California Inventory of Historic Resources

Oak of the Golden Dream: National Register of Historic Places - California State Landmark No. 168 - Los Angeles County Point of Historical Interest Los Angeles City Cultural Heritage Board

The Lang Station: National Register of Historic Places - California State Landmark No. 590 - Los Angeles County Point of Historical Interest Los Angeles City Cultural Heritage Board

Beale's Cut Stagecoach Pass: California State Historic Landmark No. 1006

Good Templars Hall: (Pardee Home) - (LAN-030) 24275 Walnut, Newhall

William S. Hart Park Ranch and Museum: (LAN-032) - 24151 Newhall Avenue, Newhall

Saugus Station: (LAN-031) - 24107 San Fernando Road, Newhall

According to Tartaglia (2000: 29), the results of the records search indicates that the locality in which the proposed project exists is an extremely sensitive archaeological zone since fifteen historic period sites and/or materials have been recorded within a one mile radius of the project property; thus, there is a high probability that cultural resources may be buried within the confines of the proposed property or adjacent parcels where the Pioneer Oil Refinery is located (under separate ownership). No previously recorded sites are located within the confines of the project property.

## 2.2 Additional Research

Prior to performing a limited field inspection of project property, additional research was conducted for the proposed property. The following list of prehistoric/ethnographic sites within the general area is derived from Richard Van Valkenburgh's research of the Ventureno Chumash in the 1930s.

1. Newhall-LaSalle Ranch (Ape-vit) (Fernandeno) (Mission San Fernando) Ape-vit was possibly the site visited in the Newhall region by the Portola Expedition in 1769. The captain (sic) of the rancheria, Ferdenio was baptized at the Mission on January 4, 1801. From the number of neophytes listed in the baptismal records of the site was not large (sic). This was the birthplace of Sinforosa, the last full blooded "T'at'ap-alliklik."
2. Newhall-Saugus (No information is provided).
3. San Francisquito-Ruiz Ranch (Tacuymanen, Tacuyman) (Serrano) (Mission San Fernando). Practically all of this site was destroyed in the St. Frances dam disaster of 1927. A few scattered artifacts and a burial were found in 1934.
4. Newhall-Needham - (Fernandeno) (No information is provided).
5. Castac Canyon - Daries Ranch (Serrano) (No information is provided).
6. Castac Canyon - Pyle Ranch (Serrano) (No information is provided).
7. Castac Canyon - Highway Forks (Ka-stuk, Kashtuk, Castec, "The Eye") (Mission San Buenaventura and San Fernando). This was the westernmost Ventureno village. All evidence of the site have been destroyed.
8. Castac Junction-Newhall Ranch (Chaguya-vit) (Fernandeno). The rancheria of Chaguyavit

is the most important "I 'at'ap-alliklik" village in the upper Santa Clara River region. It was here that the Portola Expedition stopped before they turned westward down the Santa Clara River. In 1802 the Mission San Fernando Rey constructed their asistencia-granery (sic) on the site. The baptismal records of the Mission show that the first baptism from Chaguya-vit took place during March of 1802. After the secularization of the Mission, the Del Valle Family moved into the granary buildings, and lived there for some time, until they moved to Camulos. The activities during the Mission period have obliterated any evidence of the Indian occupation.

Other historic maps and topographic maps consulted, are on file at the Geography Department Map Reference Center, California State University, Northridge, and Bureau of Engineering, Los Angeles City Hall as follows:

- 1853-96 Township 3 North, Range 16 West, San Bernardino Meridian (surveyed by F.W. Norris (1853); Henry Hancock (1853 and 1858); G.H. Thompson (1874); W.P. Reynolds (1872 and 1874); M.G. Wheeler (1874); W.H. Norway (1875); J.R. Glover (1895); and G.H. Perrin (1896).
- 1869 Map of Private Grants and Public Lands Adjacent to Los Angeles and San Diego in the Southern Parts of California (published by Clinton Day).
- 1874 Plat of Rancho San Francisco confirmed to Jacoba Feliz et al (G.H. Thompson, 1874).
- 1881 Map of the County of Los Angeles, California (H.J. Stevenson).
- 1888 Map of the County of Los Angeles, California (Rowan).
- 1891 Map of the Reservoir Lands in the County of Los Angeles (Seebold).
- 1900 Sectional and Road Map of Los Angeles County Showing Oil and Mining Districts (Stoll and Thayer).
- 1900 San Fernando 15 minute USGS map series.
- 1903 Camulos 15 minute USGS Topographic Quadrangle (surveyed 1893, 1900-1901),
- 1903 Santa Susana 15 minute USGS Topographic Quadrangle (surveyed in 1900)
- 1908 Topographic Map of the Los Angeles Aqueduct and Adjacent Territory (compiled from U.S.G.S. topographic maps; Wheeler's war maps; Le Conte's maps; county maps, and; L.A. Aqueduct maps).
- 1911 Los Angeles County (by Blunt).
- 1933 Newhall 15 minute USGS Topographic Quadrangle (surveyed in 1925 & 1929).
- 1935 Sylmar (1935) 6 minute USGS map series.
- 1936 Los Angeles and Vicinity Showing Old Adobes and Historic Sites (by Giffen).
- 1937 U.S. Forest Service Vegetation Map (Santa Susana Quadrangle (15 minute- #161A- surveyed in 1928-1934).
- 1900 San Fernando 15 minute USGS map series.
- 1941 Santa Susana 15 minute USGS Topographic Quadrangle.

According to Tartaglia (2000:21-26) the following events took place which directly or indirectly impacted the project area:

- \* In 1853, the Southern Pacific Railroad Survey ventured through the general area. The ultimate train route passed directly through the project area.
- \* A gold camp named Hollandsville existed beyond the present day Powerhouse No. 1 of the Los Angeles Aqueduct (built from 1907-1913).
- \* Stage lines including the Butterfield Stage Line passed through the area beginning 1854 with Lyons Station a primary stopover point.

- \* Edward Fitzgerald Beale carved a stage route through the mountains to the south of the project area in 1862, representing the only non-coastal access route to the region.
- \* By 1866, oil was discovered in Wiley Canyon and shipped to the Metropolitan Gas Works in San Francisco. Oil wells continued to be drilled into the 1890's.
- \* Placer claims (part of the Soledad Mining District) sprung up throughout the region.
- \* The Southern Pacific Railroad utilizing Chinese laborers, began excavating a tunnel within the project area in March of 1875. A small village and post office known as "The Tunnel" were established nearby by Captain Kittridge during this time. The tunnel was completed on August 12, 1876, and was 6,940 feet in length, the third longest tunnel in the United States and fourth longest in the world at the time.
- \* Henry Mayo Newhall purchased the Needham ranch in 1875 and sold easements to a number of utility companies and commercial ventures including gas and electricity (Southern California Edison Transmission Line).
- \* On September 26, 1876, the Star Oil Company's Well No. 4 became California's first successful commercial oil well. This became a national landmark due to the fact that it was the longest continually operational oil well in the world.
- \* In 1883, the Newhall Land and Farming Company was incorporated by the Newhall family to supervise the various activities of its land holdings, including the Rancho San Francisco. The main rancho functions centered around livestock raising and mineral exploitation.
- \* Star Oil soon became Standard Oil in 1906, and eventually Chevron.
- \* The Pioneer Oil Refinery was established in the area. The refinery closed around 1884.
- \* Governor John St. John of Kansas sent Henry Clay Needham to establish a "dry colony" in the area which would be called the St. John Tract. Needham arrived around 1889 and purchased the Lyon property (roughly 10,000 acres) from the Newhall Land and Farming Company. The colony was established but soon failed. Needham retained 750 acres encompassing the Eternal Valley Cemetery and gates property. Needham opened a hardware/lumber store and initiated the Good Templar's Lodge.
- \* By 1890, the town of Newhall was established as a community
- \* By 1899, Needham formed the Pearle and Zenith Oil Companies and began drilling for oil on his property. Needham died on February 21, 1936 and his heirs sold the land to the Gates family.
- \* In 1930, Mr. Charles Sizman, Superintendent of Standard's Pico Canyon Operations, began rebuilding of the old refinery as a memorial to D.G. Scofield, the first president of the Standard Oil Company of California. At the time of the reconstruction, the No. 1 still was dismantled, and shipped to the Chevron U.S.A. Oil Museum in Richmond, California.
- \* The Needham ranch was started in the 1900's and consisted of approximately 35 acres used for dairy cattle and water sold from a well. Portions of the property have been used in the past as a rodeo arena (1980's), open corrals, and sets for the movies. As late as 1990, a landfill was established.
- \* Within the Metropolitan Water District easement, located in the northeast corner of the project property, there is a brass marker designating the Mulholland water tunnel that runs under the property are depth of approximately thirty feet.

### 2.3 Original Investigation (Tartaglia 2000)

The initial archaeological study was prepared by Louis James Tartaglia (2000) entitled, Cultural Resources Survey Report: Tentative Tract No. 50283 (comprising 549 acres), City of Santa Clarita, California. Report submitted to Sikand Engineering Associates, Van Nuys, California.

According to Tartaglia, the surface survey of the project area was conducted on October 16, 17, 18, 20, and 21, 1999 as well as on April 19, 2000. The entire project area was examined for surface indications of cultural occupations such as artifacts, features, soil changes, and other cultural features. Furthermore, rock shelters and overhangs when encountered within the confines of the project property were carefully inspected. The entire surface field inspection was conducted on foot to examine all land surfaces for any visible cultural resources. The majority of the land surface was characterized by moderate-to-steep sloping areas throughout (see Tartaglia 2000:47-57 - color plates 1-19) where ridges and areas conducive to human occupation were surveyed.

Tartaglia used a transect sweep method at two meter intervals (there is no map showing which areas were covered on which field day. Since he was alone the entire time, this would have been helpful in reviewing his coverage routes). According to Tartaglia, the frontage area of the project area is heavily developed and associated with a variety of land usage. A nursery, a mortuary, a recycling center, Newhall Water Company office, and assorted other types of businesses currently border the project property. Apparently in 1996, the dump (the landfill contained within the project property) caught on fire and may have contaminated some of the local residents (Manny Santana: resident October 2000 and Dan Kellerman, foreman, project property-personal communication October, 2000). Within the Metropolitan Water District easement, located in the northeast corner of the project property, there is a brass marker designating the Mulholland water tunnel that runs under the property at a depth of approximately thirty feet. This structure will not be impacted by the proposed project since it is contained within the Metropolitan Water District easement.

Extant vegetation in a few areas partially (10%) obscured portions of the project area, but adjacent areas provided a clear view of the surface. When available, backdirt from rodent burrows was inspected and examined for any evidence of past human occupations (i.e. artifacts, soil discoloration, etc.). In all instances, these rodent areas consisted of sterile soil with no artifacts observed and/or recorded (no soil discoloration or alteration was evident).

Since the Pioneer Oil Refinery (State Historic Landmark No. 172) is located on an adjacent parcel (not part of this proposed project), any evidence of historic period pipelines was carefully examined. Furthermore, Mr. Don Woelke, a local historian who has written articles about the Pioneer Oil Refinery from the Santa Clarita Valley Historical Society, accompanied Dr. Tartaglia on April 20, 2000 to survey the project property for any surface evidence of oil pipelines. It is the consensus Woelke and Tartaglia that the surface pipelines that existed in direct association with the Pioneer Oil Refinery have been removed and/or destroyed over the years. Furthermore, there has been very extensive grading and surface modifications to both the areas adjacent to and around the Pioneer Oil Refinery site. As a result, presently there is no surface evidence of any oil pipelines within the project property directly associated with the Pioneer Oil Refinery.

### III. 2001 FIELD INVESTIGATION

#### 3.1 Project Personnel

The crew consisted of Robert Wlodarski, serving as Principal Investigator of H.E.A.R.T., who has a: B.A. in History and Anthropology; an M.A. in Anthropology from California State University Northridge (CSUN); 30 years of professional experience in California archaeology; over five hundred completed cultural resource investigations; certification in field archaeology and theoretical/archival research by the Register of Professional Archaeologists [RPA]; and, is a registered California historian by the California Committee for the Promotion of History [CCPH].

Additionally, the Principal Investigator was assisted in the field by Dan A. Larson who has a B.A. in Anthropology from California State University Northridge (CSUN), over 38 years of professional experience in California archaeology, and meets the qualifications for certification in field archaeology by the Register of Professional Archaeologists [RPA]

### 3.2 Limited Field Inspection

The primary intent of this field reconnaissance phase was re-survey potentially sensitive locations within the project area to further ensure that cultural resource remains were not inadvertently missed during the prior field phase since field conditions often change seasonally. There is usually less ground cover in the winter time than during any other season. This field phase was conducted on Saturday, January 6, 2001 and Sunday, January 7, 2001. The field investigation took roughly 24 person hours to complete.

Figure 3 illustrates that areas within the project property which were re-surveyed. Both surveyors focused on ridgelines, knolls, terraces above stream confluence's, and minimally disturbed open spaces areas on the property. Transect spacing consisted of parallel routes with the distance between surveyors of no more than ten meters.

### 3.3 Results

The results of the limited field inspection conformed to the findings of Dr. Tartaglia (2000). No significant or potentially surface remains of a prehistoric or historic archaeological nature were discovered within the project boundaries. Additional field notes supports the fact that much of the project area has undergone extensive, prior man-made and natural disturbances including:

- \* Graded knolls, ridgelines, and slopes for fire breaks and other purposes.
- \* Graded or disturbed terrain for the construction of access roads.
- \* Graded and cleared areas for Edison transmission line towers and roads.
- \* Ground surface disturbances relating to oil related activities and operations.
- \* Disturbances related to stream improvements and channelization throughout the property.
- \* Gas, telephone and other utilities that have been excavated or constructed and maintained within the project area.
- \* The construction and maintenance of the Southern Pacific Railroad line and tunnel.
- \* Potential disturbances related to the underground construction and maintenance of the California aqueduct.
- \* Recent structures exist within the confines of the project property.
- \* A modern period trash dump was observed on the property.
- \* Assorted trash consisting of recently deposited materials (i.e. plastic, etc.) was observed.
- \* An isolated water well pipe encased in cement was observed in a drainage channel.
- \* Natural factors affecting the potential for encountering cultural resources on the property include steep slopes, narrow ridges, stream drainages and erosion.

## IV. RECOMMENDATIONS

The following recommendations are offered in response to the field results of Tartaglia (2000) and the author as contained within this report.

### 4.1 Direct Project Impacts

The proposed project will have no direct impacts on visible or recorded cultural resources within

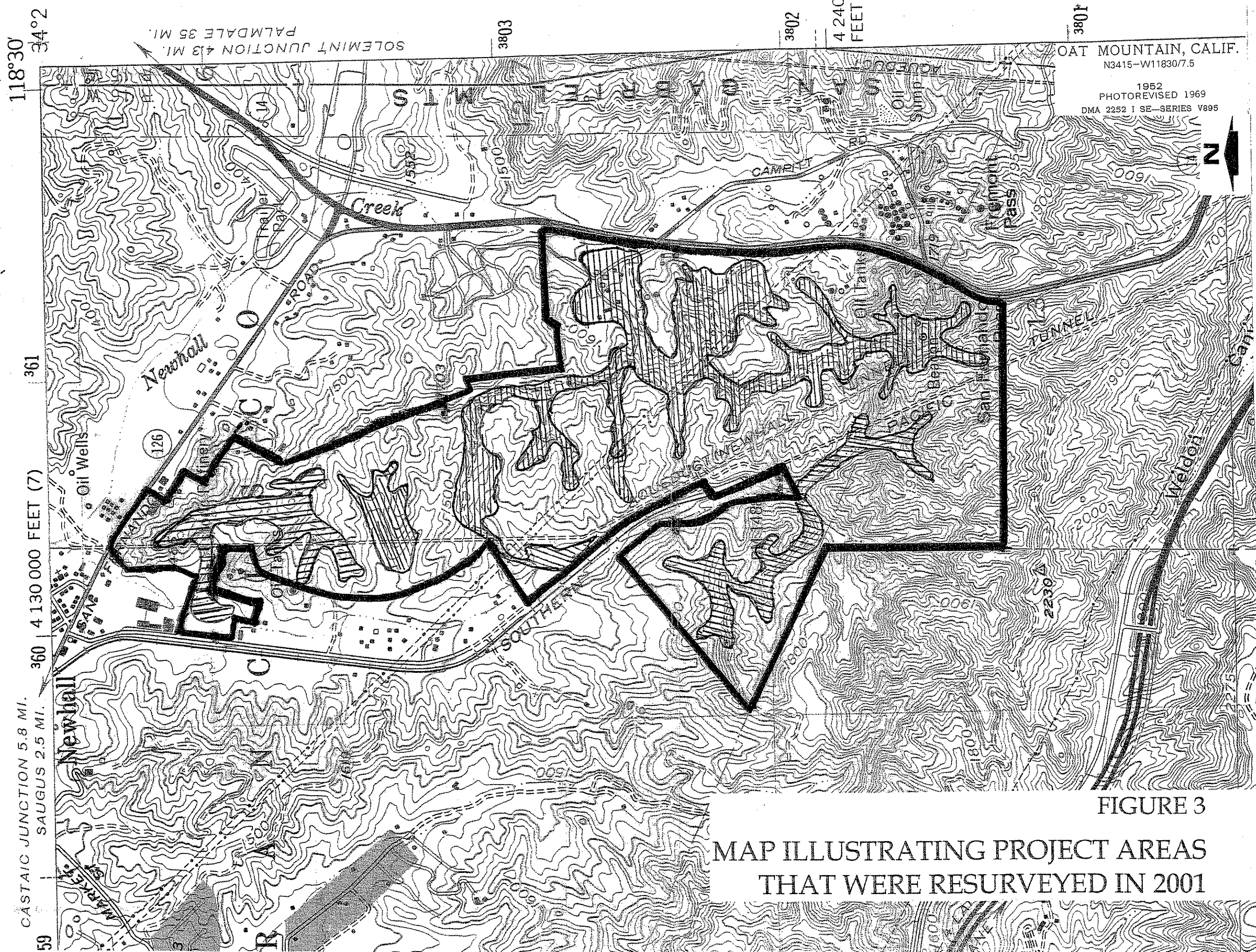


FIGURE 3

MAP ILLUSTRATING PROJECT AREAS THAT WERE RESURVEYED IN 2001

the project area.

Since by its nature, a field survey can only confidently assess the potential for encountering surface cultural resource remains, customary caution is advised when developing within the project area. Therefore, should unanticipated cultural resource remains be encountered during construction or land modification activities, work must stop, and the County of Los Angeles Planning Director or lead agency personnel shall be contacted immediately to determine appropriate measures to mitigate adverse impacts to the discovered resources. Cultural resource remains may include artifacts, shell, bone, features, altered soils, foundations, trash pits and privies, etc.

If human remains are discovered, then the procedures described in Section 7050.5 of the California Health and Safety Code shall be followed. These procedures require notification of the coroner. If the coroner determines that the remains are those of Native American ancestry, then the Native American Heritage Commission (NAHC) must be notified by phone within 24 hours. Sections 5097.94 and 5097.98 of the Public Resources Code, describe the procedures to be followed after the notification of the NAHC.

#### 4.2 Indirect Project Impacts

1. State Historic Landmark No. 172 (The Pioneer Oil Refinery site), a significant historic resource under the California Environmental Act, lies adjacent to the project property, but is not part of the proposed project. This resource will face indirect impacts if this project is implemented. Indirect impacts to resources usually occur in the form of increased access to a previously restricted resource. Encroachment by development opens up previously inaccessible areas or areas that have had limited access in the past. This in turn provides individuals who have little concern for the protection and enhancement of cultural resource remains with the opportunity to vandalize or damage significant resources. Often relic collectors salvage remains from sites to enhance their private collections.

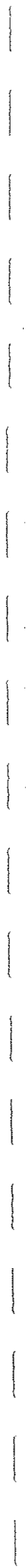
Presently, it is difficult to access this resource; however, development will increase accessibility as well as the potential for destruction. The fencing presently restricting access to the Refinery is of chain link and composite fencing which does not prevent unobstructed access to the site; therefore, it is recommended as part of this study, the developer be responsible for creating some kind of permanent fencing to prevent individuals from entering this location. This preventative measure will decrease indirect impacts to the Pioneer Oil Refinery site by blocking direct access from within the project area.

2. The acid tank associated with Pioneer Oil Refinery (though not within the study area) is unstable. It is possible that heavy earth movement may cause the collapse of this tank. It is therefore recommended that the developer take precautions to either avoid this area with heavy equipment or stabilize the acid tank to prevent its collapse and potential destruction.

## IV.

## REFERENCES

Tartaglia, Louis James  
2000 Cultural Resources Survey Report: Tentative Tract No. 50283, City of Santa Clarita, California. Report submitted to Sikand Engineering Associates, Van Nuys, California

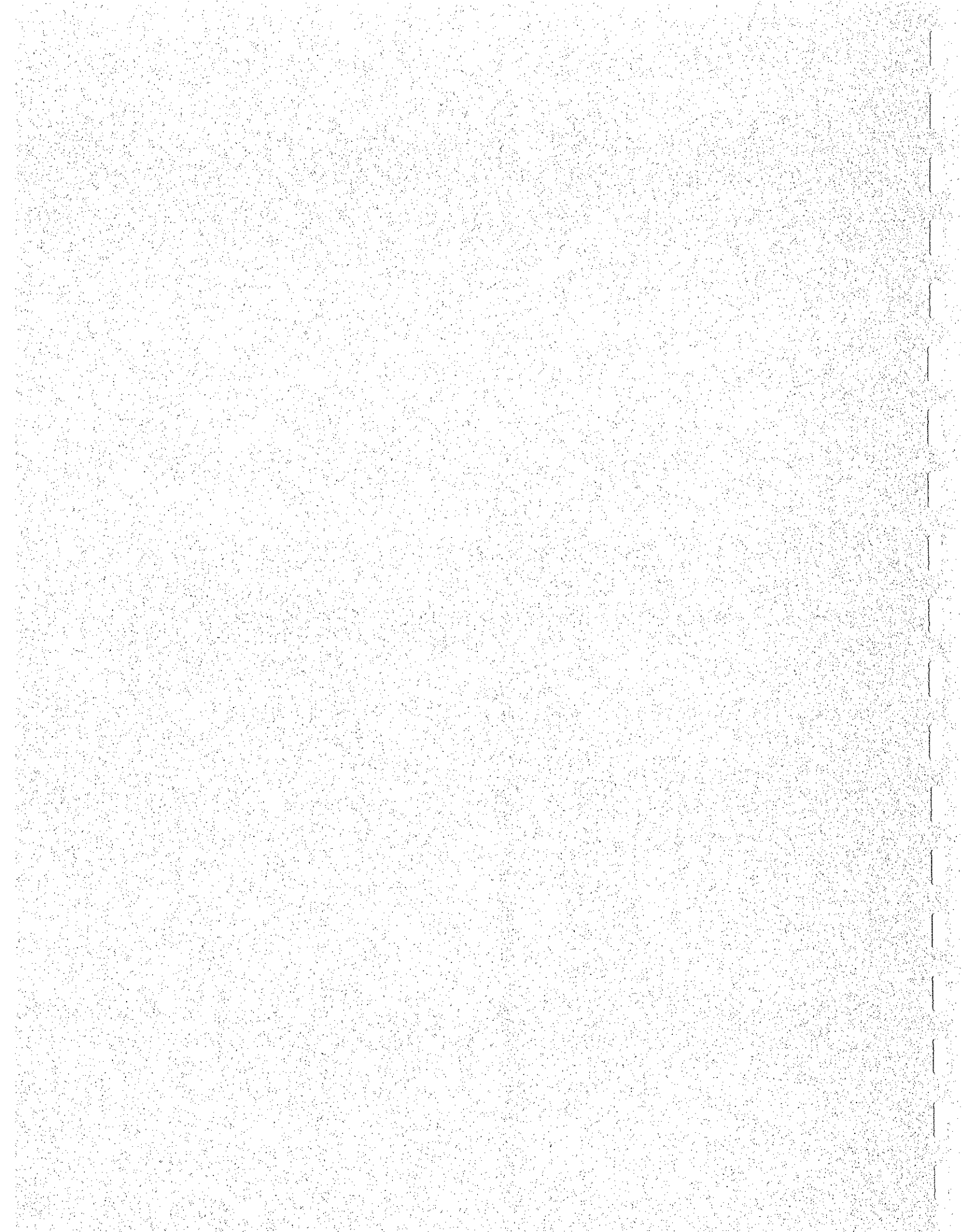




## **Appendix H**

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Responses to Comments  
on the Draft EIR



## RESPONSES TO COMMENTS ON THE DRAFT EIR

### INTRODUCTION

The letters in this section of the EIR include the public comments on the Draft Environmental Impact Report (EIR) for the proposed Gate-King Industrial Park project. The Draft EIR was circulated for a public review period that began on January 28, 2002 and concluded on March 13, 2002. This section includes responses to comments on the Draft EIR.

The comment letters included herein were submitted by public agencies, citizens groups, and private citizens. In addition, the City of Santa Clarita Planning Commission held several public hearings on the project and EIR between February and June 2002.

Each written comment that the City received is included in this section. Responses to these comments have been prepared to address the environmental concerns raised by the commentors and to indicate where and how the EIR addresses pertinent environmental issues.

The Draft EIR and this Comments and Responses report collectively comprise the Final EIR for the Gate-King Industrial Park project. Any changes made to the text of the Draft EIR correcting information, data or intent, other than minor typographical corrections or minor working changes, are noted in the Final EIR as changes from the Draft EIR.

The comment letters have been numbered sequentially, and each issue within a comment letter, if more than one, has a letter assigned to it. References to the responses to comments identify first the letter number, and second, the comment letter (6A, for example).



**DRAFT EIR CLARIFICATIONS and MODIFICATIONS/ERRATA**

This section presents clarifications and modifications to information contained in the Draft EIR, based on the written comments and responses and other corrections made during the Planning Commission review of the Draft EIR. Additions are underlined and deletions are printed in strike-through type. These changes are organized by the sections contained in the Draft EIR.

**Section 1.5, Areas of Controversy**

Page 1-6, last paragraph, of the Draft EIR, is revised as follows:

~~There is no known~~ Public controversy surrounding the proposed project, as noted ~~However,~~ in the comments on the Notice of Preparation and the Draft EIR, included concerns by several public agencies and community groups expressed concern about possible impacts to on-site oak trees, wildlife movement corridors, ridgelines, and cultural resources.

**Section 4.6, Biological Resources**

Mitigation Measure BIO-4(a), third bullet point, on page 4.6-30 of the Draft EIR, is revised to add the following:

- (6) All native California oak trees removed as a result of project implementation shall be replaced with in-kind native California oak tree specimens obtained from regional (i.e., Santa Clarita Valley) stock."

**Section 4.9, Public Services**

Table 4.9-1, on page 4.9-1 of the Draft EIR, is revised as follows:

**Table 4.9-1 Fire Emergency Response Capabilities**

Equipment	Distance (Miles)	Time (Minutes)	Staffing
Engines 73 & 273	1.6 (A) 2.9 (B)	4.8 (A) 8.7 (B)	7
Engine 124	3.8 (A) 6.3 (B)	11.3 (A) 10.4 (B)	3
Truck 73	1.6 (A) 2.9 (B)	4.8 (A) 8.7 (B)	34
Squad 124	3.8 (A) 6.3 (B)	11.3 (A) 10.4 (B)	2
Hazardous Materials Squad	8.8 (A) 11.2 (B)	17.6 (A) 16.7 (B)	5

(A) A Street and Lot 3 (B) C Street and Lot 26  
 Source: Los Angeles County Fire Department, April 2001.  
 Note: Station 124 is to be permanently relocated, increasing the distance from the project site by about 1.3 miles, or 2.3 minutes.



## Section 4.10, Utilities

Page 4.10-3, second paragraph, is revised as follows:

*Sewage generated within District No. 32 is conveyed through several different District trunk sewers to the Valencia WRP. The District's Newhall trunk sewer conveys sewage generated within the vicinity of the project site. located in Walnut Street at 16<sup>th</sup> Street. This 21-inch diameter trunk sewer has a design capacity of 4.3 million gallons per day (MGD) and conveyed a peak flow of 1.5 mgd when last measured in 1996 (County Sanitation Districts of Los Angeles County, 2001).*

Page 4.10-3, third paragraph, is revised as follows:

*The Districts operate two water reclamation plants: the Saugus Plant and the Valencia Plant. Both plants function together to provide tertiary treatment to wastewater which is discharged into the Santa Clara River after treatment. These two treatment plants have been interconnected to form a regional sewage treatment system. The Saugus Plant is the primary treatment facility, with the excess discharge treated by the Valencia Plant.*

Page 4.10-3, fourth paragraph, is revised as follows:

*The two treatment plants currently have the combined permitted capacity to accommodate 19.1 MGD of wastewater. The plants currently process an average flow of 16.9 16.7 MGD, which represents approximately 88% of current capacity.*

Page 4.10-6, Impact PU-3, is revised as follows:

**Impact PU-3** *Buildout of the proposed project would generate an estimated 0.276 0.89 million gallons of wastewater per day. Because the wastewater treatment plants serving the site have adequate capacity to accommodate this amount of wastewater, this impact is considered Class III, less than significant.*

*As discussed under Impact PU-1, the project's water demand is estimated at 386 acre-feet per year, or about 345,000 gallons per day (GPD). Discounting for water consumed by landscape irrigation, it is estimated that wastewater generation would be 80% of total water demand, or about 276,000 GPD. This would represent a wastewater demand factor of approximately 62 GPD per 1,000 square feet of industrial development.*

Page 4.10-7, fifth paragraph, is revised as follows:

*The on-site conveyance system would consist of a series of pipes within the rights-of-way of on-site roadways that would convey wastewater flows to existing Los Angeles County Public Works Department LACSD main trunk lines located at Sierra Highway and San Fernando Road (see Figure 4.10-1). The trunk sewer that would serve the project site is the Newhall Trunk Sewer, which can accommodate an additional 2.8 MGD of wastewater, based on most recent capacity measurements. The proposed project would add an estimated 276,000 GPD of wastewater flows to this trunk sewer. According to the Sanitation Districts, the Newhall Trunk*



*Sewer has adequate capacity to convey wastewater generated by the proposed project (Frazen, 2001).*

Page 4.10-12, third paragraph, is revised as follows:

Wastewater. *The two wastewater treatment plants serving the City currently have excess capacity of about 2.2 to 2.4 MGD.*

**Section 4.11, Aesthetics**

The sixth paragraph under Impact AES-1 is revised as follows:

*The proposed grading plan would involve alterations to one of the City-identified Primary ridgelines onsite and both of the Secondary ridgelines that traverse the site. The proposed grading plan would involve modifications to an approximately 6,230 ~~6,350~~-foot segment of the Primary ridgeline that crosses through the central portion of the site in a north-south direction. This represents about 57% ~~80%~~ of the ~~portion~~ of the Primary ridgeline between San Fernando Road and the southern end of the project site ~~onsite that is currently undisturbed~~. Of the 6,230 linear feet that would be graded, about 2,370 linear feet (38%) have been previously disturbed by grading. Table 4.11-1 summarizes the impacts to the Primary ridgeline. About 2,100 linear feet, or 75%, of the onsite portions of the two Secondary ridgelines would be disturbed. The Primary ridgeline that traverses the southern portion of the site in an east-west direction would be preserved as permanent open space.*

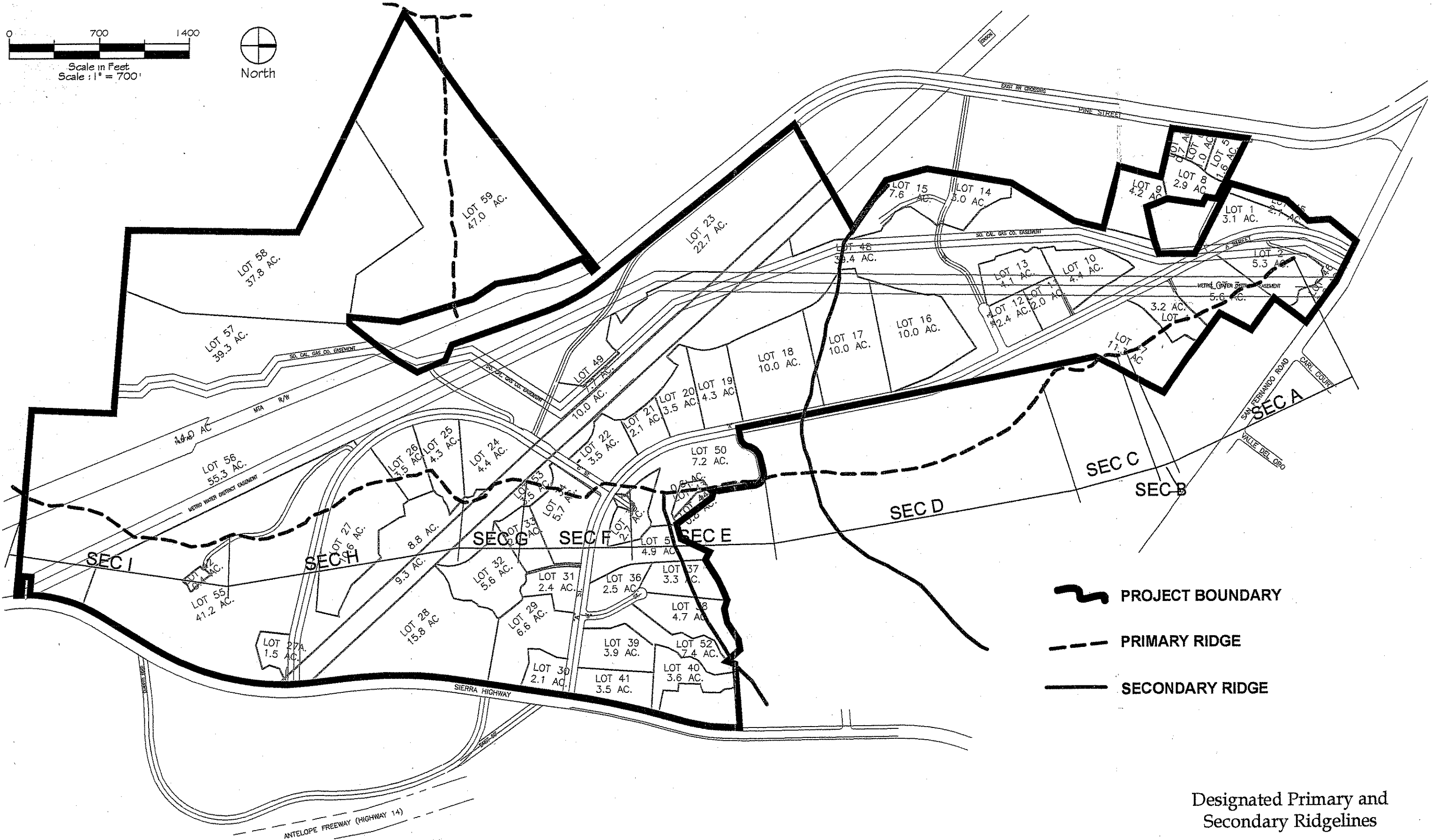
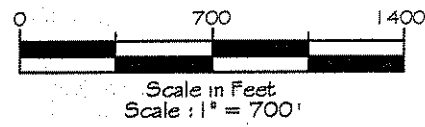
**Table 4.11-1 Summary of Primary Ridgeline Grading**


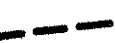
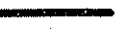
Section	Length of Section	Project Impacts		
		No Grading	To Be Graded, Not Currently Disturbed	To Be Graded, Previously Disturbed
A	1,550'			1,550'
B	90'	90'		
C	740'		740'	
D	2,420'	2,420'		
E	1,060'		1,060'	
F	820'			820'
G	560'	560'		
H	2,060'		2,060'	
I	1,630'	1,630'		
<b>Total</b>	<b>10,930'</b>	<b>4,700'</b>	<b>3,860'</b>	<b>2,370'</b>

Source: Sikand Engineering, March 2002. Section letters correspond to sections on Figure 4.11-1.

In addition, Figure 4.11-1 (attached) is revised to indicate the correct location of the Primary ridgeline onsite relative to the proposed development areas.





-  PROJECT BOUNDARY
-  PRIMARY RIDGE
-  SECONDARY RIDGE

Designated Primary and Secondary Ridgelines

Figure 4.11-1

## COMMENTORS on the DRAFT EIR

Commentors on the Draft EIR include public agencies, professional associations, citizen groups, and private individuals and businesses. They are listed below. Public agencies and interest groups are listed first, followed by individuals and businesses.

<u>Public Agency and Interest Group Commentors</u>	<u>Page No.</u>
1. Guenther W. Moskat, Chief, Planning and Environmental Analysis Section, Department of Toxic Substances Control	7
2. Henry Schultz, Santa Clarita Group Chair, Sierra Club	9
3. Cynthia Neal-Harris, First Vice-President, Santa Clarita Oak Conservancy	11
4. Cynthia Neal-Harris, Social Studies Specialist	27
5. Jeffrey M. Smith, AICP, Senior Planner, Intergovernmental Review, Southern California Association of Governments	40
6. Stephen Buswell, IGR/CEQA Branch Chief, California Department of Transportation District 7	42
7. Ruth I. Frazen, Engineering Technician, Planning & Property Management Section, County Sanitation Districts of Los Angeles County	47
8. Elizabeth Erickson, Associated Geologist, TMDL Unit, California Regional Water Quality Control Board, Los Angeles Region	51
9. Michael Berger, Chairperson, Santa Monica Mountains Conservancy	56
10. David R. Leininger, Acting Chief, Forestry Division, Prevention Bureau, County of Los Angeles Fire Department	67
11. Rory Livingston, Assistant Superintendent – Business Services, William S. Hart Union High School District	78
12. Pat Saletore, Santa Clarita Organization for Planning and the Environment	80
 <u>Private Citizen and Business Commentors</u>	
13. Tiffany Paulson	243
14. Jeremy Alexander	245
15. Christine Alexander	247
16. Christina Papio	249
17. Annie Kelley	251
18. Robert Mollet	253
19. Harry Rogers	255
20. Jose Reyna	257
21. Pat Bendrat	259
22. Raymond Ray	261
23. Steve Parsell, President, S&S Construction Services	263
24. Manny Santana	265
25. Larry Bird, Old Town Newhall Association	267





Department of Toxic Substances Control



Edwin F. Lowry, Director  
1001 "I" Street, 25<sup>th</sup> Floor  
P.O. Box 806  
Sacramento, California 95812-0806

Winston H. Hickox  
Agency Secretary  
California Environmental  
Protection Agency

Gray Davis  
Governor

1

February 4, 2002

Jeff Hogan  
City of Santa Clarita – Department of Planning and Building Services  
23920 Valencia Boulevard, Suite 300  
Santa Clarita, California 91355

Re: Tentative Tract Map 50283 – Gate King Project

The Department of Toxic Substances Control (DTSC) is in receipt of the environmental document identified above. Based on a preliminary review of this document, we have determined that additional review by our regional office will be required to fully assess any potential hazardous waste related impacts from the proposed project. The regional office and contact person listed below will be responsible for the review of this document in DTSC's role as a Responsible Agency under the California Environmental Quality Act (CEQA) and for providing any necessary comments to your office:

Sayareh Amirebrahimi  
Site Mitigation Branch  
1011 North Grandview Avenue  
Glendale, California 91201

If you have any questions concerning DTSC's involvement in the review of this environmental document, please contact the regional office contact person identified above.

Sincerely,

Guenther W. Moskat, Chief  
Planning and Environmental Analysis Section

RECEIVED  
PLANNING DIVISION

FEB 06 2002

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

Letter 1

COMMENTOR: Guenther W. Moskat, Chief, Planning and Environmental Analysis Section,  
Department of Toxic Substances Control

DATE: February 4, 2002

RESPONSE:

The commentor notes that the Department of Toxic Substances Control (DTSC) will require additional review of the project to assess potential hazardous waste related impacts. The commentor does not provide a record of the type of additional review deemed necessary. However, as described in Mitigation Measure HHS-1(a) in Section 4.8, *Human Health and Safety*, of the Draft EIR, due to the potential for several on-site areas to have soils and/or groundwater contamination that could pose a risk to human health and safety, a soil and groundwater sampling program is recommended to identify areas of contamination. As noted in the mitigation measure, "Any remedial activity shall be conducted to the satisfaction of the appropriate regulatory oversight agency (for example, the County Health Department, Department of Conservation, Regional Water Quality Control Board, Department of Toxic Substances Control)."



FROM :

PHONE NO. :

P01



3435 Wilshire Boulevard  
 Suite 320  
 Los Angeles, CA 90010-1904

(213) 387-4287 phone  
 (213) 387-5383 fax  
 www.angeles.sierraclub.org

2

3-14-02

RECEIVED  
PLANNING DIVISION

MAR 15 2002

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

Planning Dept.  
 City of Santa Clarita  
 23920 Valencia Blvd.  
 Santa Clarita, Ca. 91355

Re: Gate/King Industrial Park, SCH# 2212021121

Dear Commissions:

The Sierra club wishes to express its grave concern over the number of oaks to be removed by this project, more than any other project ever proposed in the Santa Clarita Valley and the impacts to the wildlife corridor in the Newhall Pass area.

During the City's and the Club's hard fought opposition to the Elsmere Landfill, the US Forest Service denied the use of its portion of the Elsmere/Whitney Canyon area as a landfill because of the importance of this wildlife corridor. The Service has expressed their concern to us that if the City does not protect the wildlife corridor as it develops, that would eliminate the Service's need to preserve it against a landfill as well. The sierra Club worked very hard with the City on our successful opposition to the Elsmere Landfill. These efforts must be protected as approval for this project is considered.

We concur with the Santa Monica Mountains Conservancy that the wildlife corridor is not sufficient in the proposed project configuration. Since this area provides the last link between the Santa Susanna and San Gabriel Mountain ranges, its maintenance is of vital importance to wildlife movement. With the recent passage of Prop 40 and the availability of funds to purchase just this sort of important natural open space, we suggest that the City open a dialogue with the developer and the Conservancy to discuss purchase of the Southern areas of the project proposal

Sincerely,  
 HENRY SCHULTZ  
 Santa Clarita Group Chair

Letter 2

COMMENTOR: Henry Schultz, Santa Clarita Group Chair, Sierra Club

DATE: March 14, 2002

RESPONSE:

The commentor expresses concern about the loss of oaks associated with the proposed project and the potential impacts to the wildlife movement corridor through the site. The commentor also suggests that the City consider purchase of the southern portion of the site

As described under Impact BIO-4, in Section 4.6, *Biological Resources*, of the Draft EIR, the project would directly remove up to 1,100 healthy oak trees and 709 dead or fire damaged oaks, and could indirectly disturb an estimated 551 individual oak trees, and associated habitat. This is considered an unavoidably significant impact of the proposed project. The applicant would be required to obtain a permit from the City for the removal of on-site oak trees, and comply with the provisions of the permit. In addition, the applicant would be required to implement mitigation measures BIO-4(a) and BIO-4(b), which require the development of an oak tree mitigation program that specifies replacement tree planting, maintenance and monitoring of on-site oak trees.

The proposed project includes dedication of about 220 acres in the southern portion of the site as permanent open space. However, as discussed under Impact BIO-7, the impact to wildlife movement is considered significant due to the placement of 'C' Street and associated industrial commercial lots adjacent to the Los Piñetos wildlife crossing in the southern portion of the site. Although the proposed development would not be expected to preclude movement of wildlife through the southern portion of the site, the placement of development in close proximity to this crossing would be expected to make crossing through the site more difficult and hazardous for wildlife. This was determined to be an unavoidably significant impact of the project that would require the City to make a Statement of Overriding Considerations setting forth the reasons the project's benefits outweigh this impact if it were to approve the project as proposed. Section 6.0 of the EIR includes analysis of three alternatives that would remove portions or all of 'C' Street and associated development lots, thus reducing the impact to the Los Piñetos crossing to a level considered less than significant.





Santa Clarita Oak Conservancy

P.O. Box 800520

Santa Clarita, CA 91380

3

RECEIVED  
PLANNING DIVISION

MAR 17 2002

March 12, 2002

Jeff Hogan,  
Associate Planner, Project Manager  
Department of Planning and Building Services  
City of Santa Clarita  
23920 Valencia Boulevard, Suite 302  
Santa Clarita, CA 91355

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

RE: Gates King Project, Master Case # 99-264, TTM 50283, GP  
Amendment 99-003, ZC99002, OAK TREE PERMIT 99-029, CUP 99-013,  
Hillside Review 99-004, and Development 99-002, and SCH 2001021121

Dear Jeff:

The Santa Clarita Oak Conservancy has met with Mr. Mark Gates to discuss concerns about the Oak Tree map and report. We will continue to give testimony at public hearings and follow up with discussions with Mr. Gates. Some of our concerns are the following:

1. Oak tree removal totals
2. Live trees within the burn area listed as "Strong Fire Damage"
3. Heritage Oak Trees
4. "100 oak tree bank"
5. Oak trees listed and shown on the map and not indicated in the report
6. Oak trees not on the map but listed in the report
7. The terms "within grading limits", "encroachment", "buffer area", "affected", and "Fire damaged" MUST STILL BE clarified.
8. Conflicting maps with oral discussions and February 19, 2002 presentation to S.C. Planning Commission
9. SOD
10. Creation of terminology to retain the oak trees preserved on this property so a different property owner will not be issued additional oak tree removal permits in the future.

3A

- 10. Creation of terminology to retain the oak trees preserved on this property so a different property owner will not be issued additional oak tree removal permits in the future.
- 11. Creation of streets A, B, C, and others that retain the original oak trees in meandering right-of-ways with wide medians. The use of crib walls, open-pavers, meandering sidewalks, the use of trails and paths, reducing the total number of oak tree removals and replacing an Native California Oak Tree with ONLY Native California Oaks Trees, removing only permitted the trees in one phase at a time and not until all other requirements are accomplished on the property, will greatly increase the possibility of a successful project we all can look upon with pride.

3B

3C

Examples:

# 1. Total live oak trees to be removed	1000
Dead/strong fire damaged trees	709
Previously removed trees	64
"Buffer" live trees	336
"Buffer dead /strong fire damaged	215
"Tree Oak Bank"	100

30

Total trees to be effected by this project 2424

It is unclear to what extent that the "buffered" trees will be encroached or removed. As per March 14, 2002 Mr. Gates explained that if the tree was on the down hill side of the slope then the encroachment would be 50 feet and if the tree was on the upper hill the encroachment would 100 feet.

# 2. "Oak Experts" as well as the Santa Clarita Oak Conservancy strongly believe that many trees within the "Burn area" can and will return to a healthy status with in two growing seasons. "Dead or Strong Fire Damage Agrifolia" to be removed is 709 from this category. The number of "live"

3E

trees that could have a healthy prospective life totals more than 364

Agrifolia {not including Berbers}. The HERITAGE OAK tree # 104 with four trunks of 74 inches, 66 inches, 60 inches, and 38 inches standing 50 feet tall with a "C" grade for trunk quality and a "B-" grade over all grade is certainly an example. The Oak Tree Report list 709 trees as "Burned or dead" however the report list many trees as "D" condition or better. Some

live oak trees are numbers 67-70, 74, 78, 101 (with "C" grade of unknown trunk size standing at 45 feet tall having a "C" trunk quality and "B" Foliage Quality "less damage +broom"), #113-115, 122 {"C" GRADE with trunks 38, 39, 31, 33, & 32 inches---"C+ for trunk quality and "B" for foliage quality} #130{may have Heritage status} 131, trees # 132 @ 38 inches, # 133 @ 39& 25 inches, and # 134 @ 27 inches, 223-225, 228, 230, 232-234, #266 @ 45 inch diameter standing 28 feet tall with "C" trunk quality and "B" with foliage quality, 272, 277, 278, 294, 303-311, 321, 322, 328, 329, 340-342, 344, 348, 350, 351, 352, 355, 367, 368, 370, 371, 373, 374, 375, 377-379, 382-386, 389-391, 396, 397, 399, 400, 402, 404, 407, 409, 414, 418, 421 @ "C+ tree), 425-430, 435, 437, 439-441, 447-449, 452, 455-457, 460, 462-477, 479-482, #485, 490, 493, 494, 502, 509, 512 may be Heritage size, 514, 516, 517, 521-523, 530, 531, 550-558, 600A, 600 F, 1007 B, 1014, 1027, 1102 C, 1415, 1431, 1513 E, 1751, 1764 X, 1785, 1801, 1855, 1857, 1865, 1893, 1899, 2122E, 2215D, 2290, 2292, 2319, 2322, 2336, 2344, 2346-2348, 2351, 2355, 2425, 2429-2437, 2443, 2450, 2476, 2479, 2480, 2675, 2681, 2683, 2685, 2689, 2692, 2696, 2756, 2761, 2765, 2774, 2775, 2779, 2781, 2785, 2786, 2791, 2792, 2797, 2803, 2807, 2829, 2830, 2835, 2844, 2845, 2856, 2858, 2862, 2896, 2897, 2904, 2923, 2952, 2966, 3341(no grade?), 3342-3342B, 3345B, C, 3347, B, 3350A, 3355? 3360, 3362 B, 3413, 3416, 3444, 3455, 3497, 3827, 3867, 2434, 4253, 4255, 4268, 4276-4280, 4283, 4287, 4292, 4293, 4297, 4299, 4300-4302, 4305, 4308, 4313, 4320, 4321, 4328-4331, 4332, 4333, 4339, 4068B, 4069-4075, 4340-4343, 4343 X, 4344, 4345, 4346, 4347, 4350, 4475, 4480, 4487, 5446, 4549, 4550, 4704, 4745, 4747, 4751-4753, 4755, 4811, 4812, 4817, 4818, and tree #4823. We strongly believe as do other "Oak tree experts" that those trees listed as "C-, D" or better can and are surviving. We request an independent City of Santa Clarita "Oak Tree expert" review the "Strong Fire Damage Agrifolia."

# 3. The map and oak report list only two Heritage Oak trees to be removed however when reviewed the real number is beyond that. The example of a HERITAGE OAK REMOVAL not on the report is tree # 4267 with 105 inches and 106-inch trunks. This oak tree stands 60 feet tall with an "A" grade condition for trunk quality and a "C" grade for foliage quality. Other possible examples are Oak Trees # 53, 66, 554, 556, 575, 591, 69, 102, {1082, lot 28 }, 2100, 2101, 2102, 2134. It is not clear if the tree # 600 B and #3420 is really dead? Additional possible Heritage Oak Trees are 4253, 4281, and 2322.

3E  
(Cont'd)

3F

# 4. In the "Oak Bank of 100 trees" it is not clear that these trees will be removed, where they are located, or why additional trees would need to be removed. Which trees are to be in this "bank?" Should not the numbers be listed and the location and ID #s of these trees be listed?

30

#5 & 6: Oak Trees not included in report:

2217-2248

2251-2273

2493-2620

3463-3356

3475-3481

3497-4030

34

Oak trees # 2261 and 2264 are heritage trees, on the map but not in report. Oak trees #2283-2308 are on the map however they are missing from the report.

Mr. Gates took this question on March 13, 2002 to find an answer to the missing "plug" on the map and oak tree report.

Heritage oak trees # 1, 7, 9, 10, 11 appear in the road way off Pine Street between lot 14 and 15. Mr. Gates will report the status of these trees. He told Mrs. Harris that this lot 14/15 road would be gated at the cull-d-sac on Street E and would be used for fire engines only. Our request is that the lot 14/15 road be moved to the south to save trees # 66-86. If this road were to be only used by the fire department we would like to see "open-pavers" used under the drip line. If this roadway must encroach on the trees we ask that asphalt or cement not be used

Lot # 15 May contain as many as 10 Heritage Oak trees on this location. Those Heritage trees are # 99, 100, 102, 104, 108, 117, 135, 137, 181, 190, 202, Mr. Gates has assured the Santa Clarita Oak Conservancy that all the trees will remain.

Mr. Gates is reviewing the Santa Clarita Valley Oak Conservancy's request to reduce the start or "top" of the grading between lot 2 and lot 46 to save oak trees # 4219, 4234, 4251, and 4250. In addition Heritage Oak Tree #4252 could remain as a center-piece by placing the road "A" to go around by creating a median as well as saving oak trees # 4253-4258.



Lot # 9 seems possible to save additional oak trees by using "crib wall construction on the eastern side of this lot for the sixty foot cut. Trees # 4473-4479 and trees 4481, 4482-4488, 4547-4551 could be saved.

3H  
(Cont'd)

Lot # 47 and 4 offer an excellent opportunity to save oak trees # 4268-4270, 4703-4709, 4271-4274, 4276-4278, and 4748-4776 by starting the top of the grading west of the oak grove. Oak trees # 4292-4299A, B, C, on the west boundary of lot 47 and the Kinnen Property would also be saved.

Lot # 28 on the Southern California Edison right of way oak trees 1407-1416 and the trees 1417 toward the northeast must be saved for the wild life corridor.

# 7 See above

3I

#8.

The oak tree report and map reflect the removal of trees #4205, 4206, 4207, 4208, and 4210 however in the presentation by Mr. Gates on February 19, 2002 to the Santa Clarita Planning commission the slides show depicted a different entrance from San Fernando Road. It is unclear if oak trees # 4201-4204 will now be in jepurdity with the "changed" entrance. Mr. Gates in a call to Mrs. Harris on March 11, 2002 reconfirmed that the Oak Conservancy has the correct current Oak Tree Map. The Santa Clarita Oak Conservancy is always concerned when maps do not reflect the real true plans of the development. In a meeting with Mrs. Harris on March 14, 2002, Mr. Gates will give a "revision" to the Santa Clarita Oak Conservancy that will be current of the "verbal" plans for the project.

3J

# 9. SOD: The California Oak Foundation and the California Coast and Ocean Coastal Conservancy have issued urgent alerts of the Mysterious Sudden Oak Death Epidemic. The California Department of Forestry and Fire Protection, the California Forest Pest Council, and the U.S. Forest Service have all expressed that a moratorium on the additional removal of any oak trees in the state be issued until the cause and a cure of the disease is established. "Tens of thousands of native oaks have already been lost to SOD."

3K

One Solution:

California State Measure 40 passed in March 5, 2002. The Santa Monica Mountains Conservancy and the City of Santa Clarita have funds to join with the Santa Clarita Oak Conservancy to "preserve open space; to protect wildlife habitat; to restore historical and cultural resources" by purchasing the southwestern heavy oak wooded area of the Neeedham Ranch property. With Mr. Gates' desire to DONATE over 250 acres of open space to the City of Santa Clarita instead of paying the \$500,000 fine owed to the city for illegally cutting 64 Oak trees it would seem only natural that the community, the wildlife, and the developer would greatly benefit by creating The Gates Natural Oak Tree Preserve and hiking trails dedicated to the children of our City and our Nation.

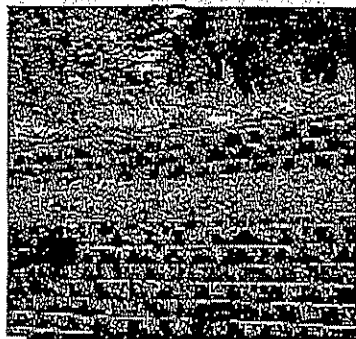
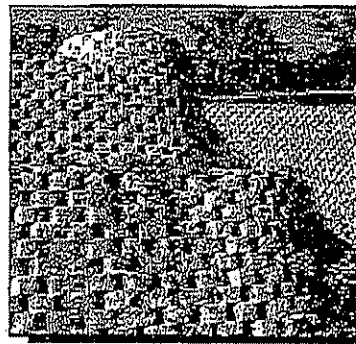
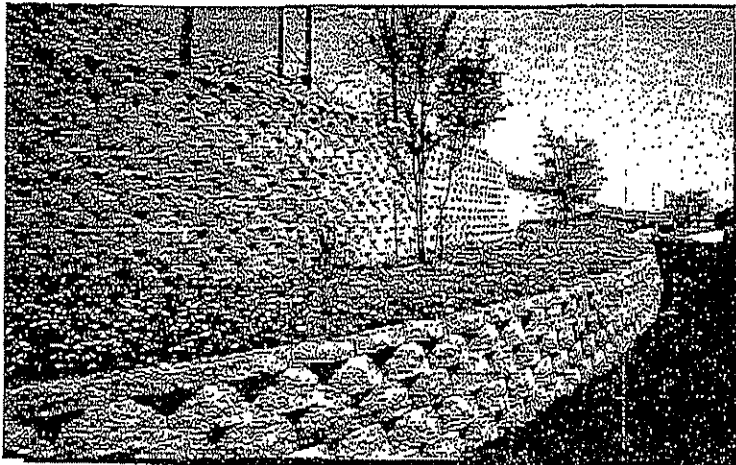
3L

We look forward to our continued discussion concerning this property.

Very truly yours,

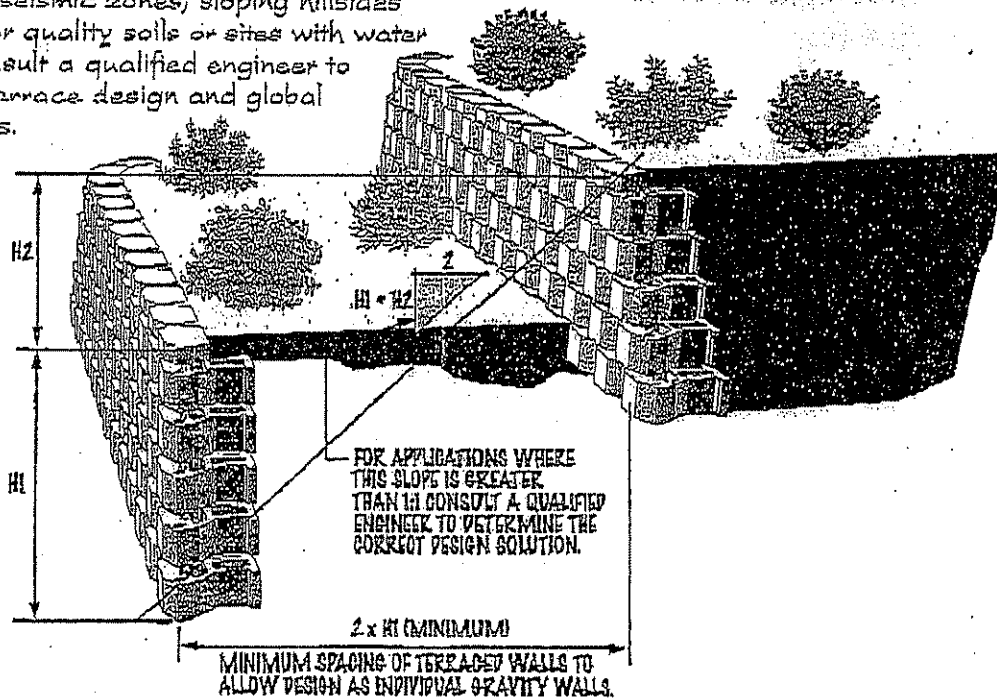
Cynthia Neal-Harris  
First Vice-President

# T E R R A C E S



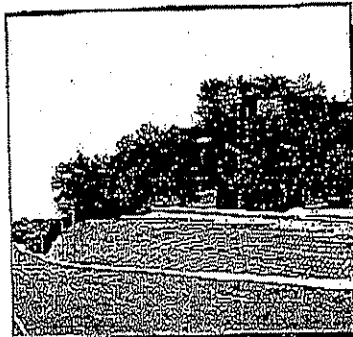
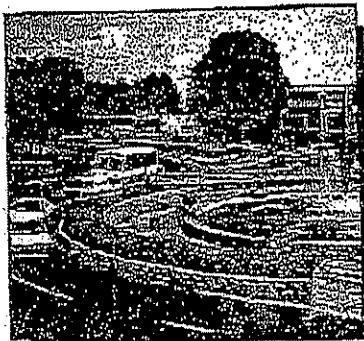
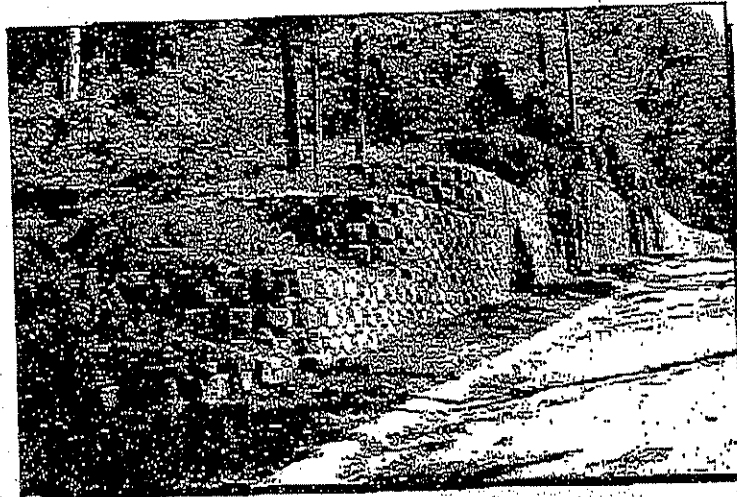
▲ As a rule of thumb, in order for the upper terrace wall to not cause loading on the lower terrace wall, the minimum distance between the wall terraces must be at least equal to twice the height of the lower wall.

▲ If there isn't enough room to space the terraces according to this rule, don't worry! The wall can still be built, but the effect of the upper terrace on the lower terrace and overall stability must be taken into account when designing the total wall section. For critical applications, seismic zones, sloping hillsides sites with poor quality soils or sites with water influence, consult a qualified engineer to analyze the terrace design and global stability issues.

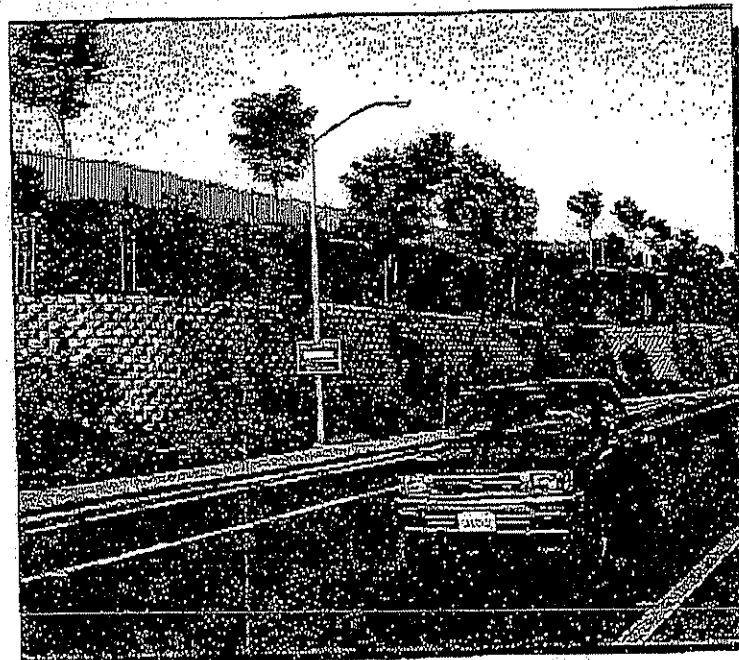


# R O A D W A Y

▲ The Keystone difference is its outer beauty and inner strength.



Keystone's patented, interlocking, fiberglass pin system assures positive connection between the structural wall unit and the soil reinforcement. The combination of Keystone units, positive pin connections, and soil reinforcing geogrids delivers rock-solid stability and performance.



Letter 3

COMMENTOR: Cynthia Neal-Harris, First Vice-President, Santa Clarita Oak Conservancy

DATE: March 12, 2002

RESPONSE:

Response 3A

This comment summarizes concerns presented in greater detail in subsequent comments. Refer to Responses 3B through 3L.

Response 3B

All mitigation measures recommended in the Draft EIR and permitting requirements of the project, including long-term replacement, maintenance and monitoring of on-site oak trees under Mitigation Measure BIO-4(a), would apply to future property owners and/or site developers if the ownership of the property were to be transferred to another party. That is, the mitigation measures and permits would run with the property and proposed project, regardless of the specific site owner or developer. Any future oak tree removals not considered under the currently proposed project would require additional environmental review by, and permits from, the City.

Response 3C

The commentor recommends reconfiguring streets A, B, C, and others to retain existing oaks, to use crib walls, open-pavers, meandering sidewalks, the use of trails and paths, reducing the total number of oaks removed, and replacing removed oak trees with native trees. The commentor also suggests a phased approach to tree removal.

These suggestions are noted. The project currently proposed is a tentative tract map for the entire 584-acre site. As such, the analysis of impacts to oak trees considers the maximum potential impact in order to provide a "worst case" estimate of possible oak tree removals. As noted under Impact BIO-4, impacts to oak trees and associated oak woodland habitat are considered unavoidably significant.

Specific approaches to developing individual parcels onsite have not been finalized at this time, but may include some of the ideas noted by the commentor. Implementation of the techniques suggested by the commentor could reduce the number of oak trees to be removed in some cases. The applicant's proposal includes a network of trails, as shown on Figure 2-8 in Section 2.0, *Project Description*. The project would also be built in phases, as discussed in Section 2.0 and shown on Figure 2-7. Mitigation Measure BIO-4(a) requires the applicant to develop an oak tree mitigation program that complies with the City's Oak Tree Ordinance, which includes obtaining an oak tree removal permit from the City. Per Mitigation Measure BIO-4(a), the applicant must identify specific protective measures for protecting and maintaining all remaining oaks, in accordance with the City's Oak Tree Ordinance. Specific measures to

minimize oak tree impacts will be identified in the mitigation program and may include use of meandering sidewalks, crib walls, and open-pavers as suggested.

In response to this comment, Mitigation Measure BIO-4(a), third bullet point, is revised to add the following:

- (6) *All native California oak trees removed as a result of project implementation shall be replaced with in-kind native California oak tree specimens obtained from regional (i.e., Santa Clarita Valley) stock."*

### Response 3D

The commentor summarizes the total number of oak trees proposed for removal as a result of project implementation. Oaks within 50 feet above any proposed fill, and 150 feet below any cut slopes were included in the initial oak tree survey. Therefore, as described in Section 4.6, *Biological Resources*, of the Draft EIR, it was determined that trees located within a 50-150 foot buffer area around the proposed grading envelope could be indirectly affected by encroachment into the tree canopy, modified drainage, tree trimming, or inadvertent damage or removal during construction in the adjacent grading footprint. This is considered an adequate impact buffer zone within which indirect impacts to oaks could occur. It is assumed as a worst-case estimate that all of the 551 (5%) oak trees within this buffer area could be indirectly affected by project construction and grading activities. Approximately 492 of these trees are coast live oaks and 59 are scrub oaks, which represent 5% and 6% of all coast live oaks and scrub oaks found within the project area, respectively. Approximately 336 of the oak trees that may be affected in this area are considered healthy and represent removal of 3% of all healthy oaks on-site. Approximately 215 of the oaks trees are dead or fire damaged, which represents 20% of all dead/fire-damaged trees on-site. These impact totals include four (18%) of the 22 previously identified on-site heritage trees.

### Response 3E

The commentor notes that many fire-damaged trees may return to a healthy status within two growing seasons. It is true that some of the fire damaged trees may recover after a period of time; however, many of these trees would not be considered aesthetically appropriate for the proposed development, or could be a hazard due to their potentially weakened condition. The Draft EIR determined that the fire damage classifications by the Needham Ranch Oak Tree Survey prepared by Dr. James Henrickson were adequate since this inventory reflected the conditions present at the time of the survey. Although some trees may have recovered since the time of the survey, it is equally possible that other trees may have died over that same time period.

As noted in Section 4.6, *Biological Resources*, oak trees, both live and dead, provide habitat for vegetation and wildlife. As discussed under Impact BIO-4, although feasible mitigation was applied, impacts to oak trees and associated habitat (including oak trees classified as dead or fire damaged) are considered unavoidably significant. The City would need to adopt a Statement of Overriding Considerations setting forth the reasons why the project's benefits outweigh this impact if it elects to approve the project.

Response 3F

The commentor states an opinion that several additional on-site oak trees should have been classified as heritage trees. In response to this comment, the applicant's oak tree consultant reevaluated the trees noted by the commentor and, in each case, determined that the trees did not fall under the category of a heritage tree as defined by the City's Oak Tree Preservation and Protection Guidelines. As outlined in Mitigation Measure BIO-4(a), the applicant would need to obtain an oak tree permit from the City prior to any removals. In conjunction with review of that permit application, the City arborist would review the determinations of the applicant's final oak tree survey to verify its accuracy and develop appropriate specific mitigation. It should also again be noted that the Draft EIR identifies impacts to oak trees and oak woodland habitat as unavoidably significant. The City would need to adopt a Statement of Overriding Considerations setting forth the reasons why the project's benefits outweigh this impact if it elects to approve the project.

Response 3G

The commentor states that it is not clear what the oak tree bank is and why up to 100 additional trees beyond those specified in the oak tree survey may be removed. As noted in Section 4.6, *Biological Resources*, on-site grading could affect additional trees outside but adjacent to the grading envelope for the project (trees within the 50/150-foot buffer zone). The applicant has proposed an "oak tree mitigation bank" that would allow the removal of up to 100 additional trees beyond that approximately 1,000 trees within the proposed grading envelope in recognition of the fact that certain trees outside the current grading envelope may be affected by site development. The purpose of this "bank" is to ensure that the EIR does not underestimate the actual number of trees to be removed by providing a worst-case estimate. As noted under Impact BIO-4, the 100-tree bank would bring the total number of live oak tree removals to 1,100.

Response 3H

The commentor lists what she believes are potential discrepancies in the oak tree report for the project, and notes several redesign and protective recommendations to save or protect potentially impacted oak trees. The applicant has indicated that his consultant is amending his oak tree report to include the trees listed by the commentor. It should be noted, however, that this discrepancy in the applicant's oak tree report does not affect the findings or conclusions of the Draft EIR with respect to oak tree impacts as the total number of oak removals is not affected by this correction. The attached letter from the applicant provides specific responses to several questions about individual oak trees.

Mitigation Measure BIO-4(a) requires the applicant to submit a final map, corresponding spreadsheet, and impact summary table indicating all oaks to be removed from the final approved project. Any revisions to proposed oak tree removals during subsequent discussions with the City would be required to be included in this submittal, and their removal would need to be permitted pursuant to the City's Oak Tree Preservation Ordinance. Per Mitigation Measure BIO-4(a), the applicant must also identify specific protective measures for protecting and maintaining all oaks within potential encroachment areas, in accordance with the City's Oak Tree Ordinance. Implementation of this mitigation measure would reduce project impacts

to the extent feasible. Nevertheless, impacts related to oak trees and oak woodland habitat would remain unavoidably significant.

As suggested by the commentor, removal of additional lots from development would reduce the overall loss of onsite oak trees. Section 6.0 of the EIR analyzes an alternative (Alternative 4 – Oak Tree Preservation) that would preserve lots 9 and 28, which are specifically mentioned by the commentor. As the commentor notes, preservation of lot 28 as open space would also avoid the significant impact to the Los Piñetos wildlife crossing.

Response 3I

The commentor refers to her earlier comments about the accuracy of the oak tree report and possible ways to save additional oak trees. Please see Response 3H.

Response 3I

Please see Response 3H.

Response 3K

The commentor suggests that several agencies have issued a moratorium on the removal of oak trees because of the Sudden Oak Death (SOD) epidemic. Although it is true that native oaks have been lost to SOD in recent years in portions of Northern California, neither the California Department of Forestry and Fire Protection, California Forest Pest Council, nor the U.S. Forest Service has issued a state-wide moratorium on the removal of oak trees. According to the California Oak Mortality Task Force (“Distribution of Sudden Oak Death in California as of April 9, 2002”), no counties south of Monterey County, including Los Angeles County, are considered confirmed SOD-Infested counties.

Response 3L

The commentor states an opinion that California State Measure 40 funds could be used in combination with other funding sources to purchase portions of the project site that contain oak wooded areas. While purchase of the wooded areas of the site would represent one potential option for preserving on-site oak trees, this is not proposed by the applicant. The applicant is proposing to dedicate approximately 220 acres of the site containing more than 90% of the oaks onsite as permanent open space. It should be noted that the application of State Measure 40 funds to the proposed project are not guaranteed by right, and therefore would be speculative and inappropriate mitigation for project impacts.



# THE NEEDHAM RANCH AT SANTA CLARITA

April 10, 2002

Santa Clarita Oak Conservancy  
P.O. Box 800520  
Santa Clarita, CA 91320

Dear Cynthia,

RE: Gate King Project Needham Ranch

We appreciate the opportunity to work with you and the Santa Clarita Oak Tree Conservancy with regards to the oak trees on the Needham Ranch. We have received your letter dated March 12, 2002 and pursuant to our ongoing discussions have attempted to provide answers and clarification as appropriate. We have addressed the items in your letter in the order set forth therein.

Item 1:

Total live oaks to be removed	696
Total scrub oaks to be removed	304
Total dead/strong fire damage trees be removed as per Greeley/Tate	709
Total live oaks removed without permit	64
Oak tree bank	100

The City of Santa Clarita requested that we include in the oak tree survey not only all oak trees within the area we planned to grade, but to include all oaks 50 feet above any fill area and 150 feet below any cut. These trees will not be removed, but are considered within the buffer zone and will be provided with appropriate protection during the grading process.

Item 2:

I understand and appreciate your comment regarding the oak trees located in the "burn area". Likewise, I am sure that you can appreciate that if you and I were to survey the oak trees within the non-burned areas we would find trees that have died or changed condition since the survey for an oak woodland is not static, but dynamic and ever-changing. An oak tree survey is a snapshot of the oak woodland at a point in time. A review of the portion of the oak woodland severely impacted by fire several years following the initial survey will undoubtedly show that some oaks that appeared healthy have died because the fire weakened them and made them more susceptible to disease and drought while others have recovered and appear healthy. This does not mean that the survey was incorrect, but only that one cannot anticipate with precision the impact of climate, time or disease on specific trees that have been impacted by fire. On the other

Santa Clarita Oak Conservancy  
 April 10, 2002  
 Page 2

hand, a review by our arborist, Robert Tate, indicates that while a specific tree may change over time and be categorized differently as indicated above the total number of trees falling within each category will generally remain the same.

We have carefully checked the Oak Tree Report Comments regarding each oak that you felt might be classified as Heritage and found that in each case they did not fall within that category as dictated by the Oak Tree Preservation and Protection Guidelines. With respect to the other oaks enumerated in your letter under #2 we feel that on the basis of the review of Robert Tate there is no need for another survey. I am sure that you appreciate that oak tree surveys are very arduous, time consuming and expensive.

Item 3:

Tree number:	Condition:
4267	Dead.
53,66	Will not be removed.
554, 556, 575, 591, 69, 102	Not Heritage trees, will be removed.
2100-2102, 2134, 1082	Not scheduled for removal
600B	Dead as a result of the fire.
3420	Dead as a result of the fire.
4253	Not a Heritage tree, will be removed.
4281	Not a Heritage tree; dead.
2322	Not a Heritage tree; has strong fire damage and will be removed.

Item 4:

Oak Tree Bank: With changes to the grading plan that have occurred subsequent to the Oak Tree Survey and will continue to occur, plus the potential that live oak trees within the buffer zone may be adversely impacted by grading, a "bank" of trees is necessary with the understanding that none of the live oaks will be Heritage Trees.

Items 5 and 6:

The Report has been amended to include the oaks listed in the first paragraph, although only trees 4005-10 are to be removed. "Trees # 3463-3356" appears to be a typographical error for which we are awaiting clarification from you.

I delivered the missing portion of the Map to you on March 19.

Santa Clarita Oak Conservancy  
 April 10, 2002  
 Page 3

Tree number:	Designation:
2261, 2264	Not Heritage trees and are not scheduled for removal.
2283-2308	Inadvertently omitted, are now included in the report.
1, 7, 9, 10, 11	These trees will not be removed. "E" Street is shown on the Plan as gated and only for fire access.
67-72, 74, 78, 86 (fire damaged), 77, 83, 85 (healthy)	"E" Street can be moved to the south and save these trees.
66, 99, 135	These are Heritage trees and will not be removed.
100	Will not be removed
102	Strong fire damage and to be removed.
104	Has been moved to the buffer area.
202	A Heritage tree, not to be removed.
#108, 117, 137, 181, 190	To be removed and not Heritage oaks.
138-141	Trees to be removed because of changes to road alignment to preserve oaks noted above.
4252 and 4205 (Heritage oaks) 4201-4204 4255-4258 4206-8, 4210	4252 and 4205 (Heritage oaks) will not be removed because of the realignment of "A" Street, however the realignment, grade of the road and the necessary driveway to access Lot 2 preclude saving oaks #4255-4258 as well as oaks #4206-8 and 4210.
4249	The westerly property line of Lot 2 will be moved to save oak #4249, however, the other trees between Lots 2 and 46 cannot be saved without constructing a wall between 10-15', which would be prohibitively expensive.
Lot 9	The necessary grading to develop this lot precludes saving the oaks located in the middle of the lot.
Lots 47 and 4 4707, 4706, 4721, 4722, 4744-48, 4752, 4754, 4755, 4771, 4772, 4772	See new Tentative Tract Map realignment showing these oaks will be retained.
4294-A, 4294-B, 4294, 4295, 4295-D, 4296	Additional removals for a net saving of 9 trees.
Lot 28	See the Needham Ranch proposed wildlife corridor improvements.
1407-10	Will not be removed.
1411-13, 1415-16	To be removed.

Item 7:

See Items 1 and 2.

Santa Clarita Oak Conservancy  
April 10, 2002  
Page 4

Item 8:

We believe that with the revised Tentative Map Plan and the notes contained in Items 5 and 6 the remaining issues are covered.

We have forwarded to you additional information describing open pavers that can be used to protect oaks when pavement is proposed under the dripline. Please note the expense of these pavers.

If you have any additional questions, please give me a call.

Sincerely,

Mark T. Gates, Jr.

4

February 28, 2002

RECEIVED  
PLANNING DIVISION

MAR 1 2002

Jeff Hogan,  
Associate Planner, Project Manager  
Department of Planning and Building Services  
City of Santa Clarita  
23920 Valencia Boulevard, Suite 302  
Santa Clarita, CA 91355

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

RE: Gates King Project, Master Case # 99-264, TTM 50283, GP  
Amendment 99-003, ZC99002, OAK TREE PERMIT 99-029, CUP 99-013,  
Hillside Review 99-004, and Development 99-002, and SCH 2001021121

Dear Jeff:

In reference to our phone calls on February 20, 2002, my testimony on  
February 19, 2002 and the Santa Clarita Oak Conservancy's letter to Lisa  
Hardy on March 30, 2001, I would like the following data to be entered into  
the above case{s}.

Primary Sources used for this paper:

A. B. Perkins, The Story of Our Valley.  
Remi Nadeau, City Makers, Story of Southern California's First Boom,  
1868-1876.  
Thomas W. Chinn, A History of the Chinese in California, 1855-1876.  
Article by A.W. Lyon, son of the late Sanford Lyon, in Los Angeles "Daily  
News, May, 1940.  
Los Angeles "Evening Express", December 29, 1876.  
The Hopkins Collection at Stanford University, "Lands of Southern Pacific  
Railroad of California", June 1, 1877, 1880, 1882, 1883. Jerome Madden,  
Land Agent.  
Edward Hall, The Great West: Railroads, Steamboat, and Stage Guide for  
Travels, 1866.  
Topographical map of Newhall Quadrangle, 1925 & 1929 by E.P. Davis

## LYONS STAGECOACH STATION:

Lyons Station was located at the junction of old Highway 6 and San Fernando Road and marked only by the graveyard at Needham ranch. The name of the stage stop reflected the current name of the stage tenders at different dates; "Fountain's, Harts, Hosmers, Andrews, Lyons, and others. The stage station served the Butterfield and Overland Stage Route from the early 1850's. The original wagon road continued south following the Native American trails up Elsmere Canyon and down Grapevine Road to the San Fernando Mission/Lopez Station. General Edward Fitzgerald Beale contracted with the Los Angeles commissioners W.J. B. Sanford, J.J. Gibbons, Francis Mellis and W.A. Tucker to continue to enlarge the "Cut" from 1861 until finished in 1863 for \$18,000.00. The "Cut" served as the gateway toll from San Fernando to Santa Clarita {The Little Santa Clara} until after 1886 when it became part of the free county road system in 1910. Lyons Station was 8.79 miles from San Fernando Mission/Lopez State station. Cyrus and Sanford Lyons were still operating the station in 1856. In 1875 Lyons Station was described as; "The station proper is well-constructed frame building about 30x60 feet, answering the purpose of a store, post office, telegraph office, stage depot and tavern, being altogether the head center of the adjacent valley. Besides this, there is a large stable, and back toward the foothills on the West ( the Needham Ranch, just north of the cemetery) a little cottage half hid by a grove of Mountain Oak (trees)." The early Los Angeles County Directory in the 1870's registered 20 men from Lyons Station." This was the very beginning of our Santa Clarita Valley seat of government. The first post office of the Santa Clarita was commissioned at Lyons Station in 1874 until it was discontinued in 1879. Mr. and Mr. Tom MacAlonan were the toll keepers in 1875 and lived in the five-room whitewashed adobe. Two bedrooms flanked a living room on the east front, shaded by a porch. A counter-weighted pole was fastened to a porch pillar. The last stage may have run through the "Cut" in April of 1877. George R. Dilly was the last stage station operator of Lyons Station who advertised; "The undersigned has operated a fine and commodious hotel at Lyons's Station, about a half mile for the railroad, where he can accommodate guest in the most satisfactory style. The location is one of the most picturesque and healthiest in Southern California and there is good hunting in the immediate vicinity. Prices are very moderate. George R. Dilly"

The reference to the railroad of being "about a half of a mile away" was the fact that there was a rail stop on the backside of Lyons Stagecoach Station. During the construction of the railroad tunnel the stop was called "Andrews", "The Tunnel Post Office", and in the 1925 and 1929 U.S.G.S. survey map it is listed as "Waltz". This site was on Railroad Canyon/Pine Street near the railroad tunnel.

Note the "City of Golden Dreams" Mural located in City Hall by Miguel Angel Ramirez: "...depicts the historical events, locations, and citizens that helped shape the backbone of our Community"  
Stanford Lyons is one of the "History Makers" and is listed as the "Founder of Lyons' Station with his twin brother allowing the valley to grow and prosper. The station catered to the infamous Butterfield Overland Express. He continued to prosper with gold mines, oil, farming, and other ventures. He lived from 1831 to 1882."  
His picture is center left in the mural.

### SAN FERNANDO/NEWHALL RAILROAD TUNNEL:

Mr. Frank Frates was the superintendent of the construction of the massive 6,697 foot railroad tunnel that was to connect Los Angeles with the rest of the nation on September 5, 1876 at little Lang railroad stop. {Near Shadow Pine off-ramp off the 14 freeway and Ben Curtis' Gravel Plant}.  
The tunnel was started in March of 1875 with 330 Chinese "laborers" however when the tunnel was 'daylighted' on July 14, 1876 there were over 1000 Chinese man working for a dollar a day in the muck and mud. The newspapers of the time describe the work as "extremely dangerously".  
The oil and water along with the hot steam in poorly ventilated shafts created hazarded conditions. There were frequent cave ins. The Chinese set the explosives and ran for their lives. Some did not make it out. The number of Chinese who lost their lives building the Newhall Tunnel is obstured by the urgency of Frank Frates and his assistant, John T. Gifford as they raced to put the little Los Angeles on the railroad map. The term that does appear over and over in sources is "uncounted casualties". It comes to the question of not how many but WHERE were they buried? The many sources along with 'ole timers' believe the Chinese were buried under the old oak grove of trees near the east railroad tunnel entrance on this property.

The Santa Clarita Valley Historical has in its possession a wooden collar worn by one of the Chinese workers as he carried the dirt out of the tunnel on his shoulders. Betty Pember and Lloyd Houlton donated it. The Chinese DID build the tunnel, some were killed {unknown numbers} and they were buried on the Gates Property. The bodies were not part of the repatriation of the 1870's. {Central Pacific did exhume bodies and did send them back to China however there are not records of that happening with Southern Pacific here.}

### PIONEER OIL REFINERY. The oldest existing refinery in the world:

The following information is from Santa Clarita Valley of the Golden Dream by Jerry Reynolds, 1992.

"The directors of the Star Oil Company decided that the best place for a refinery would be at the Lyon's Station since it sat on the north-south stage route and was the probable location of the future railroad. Star Oil contracted Captain W.S. Smith to build a 15-barrel still, {at Lyon's Stage Station} which was completed in April 1874. The operation was not profitable, so a second 20-barrel tank was constructed in order to increase production. This only increased the financial problems, so Lyons Refinery, along with Star oil, promptly went bankrupt.

Meanwhile, during the year of 1875, a crafty man by the name of Andrew Kazlinski set up a rival stage stop in Railroad Canyon, which seemed like a rather out-of-the-way place to do business. Before long, however, the railroad was laying tracks right through the front yard of Andrew's Station, as it was called, and oil men for the east were swarming all over the valley, intent on building a newer, larger refinery.

On July 8, 1876, California Star Oil Company (CSO) was born in San Francisco, taking over the old defunct Star Oil Company and buying up the leases in Pico and other canyons, including Elsmere. The company's general manager, Demetrius G. Scofield, sent back to Titusville, Pennsylvania, for a highly successful refiner by the name of Denton Cyrus Scott.

Assisted by a driller named W.E. Youle and a fellow named Wood, D.C. Scott moved the two old stills from Lyon's {Station} to Andrew's Station, So that by the end of July they were producing 24 to 40 barrels of refined product per day. It was the first practical refinery in California.



Demetrius Scofield was so impressed that he headed east in January of 1877, returning with a 120-barrel cooker. A fourth still was added late in 1879 with a capacity of 150-barrels. ...CSO built a cottage on what is now Pine Street (March 1878) to accommodate visiting dignitaries. A Chinese house boy was also provided. A second cottage existed up the hill behind the refinery.

Oil was processed up until 1884 from "The Pioneer" and today is the oldest-existing refinery in the world."

As Portola entered the Santa Clarita Valley for the first time in 1769 he described the lush green Oak trees as those of an English estate. There is no doubt that the woodland he first saw was the beautiful rare old growth oak habitat on this property.

If the United States Core of Army Engineers have requested that this property will need a 404 permit for stream alternation then I understand that the property becomes subject to the Federal Historical Preservation Act. I worked on and helped with Jerry Reynolds, complete the request to successfully achieve California State Landmark Status for "Beale's Cut." I would ask that the City of Santa Clarita join with this property owner to have:

1. Lyon's Stagecoach Station site
2. Andrews/Waltz Stage and Railroad station site
3. The "Pioneer" Oil Refinery
4. The "Pioneer" Cemetery
5. The Chinese burial site/Cemetery located, preserved, and properly marked after 150 years,
6. The site of the California Star Oil Company guesthouse built in the 1880's site behind the "Pioneer" Oil Refinery
7. The San Fernando/Newhall Railroad Tunnel

all be researched and made eligible for the California State Landmark Status.

How exciting to create historical walking trails to join all these sites with in one half mile of each other. The sites would then connect to the historic Native American trails and the stage route in Elsmere Canyon and the Los Angeles County William S. Hart Regional Park as well as the 1887 Solid Redwood Saugus/Surrey Railroad Station {the last Railroad Station left on the Los Angeles Southern Pacific 1876 railroad line}, and the 1910

Internation Quester's, Kingsberry house south of W. S. Hart Park and directly across the railroad tracks from the "Pioneer Oil Refinery". The trail, hiking, and esquestion path could connect from the Santa Clarita River trail system to "Newhall Creek". A pedestrian bridge over the Metro railroad tracks at William S. Hart Park would complete the system offering the community the much needed open space and passive parks the city lacks.

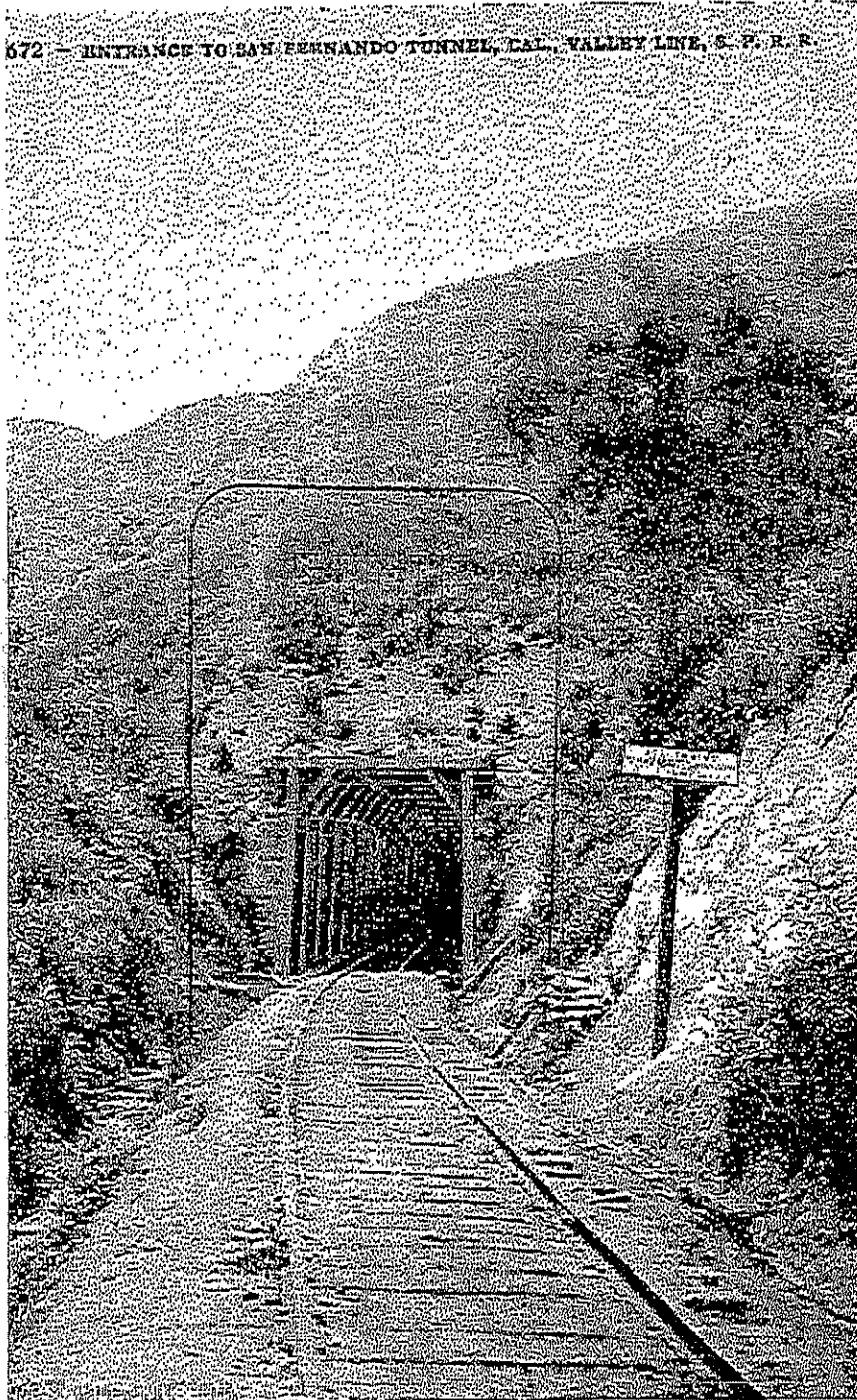
Mr. Gates has voiced that he would be willing to help create a proper monument for the Railroad Tunnel. The plaque could be near the tunnel on a hiking /equestrian trail.

Very truly yours,

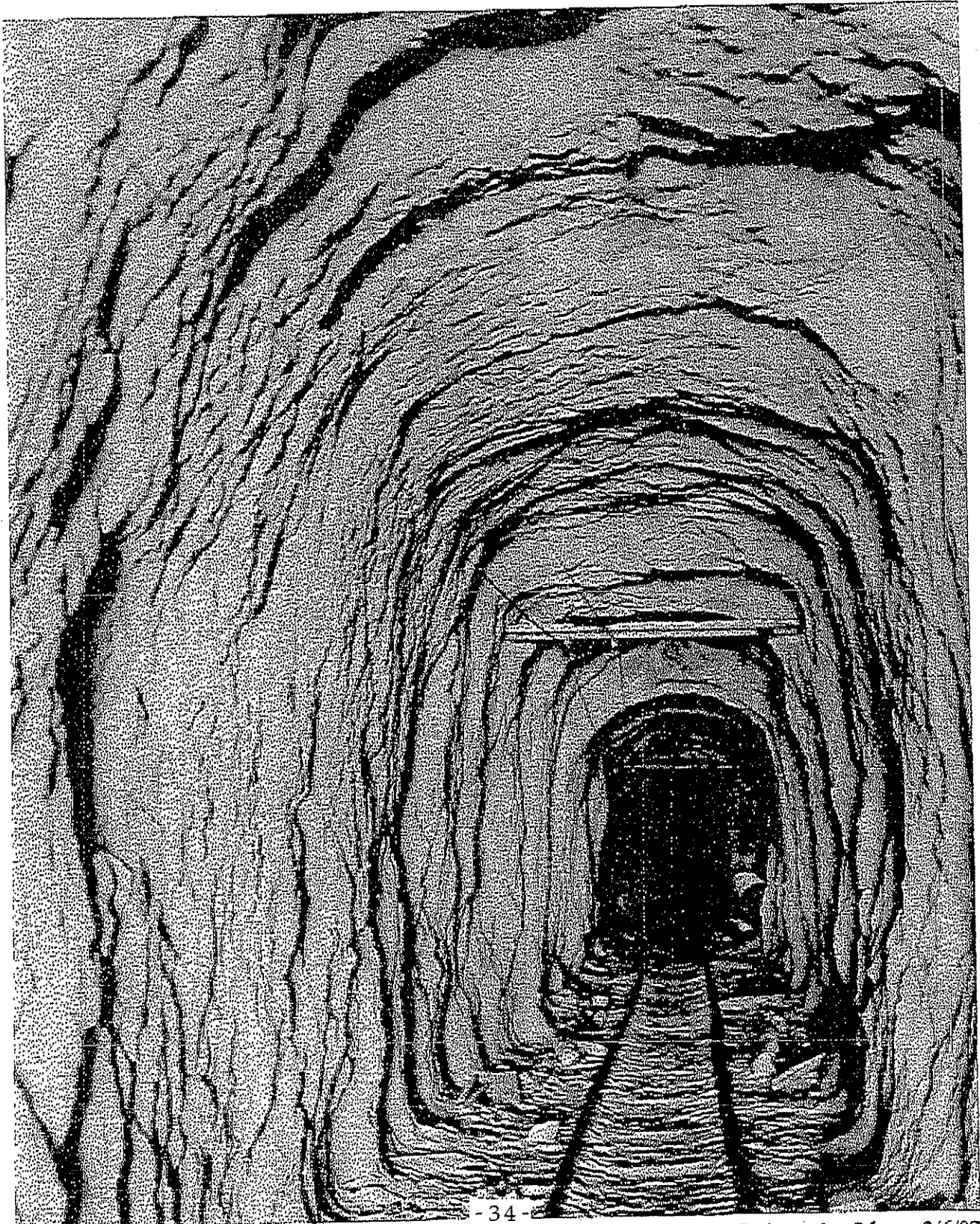
Cynthia Neal-Harris  
Social Studies Specialist

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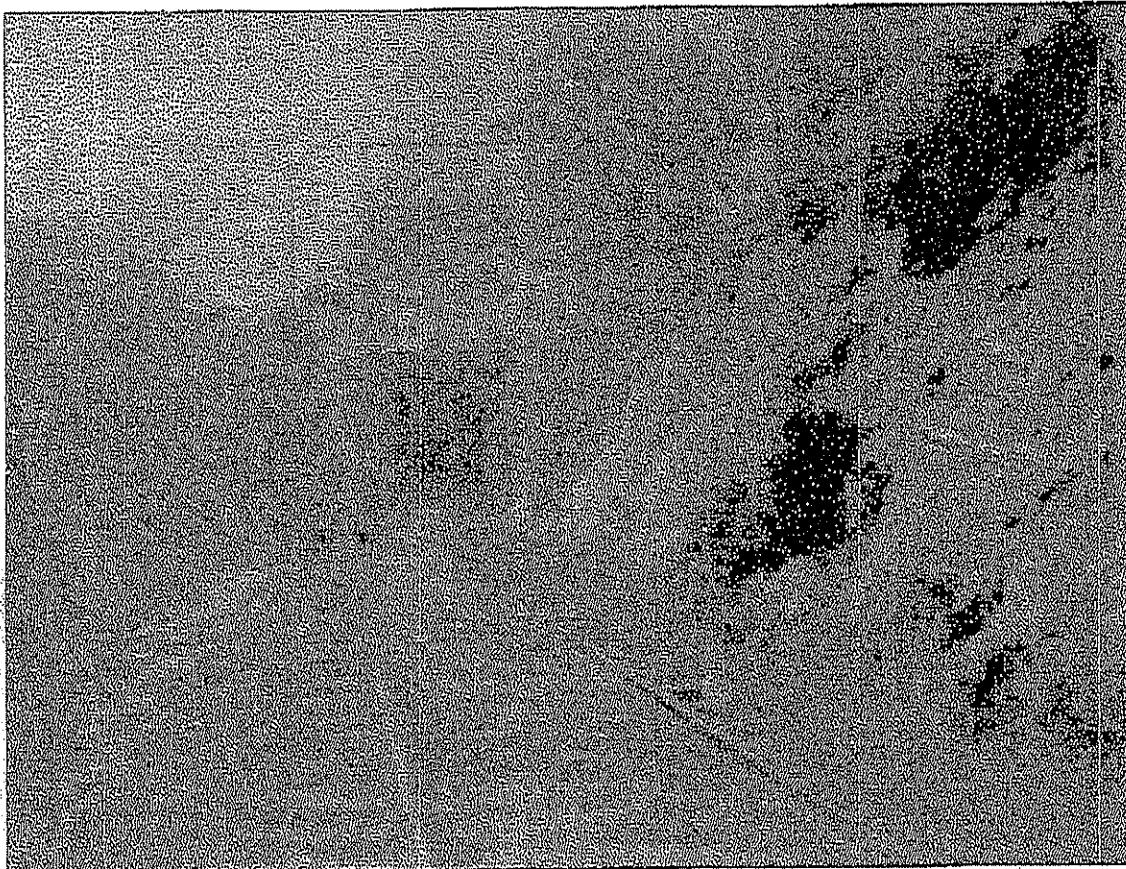


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**Title:** Entrance to the San Fernando Tunnel - Newhall Pass, 1910

**Description:** Construction of the tunnel began on March 22, 1875 and it was completed on July 14, 1876. Hundreds of Chinese laborers worked on the tunnel. The tunnel was considered a great engineering achievement at the time and it was important because it connected Northern and Southern California by rail. 8 x 6 in. black and white photograph. (1260)

**Subject:** Railroad tunnels  
Southern Pacific Railroad Company  
South Pacific Coast Railroad  
Tunnels -- California -- San Fernando Valley

**Neighborhood:** Mission Hills (Los Angeles, Calif.)

**Date:** 1910

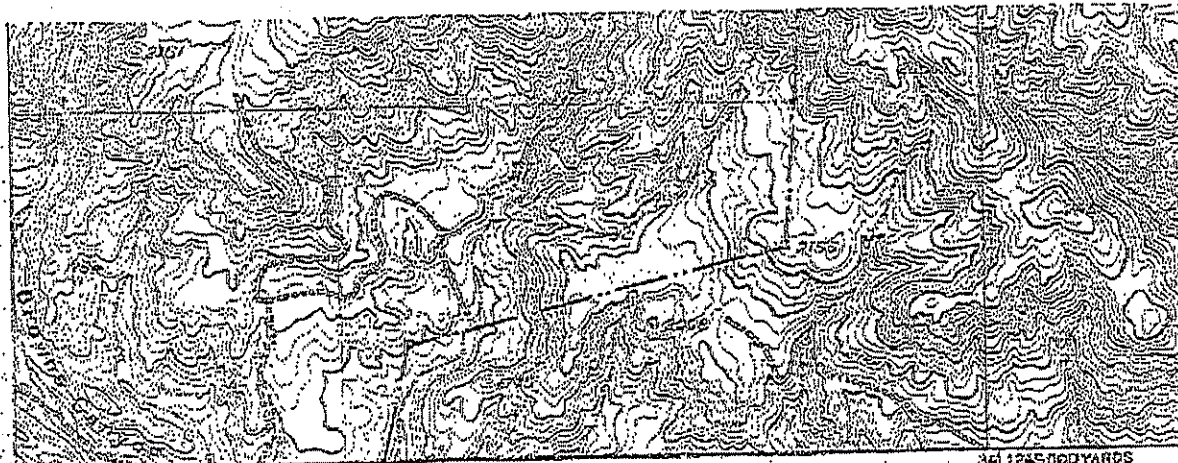
**Alternative Dates:**

**Keywords:**

**Photographer/Author:** Unknown

**Donors & Others:**

**Media:** Black-and-white print (photograph)

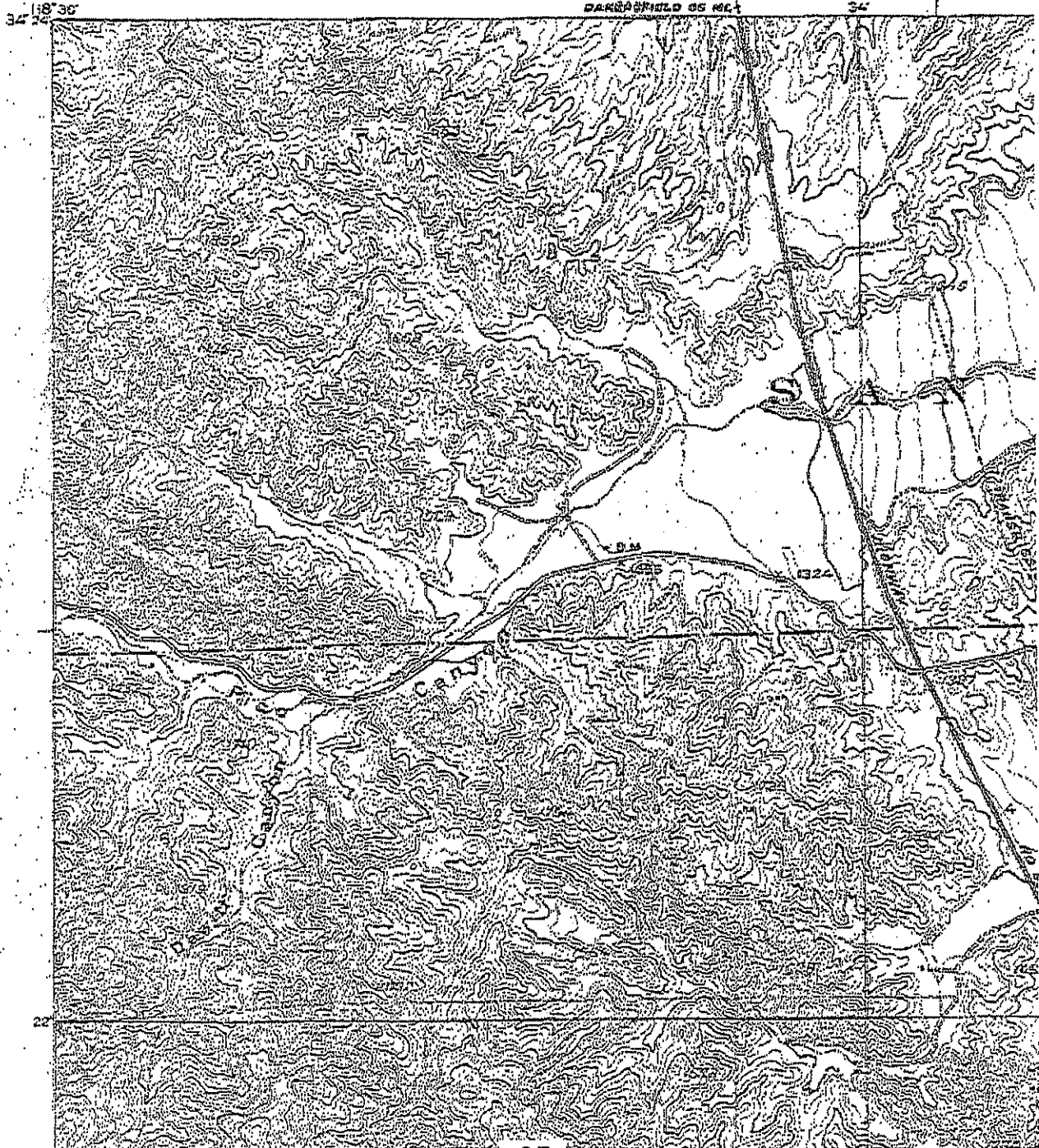


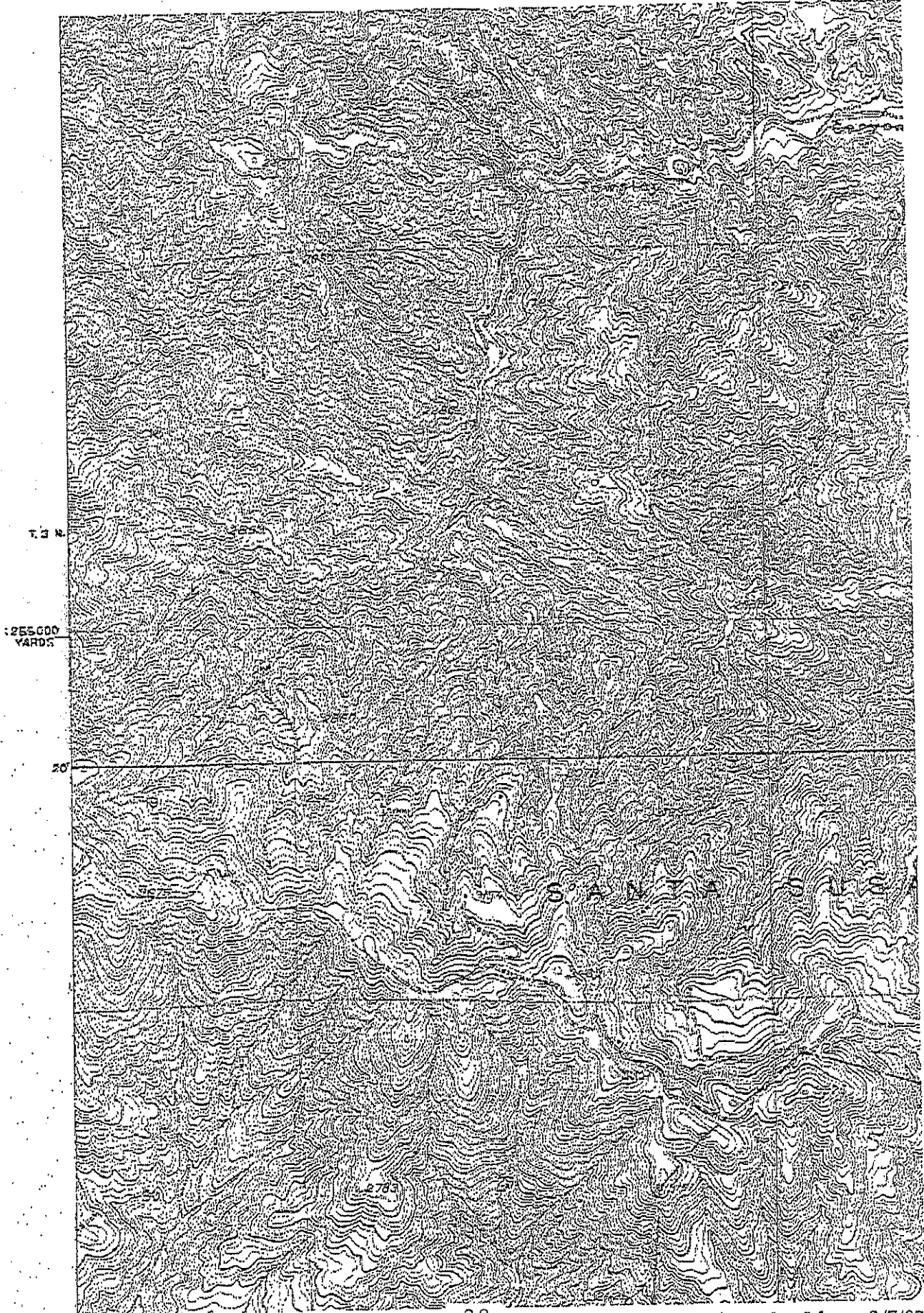
- Title:** Topographical map of Newhall Quadrangle, 1925 & 1929
- Description:** Topographical map of Newhall Quadrangle surveyed by the U. S. Geological Survey in 1925 & 1929. It shows the northern boundary of the Ex-Mission San Fernando, Brown's Canyon, Newhall, Southern Pacific Railroad tracks, Limekiln Canyon (1 of 2 canyons with this name), Los Angeles City Aqueduct and Los Angeles city boundaries. Edition of 1933. Topography by E.P. Davis and W.R. Chenoweth. Scale 1:24,000. Map. 20.5 x 17 in.
- Subject:** Newhall (Calif.)  
Los Angeles Aqueduct (Calif.)
- Neighborhood:** Newhall (Calif.)
- Date:** 1925, 1929; 1933;
- Alternative Dates:**
- Keywords:** USGS;
- Photographer/Author:** Davis, E. P.  
Chenoweth, W. R.
- Donors & Others:** Geological Survey (U.S.)
- Media:** Topographic map
- Media Measurement:** 52 x 43.5 cm.
- Identifier:** MAP13.jpg
- Language:**
- Repository Name:** California State University, Northridge. Dept. of Geography.  
Map Library
- Collection:** 6 Minute Series
- Repository Number:**
- Call Number:**
- Finding Aid:**

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San Fernando Valley History Digital Library

DEPARTMENT OF THE INTERIOR  
U.S. GEOLOGICAL SURVEY







Letter 4

COMMENTOR: Cynthia Neal-Harris, Social Studies Specialist

DATE: February 28, 2002

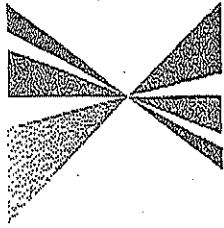
**RESPONSE:**

The commentor references several data sources in relation to the proposed project. The referenced documents describe in detail several of the cultural resources noted in Section 4.12, *Cultural Resources*, of the Draft EIR as occurring within a 1.5-mile radius of the site. The commentor expresses the opinion that several of the cultural resources sites in the project area should be researched and made eligible for the California State Landmark Status and connected by historic walking trails. As described in Impact CR-2 of the Draft EIR, the proposed project would not directly affect any identified significant historic resources, but could result in possible indirect impacts to the Pioneer Oil Refinery site. Proposed grading and construction activity would change the context for these resources to some degree, but would not directly affect any of the sites. Implementation of Mitigation Measures CR-2(a through c), which involve construction of a fence to prevent unauthorized individuals from entering the Pioneer Oil Refinery site, precautions to avoid use of heavy equipment in the vicinity of the acid tank on the Refinery site, and design of drainage systems around the Refinery to prevent further deposition of materials onto the Refinery site, would reduce these potential indirect impacts to a less than significant level. Since the proposed project would not affect the additional cultural resources in the project area noted by the commentor, additional mitigation measures are not required. It should be noted, however, that the proposed project includes a network of pedestrian and bicycle trails through the site that would provide connections between many areas of the site, including the Pioneer Refinery site. The proposed trail network is shown on Figure 2-8 in Section 2.0, *Project Description*.



5

SOUTHERN CALIFORNIA



ASSOCIATION OF GOVERNMENTS

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Imperial County: Hank Halper, Imperial County  
Los Angeles County: Yvonne Brathwaite Burke, Los Angeles County • Zev Yaroslavsky, Los Angeles County • Harry Babin, San Gabriel • Bruce B. Berman, Cerritos • George Bass, Bell • Hal Berenson, Los Angeles • Robert Betsch, Rosemead • Gene Daniels, Paramount • Jo Anna Darcy, Santa Clarita • Ruth Coleman, Los Angeles • Eric Green, Los Angeles • Ray Grubinski, Long Beach • James A. Los Angeles • Janice Hahn, Los Angeles • Hamilton Torrance • Marc Helms, Los Angeles • Sandra Jacobs, El Segundo • Lawrence Kliney, Inglewood • Bonnie Lowenthal, Long Beach • Keith McCarthy, Downey • Cindy Minkowski, Los Angeles • Stacey Murphy, Burbank • Susan Munoz, Santa Monica • Nick Pacheco, Los Angeles • Alex Padilla, Los Angeles • Jan Perry, Los Angeles • Rosanne Poo, Elizavira • Mark Ridley-Thomas, Los Angeles • Ed Reyes, Los Angeles • Karen Rosenthal, Claremont • Dick Stanford, Azusa • Tom Sykes, Walnut • Paul Tilton, Alhambra • Roy Tyler, Jr., Pasadena • Joel Wachs, Los Angeles • Mike Washburn, Calabasas • Jack Weiss, Los Angeles • Dennis E. Zine, Los Angeles

Orange County: Charles Smith, Orange County • Ron Bates, Los Alamitos • Ralph Bauer, Huntington Beach • Art Brown, Buena Park • Lou Bone, Tustin • Judith Cowan, Costa Mesa • Cathryn DeYoung, Laguna Niguel • Richard Dixon, Lake Forest • Alan Duza, La Palma • Shirley McClellan, Anaheim • Bev Perry, Brea • Bob Ridenour, Newport Beach

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Ventura County: Judy Mikels, Ventura County • Glen Rogers, Simi Valley • Donna De Patta, San Francisco • Tom Young, Fort Huachuca

San Diego County Transportation Commission: Bill Lowe, Hemet

Ventura County Transportation Commission: Bill Davis, Simi Valley

March 11, 2002

Mr. Jeff Hogan  
Associate Planner  
City of Santa Clarita  
23920 Valencia Boulevard, Suite 300  
Santa Clarita, CA 91355-2196

RECEIVED  
PLANNING DIVISION

MAR 14 2002

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

RE: Comments on the Draft Environmental Impact Report for the Gates King Project - SCAG No. 1 20020015

Dear Mr. Hogan:

Thank you for submitting the Draft Environmental Impact Report for the Gates King Project to SCAG for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects, and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

It is recognized that the proposed Project considers a Tentative Tract Map, General Plan Amendment, Zone Change, Oak Tree Permit, Conditional Use Permit, Hillside Review and Development Agreement for a proposed industrial and commercial subdivision consisting of 60 lots on 584 gross acres. The proposed Project site is located in the southern portion of the City of Santa Clarita, in Los Angeles County.

SCAG staff has evaluated the Draft EIR for the Gates King Project for consistency with the Regional Comprehensive Plan and Guide and Regional Transportation Plan. The Draft EIR includes a discussion on the proposed Projects' consistency with SCAG policies and applicable regional plans, which were outlined in our March 22, 2001 letter on the Notice of Preparation (NOP) for this Draft EIR.

The Draft EIR, in Section 4.1, Land Use and Planning, cited SCAG policies and addressed the manner in which the proposed Project is consistent with applicable core policies and supportive of applicable ancillary policies. The Draft EIR included a discussion of the consistency or support of the applicable policies with the proposed Project. This approach to discussing consistency or support of SCAG policies is commendable and we appreciate your efforts. Based on the information provided in the Draft EIR, we have no further comments. A description of the proposed Project was published in the January 16-31, 2002 Intergovernmental Review Clearinghouse Report for public review and comment.

If you have any questions, please contact me at (213) 236-1867. Thank you.

Sincerely,

JEFFREY M. SMITH, AICP  
Senior Planner  
Intergovernmental Review

Letter 5

**COMMENTOR:** Jeffrey M. Smith, AICP, Senior Planner, Intergovernmental Review,  
Southern California Association of Governments

**DATE:** March 11, 2002

**RESPONSE:**

The commentor describes the responsibilities of the Southern California Association of Government (SCAG) as a regional planning organization and concurs with the analysis of project consistency with SCAG policies presented in Section 4.1, *Land Use and Planning*, of the Draft EIR. The commentor does not raise additional environmental concerns; therefore, no additional response is required.



STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY

GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION  
 DISTRICT 7, REGIONAL PLANNING  
 IGR/CEQA BRANCH  
 120 S. SPRING ST.  
 LOS ANGELES, CA 90012  
 PHONE (213) 897-4429  
 FAX (213) 897-1337



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 Be energy efficient!*

6

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 PLANNING DIVISION

MAR 07 2002

PLANNING AND BUILDING SERVICES  
 CITY OF SANTA CLARITA

March 4, 2002

IGR/CEQA cs/020176  
 DEIR  
 City of Santa Clarita  
 Gate-King Industrial Park  
 San Fernando Rd./Sierra Hwy.  
 Vic. LA-14-T12.51  
 SC# 2001021121

Mr. Jeff Hogan  
 City of Santa Clarita  
 23920 Valencia Blvd., Suite 300  
 Santa Clarita, CA 91355

Dear Mr. Hogan:

Thank you for including the California Department of Transportation in the environmental review process for the above-mentioned project. Based on the information received, we have the following comments:

San Fernando Rd. (State Route-126) has been identified by Caltrans and the City of Santa Clarita as being eligible for relinquishment. We recommend that the City initiate relinquishment proceedings to enable the State to relinquish ownership of State Route 126 (San Fernando Rd.) over to the City. 6A

Also, similar relinquishment proceedings will need to be initiated for the relinquishment of Sierra Highway (State Route 14U). Since the completion of the Antelope Valley Freeway (SR-14), SR-14U has been designated as a superceded highway.

Due to the steep grade and high truck volumes at the SB SR-14 on-ramp, queues are currently extending onto San Fernando Road, near the intersection with Sierra Highway. Traffic conditions will worsen with the proposed development and may possibly nullify any mitigation measures such as signalization and additional lanes that are to be made in conjunction with this project. Therefore, additional capacity will be needed for this on-ramp prior to the completion of the proposed development in order to provide adequate traffic circulation throughout this area. 6B

The signalized intersection of San Fernando Road and Railroad Ave /11<sup>th</sup> Street was omitted in the traffic analysis. In comment #2, the majority of left turn maneuvers would occur at this location. 6C

The proposed signalized intersections along San Fernando Rd. will require more detail. Warrant 1 and 2 can only be met with a minimum of an 8 hour count. The EIR only provided counts for the peak hours. 6D

At the intersection of the NB I-5 Golden State Freeway Ramps and Lyons Ave., an additional EB through lane is being proposed for the Long Range + Project conditions. Current conditions show that it 6E

Mr. Jeff Hogan  
Page Two  
March 4, 2002

will be necessary to widen the overcrossing and make ramp modifications. Bridge widening and ramp modifications will require a permit and/or a Project Study Report and approval from Caltrans Structures. Additionally, bridge clearance will be an issue.

6E  
(Cont.)

Any work to be performed within the State Right-of-way will need a Caltrans Encroachment Permit. Encroachment Permit activities include but are not limited to new streets, ingress/egress, traffic signals, modification of intersections, street widening, grading, landscaping, drainage, utilities, etc. A standard Caltrans Encroachment Permit application along with six sets of engineering plans including traffic studies, site plans, grading plans, landscaping plans, irrigation plans, hydrology and hydraulic calculations, drainage plans, etc will be needed for Caltrans review and approval.

6F

Transportation projects to be built within the State Right-of-way which are expected to cost over \$1 million will need a Caltrans Project Study Report (PSR).

6G

A double left turn pocket is being proposed At the intersection of San Fernando Road and Lyons Avenue in the SB direction as a mitigation measure for Long Range + Project conditions. The projected volumes (44 AM, 69 PM) during this time frame does not warrant an additional left turn pocket.

6H

At the intersection of San Fernando Road and 13<sup>th</sup> Street, the projected (Long Range + Project) volumes appear very conservative versus existing and interim volumes for this driveway approach. The businesses at this location do not have enough capacity (parking spaces) to handle such demand (116 AM, 129 PM).

6I

We recommend that the local agency implement a fair share funding program on a pro rata basis to be used for needed traffic improvement projects resulting from trips generated from the built-out of the project along with all other projects in the vicinity.

6J

In regards to pending and/or future projects (pg. 3-7, fig 3-2), there are two (2) proposed developments to be constructed adjacent to San Fernando Road in the vicinity of Via Princessa (between I-5 and SR-14). These projects are as follows:

6K

- **Porta Bella** (Total of 483 acres, 2900 residential units, 91 acres of commercial/industrial use, school, and parks). Construction to be completed by 2020.
- **Beazer Homes** (3 acres)

Were these projects accounted for in forecasting additional projected traffic volumes in the Long Range + Project conditions?

We recommend that construction related truck trips on State highways be limited to off-peak commute periods. Transport of oversize or overweight vehicles on State highways will need a Transportation Permit from the California Department of Transportation.

6L

If you have any questions regarding our response, refer to our internal IGR/CEQA Record # cs/020176, and please do not hesitate to contact me at (213) 897-4429.

Sincerely,

STEPHEN BUSWELL  
IGR/CEQA Branch Chief

cc: Mr. Scott Morgan, State Clearinghouse

Letter 6

COMMENTOR: Stephen Buswell, IGR/CEQA Branch Chief, California Department of Transportation, District 7

DATE: March 4, 2002

RESPONSE:

Response 6A

The commentor suggests that the City initiate proceedings to enable the State to relinquish ownership of SR 126 and SR 14U. This suggestion is noted. Relinquishment of SR 126 and/or SR 14U is an action that the City would need to initiate, not an action that has been or could be initiated by the current project applicant. Relinquishment of these roads would not alter the impact of the proposed Gate-King Industrial Park on the local circulation system.

Response 6B

The commentor suggests that the project would necessitate additional capacity at the SB SR 14 on-ramp at San Fernando Road. The design and traffic congestion issues noted by the commentor for the SR 14/San Fernando Road southbound on-ramp currently occur and are not due to lane capacity. These issues are due to other physical factors, as noted in the comment. The traffic volumes provided in Section 4.5, *Transportation and Circulation*, of the Draft EIR indicate that a two-lane on-ramp such as that at SR 14/San Fernando Road has a capacity of approximately 1600 vehicles per hour. The volume to capacity (V/C) ratio at SR-14/San Fernando Road does not exceed 1.00 for existing plus project or interim year plus project conditions. Since the ramp does not exceed capacity, this location was not considered significantly impacted by the proposed project. Long-range buildout conditions indicate the ramp will operate over capacity for both the General Plan (i.e., future baseline) and the proposed project conditions. In this case, the difference in V/C between General Plan conditions and the proposed project conditions is less than .01. Therefore, the project would not result in a significant impact at SR 14/San Fernando Road.

Response 6C

The commentor notes that impacts at the San Fernando Road and Railroad Avenue/11<sup>th</sup> Street intersection were not studied in the Draft EIR. The intersections included in the traffic study were determined based on the results of traffic volume forecasts for the proposed project that were prepared using the City's traffic model. Locations that were clearly not affected by the proposed project (e.g., the intersection of San Fernando Road and Railroad Avenue/11<sup>th</sup> Street) were not selected for further study or inclusion in the traffic analysis.

Response 6D

The commentor states that the warrants for signalization of intersections along San Fernando Road can only be met with an 8-hour count. The EIR traffic analysis uses Caltrans peak hour traffic signal warrants due to traffic volume forecasts being available for only the peak hours



and ADT. It is recognized that the signals will only be installed on State facilities when warranted by actual traffic volumes.

Response 6E

The commentor notes that recommended ramp modifications at the I-5/Lyons Avenue interchange would require a permit and/or Project Study Report from Caltrans. An additional (third) eastbound through lane at the I-5 Northbound Ramps/Lyons intersection is included in the Long-Range background conditions consistent with the City's General Plan Circulation Element which identifies Lyons Avenue as a six-lane major arterial. The need for a Project Study Report and Caltrans approval for the bridge widening and ramp modifications is noted (please see Response 6F).

Response 6F

The commentor notes various permits that would be required for actions within State rights-of-way. The Caltrans Encroachment Permit requirements described by the commentor are noted.

Response 6G

The commentor notes that projects within State rights-of-way that cost over \$1 million require a Project Study Report. The Caltrans Project Study Report requirements described by the commentor are noted.

Response 6H

The commentor states an opinion that the traffic volume at San Fernando Road/Lyons Avenue does not warrant an additional left turn pocket. The second southbound left-turn lane at the San Fernando/Lyons intersection is not proposed as a project mitigation but rather is assumed as part of the Long-Range background conditions. As noted by the commentor, the forecast traffic volumes for this movement do not appear to indicate the need for an additional lane.

Response 6I

The commentor states an opinion that the traffic volumes at San Fernando Road/13<sup>th</sup> Street appear conservative and that businesses at that location do not have parking capacity to handle projected demand. The Long-Range volumes reported for the west leg of the San Fernando/13<sup>th</sup> Street intersection (commercial driveway) are traffic model forecasts and, as such, do not represent the level of detail that would result from an analysis of the individual driveways and the parking lots they serve. As noted by the commentor, the volume forecasts for the west leg appear to overstate the volumes for these movements as indicated by the existing counts. To reduce the Long-Range forecasts to the level indicated by existing counts would result in lower ICUs and better levels of service.

Response 6J

The commentor suggests that the city implement a fair share funding program for local traffic system improvements. As described in Mitigation Measures TC-1 and TC-2, intersection and



roadway improvements would be required in order to maintain acceptable levels of service in the future. Table 4.5-9 summarizes these improvements and lists the proposed project's percent share of the improvement. For locations where "with-project" conditions are LOS B or better, mitigation consists of payment of Bridge and Thoroughfare District fees in lieu of specific improvements for that location. With the implementation of these mitigation measures, all impacts under the Interim Year plus Project scenario would be mitigated to a less than significant level based on applicable criteria.

Response 6K

The commentator notes two developments proposed in the site vicinity. Both of the projects indicated by the commentator were included in the Long-Range background conditions.

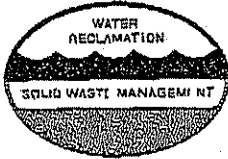
Response 6L

The commentator recommends that construction-related truck trips be limited to off-peak commute periods. Restrictions and limitations regarding construction traffic would be included as conditions of project approval. The statement regarding the need for a State highway Transportation Permit has been noted.





7



# COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400  
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998  
Telephone: (562) 699-7411, FAX: (562) 699-5422  
www.lacsd.org

JAMES F. STAHL  
Chief Engineer and General Manager

RECEIVED  
PLANNING DIVISION February 19, 2002

FEB 21 2002 File No: 32-00.04-00

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

Mr. Jeff Hogan, Associate Planner  
City of Santa Clarita  
23920 Valencia Boulevard, Suite 300  
Santa Clarita, CA 91355-2196

Dear Mr. Hogan:

**Gate-King Industrial Park, Master Case No. 99-264, Tentative Tract Map No. 50283,  
General Plan Amendment No. 99-003, Zone Change No. 99-002, Oak Tree Permit No. 99-029,  
Conditional Use Permit No. 99-013, Hillside Review No. 99-004, Development Agreement No. 99-002**

The County Sanitation Districts of Los Angeles County (Districts) received a Draft Environmental Impact Report for the subject project on January 22, 2002. We offer the following comments regarding sewerage service:

- Page 4.10-3, **b. Wastewater**, second paragraph, first sentence:  
Sewage generated within District No. 32 is conveyed through several different Districts' trunk sewers to the Valencia WRP. The Districts' Newhall Trunk Sewer conveys sewage generated within the vicinity of the project site. 7A
- Page 4.10-3, **b. Wastewater**, third paragraph, last sentence:  
It is inaccurate to state that the Saugus Water Reclamation Plant (WRP) is the primary treatment facility. The Valencia WRP treats wastewater flows from District No. 32. 7B
- Page 4.10-3, **b. Wastewater**, fourth paragraph, second sentence:  
The plants currently process an average flow of 16.9 million gallons per day (mgd). 7C
- Page 4.10-6, **Impact PU-3** and the following paragraph:  
The Districts support the estimation of 0.89 million gallons per day of wastewater generated by the proposed project at buildout. In the following paragraph, however, wastewater generation is estimated as a percentage of total water demand at only 276,000 gallons per day. This discrepancy should be rectified here and also on Page 4.10-7 in the first paragraph under **Impact PU-4**. 7D
- Page 4.10-7, **Impact PU-4**, first paragraph:  
Local sewer lines located in Sierra Highway and San Fernando Road are maintained by the Los Angeles County Department of Public Works, not by the Districts. The Districts own, operate, and maintain only the large trunk sewers which conceptually form the backbone of the regional wastewater conveyance system. Local collector and/or lateral sewer lines are the responsibility of the jurisdiction in which they are located. 7E

Mr. Jeff Hogan

2

February 19, 2002

- Page 4.10-12, c. Cumulative Impacts, Wastewater, first sentence:  
The Valencia WRP and Saugus WRP currently have combined excess capacity of about 2.2 mgd.
- All other information concerning Districts' facilities and sewerage service contained in the document is currently complete and accurate.

7F

7G

If you have any questions, please contact the undersigned at (562) 699-7411, extension 2717.

Very truly yours,

James F. Stahl

Ruth I. Frazen  
Engineering Technician  
Planning & Property Management Section

RIF:eg

Letter 7

COMMENTOR: Ruth I. Frazen, Engineering Technician, Planning & Property Management Section, County Sanitation Districts of Los Angeles County

DATE: February 19, 2002

RESPONSE:

Response 7A

The commentor notes some minor corrections to information about the wastewater system in the site vicinity. In response to this comment, Page 4.10-3, second paragraph, is revised as follows:

*Sewage generated within District No. 32 is conveyed through several different District trunk sewers to the Valencia WRP. The District's Newhall trunk sewer conveys sewage generated within the vicinity of the project site. located in Walnut Street at 16<sup>th</sup> Street. This 21 inch diameter trunk sewer has a design capacity of 4.3 million gallons per day (MGD) and conveyed a peak flow of 1.5 mgd when last measured in 1996 (County Sanitation Districts of Los Angeles County, 2001).*

Response 7B

The commentor notes additional minor corrections to information about the wastewater system in the site vicinity. In response to this comment, Page 4.10-3, third paragraph, is revised as follows:

*The Districts operate two water reclamation plants: the Saugus Plant and the Valencia Plant. Both plants function together to provide tertiary treatment to wastewater which is discharged into the Santa Clara River after treatment. These two treatment plants have been interconnected to form a regional sewage treatment system. The Saugus Plant is the primary treatment facility, with the excess discharge treated by the Valencia Plant.*

Response 7C

The commentor notes some minor corrections to information about the wastewater system in the site vicinity. In response to this comment, Page 4.10-3, fourth paragraph, is revised as follows:

*The two treatment plants currently have the combined permitted capacity to accommodate 19.1 MGD of wastewater. The plants currently process an average flow of 16.9 ~~16.7~~ MGD, which represents approximately 88% of current capacity.*

Response 7D

The commentor notes a discrepancy in the estimate of wastewater generation. The estimate of water demand for the project is based upon historic water demand rates in the area. As



wastewater generation is a function of water demand, the estimate based on 80% of water demand seems appropriate. Consequently, Impact PU-3 is revised as follows:

*Buildout of the proposed project would generate an estimated 0.276 ~~0.89~~ million gallons of wastewater per day. Because the wastewater treatment plants serving the site have adequate capacity to accommodate this amount of wastewater, this impact is considered Class III, less than significant.*

#### Response 7E

The commentor notes that local sewer lines are maintained by the County Public Works Department, not the Sanitation Districts. In response to this comment, page 4.10-7, fifth paragraph, is revised as follows:

*The on-site conveyance system would consist of a series of pipes within the rights-of-way of on-site roadways that would convey wastewater flows to existing Los Angeles County Public Works Department LACSD main trunk lines located at Sierra Highway and San Fernando Road (see Figure 4.10-1). The trunk sewer that would serve the project site is the Newhall Trunk Sewer, which can accommodate an additional 2.8 MGD of wastewater, based on most recent capacity measurements. The proposed project would add an estimated 276,000 GPD of wastewater flows to this trunk sewer. According to the Sanitation Districts, the Newhall Trunk Sewer has adequate capacity to convey wastewater generated by the proposed project (Frazen, 2001).*

#### Response 7F

The commentor notes a minor correction to available capacity at the local wastewater treatment plants. In response to this comment, page 4.10-12, third paragraph, is revised as follows:

*Wastewater. The two wastewater treatment plants serving the City currently have excess capacity of about 2.2 ~~2.4~~ MGD.*

#### Response 7G

The commentor's statement that all other information concerning the Districts' facilities and sewerage service contained in the Draft EIR is complete and accurate is noted.





Winston H. Hickox  
Secretary for  
Environmental  
Protection

# California Regional Water Quality Control Board Los Angeles Region

Over 50 Years Serving Coastal Los Angeles and Ventura Counties  
Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

320 W. 4th Street, Suite 200, Los Angeles, California 90013  
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.swrcb.ca.gov/rwqcb4>



Gray Davis  
Governor

8

February 15, 2002

City of Santa Clarita  
Dept. of Planning & Bldg Services  
23920 Valencia Blvd, Suite 300  
Santa Clarita, CA 91355

RE: CEQA Documentaiton for Project in the Santa Clara Watershed  
SUBJECT: Tentative Tract Map 30283-Gate King Project

We appreciate the opportunity to comment on the CEQA documentation for the above-mentioned project. For your information a list of permitting requirements and Regional Board Contacts is provided in Attachment A hereto.

The project site lies in the Santa Clara watershed that was listed as being impaired pursuant to Section 303 (d) of the Clean Water Act. Impairments listed in reaches downstream from the proposed project include nutrients and their effects, salts, coliform bacteria, and historic pesticides. The Los Angeles Regional Water Quality Control Board will be developing Total Maximum Daily Loads (TMDLs) for the watershed, but the proposed project is expected to proceed before applicable TMDLs are adopted. In the interim, the Regional Board must carefully evaluate the potential impacts of new projects that may discharge to impaired waterbodies.

Our review of your documentation show that it does not include information on how this project will change the loading of these pollutants into the watershed. Please provide the following additional information for both the construction and operational phases of the project.

- For each constituent listed above, please provide an estimate of the concentration (ppb) and load (lbs/day) from non-point and point source discharges.
- Estimates of the amount of additional runoff generated by the project during wet and dry seasons.
- Estimate of the amount of increased or decreased percolation due to the project.

SA

SB

SC

## California Environmental Protection Agency

\*\*\*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption\*\*\*  
\*\*\*For a list of simple ways to reduce demand and cut your energy cost - 51 - see tips at: <http://www.swrcb.ca.gov/news/echallenge.html>\*\*\*

- Estimates of the net change in cubic feet per second of groundwater and surface water contributions under historic drought conditions (as compiled by local water purveyors, the Department of Water Resources, and others), and 10-year 50-year and 100-year flood conditions.

80

If you have any questions please call me at (213) 576-6683.

Sincerely,



Elizabeth Erickson  
Associated Geologist, TMDL Unit

EE  
Attachments

Cc: file  
State Clearinghouse-(2001021121)

**California Environmental Protection Agency**

\*\*\*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption\*\*\*  
\*\*\*For a list of simple ways to reduce demand and cut your energy costs, see the tips at: <http://www.swrcb.ca.gov/news/echallenge.html>\*\*\*

ATTACHMENT A

- ✓ If the proposed project will result in a discharge of dredge or fill into a surface water (including a dry streambed), and is subject to a federal license or permit, the project may require a *Section 401 Water Quality Certification*, or waiver of *Waste Discharge Requirements*. For further information, please contact:

Jason Lambert, Nonpoint Source Unit at (213) 576-5733.

- ✓ If the project involves inland disposal of nonhazardous contaminated soils and materials, the proposed project may be subject to *Waste Discharge Requirements*. For further information, please contact:

Rodney Nelson, Landfills Unit, at (213) 620-6119

\*\*\*\*\*

- ✓ If the overall project area is larger than five acres, the proposed project may be subject to the State Board's *General Construction Activity Storm Water Permit*. For further information, please contact:

Tracy Woods, Statewide General Construction Activity Storm Water Permits at (213) 620-2095.

- ✓ If the project involves a facility that is proposing to discharge storm water associated with industrial activity (e.g., manufacturing, recycling and transportation facilities, etc.), the facility may be subject to the State Board's *General Industrial Activities Storm Water Permit*. For further information, please contact:

Kristie Chung, Statewide General Industrial Storm Water Permits at (213) 620-2283.

- ✓ If the proposed project involves requirements for new development and construction pertaining to municipal storm water programs, please contact:

Dan Radulescu, Municipal Storm Water Permits, Los Angeles County at (213) 620-2038;  
 Matt Yeager, Municipal Storm Water Permits, Ventura County at (213) 620-2097.

- ✓ The proposed project also shall comply with the local regulations associated with the applicable Regional Board stormwater permit:

Los Angeles County and Co-permittees:  
 NPDES No. CAS614001  
 Waste Discharge Requirements Order No. 96-054.

Long Beach County and Co-permittees:  
 NPDES CAS004003  
 Waste Discharge Requirements Order No. 99-060.

Ventura County and Co-permittees:  
 NPDES No. CAS004002  
 Waste Discharge Requirements Order No. 00-108.

\*\*\*\*\*

- ✓ If the proposed project involves any construction and/or groundwater dewatering to be discharged to surface waters, the project may be subject to *NPDES/Waste Discharge Requirements*. For further information, please contact:

Augustine Anijelo, General Permitting and Special Projects Unit at (213) 576-6657 (All Region 4 Watersheds).

- ✓ If the proposed project involves any construction and/or groundwater dewatering to be discharged to land or groundwater, the project may be subject to *Waste Discharge Requirements*. For further information, please contact:

Kwang-il Lee, Non-Chapter 15 Unit, at (213) 620-2269 (All Region 4 Watersheds).

Letter 8

COMMENTOR: Elizabeth Erickson, Associate Geologist, TDML Unit, California Regional Water Quality Control Board, Los Angeles Region

DATE: February 15, 2002

RESPONSE:

Response 8A

The commentor notes that the Santa Clara watershed has been listed as "impaired" and requests an estimate of concentrations and loads for various pollutants. The commentor's statements regarding the impairment of the Santa Clara watershed and TMDL requirements are noted. Debris detention facilities are proposed to be provided during project construction and it is anticipated that detention facilities would be provided as required by Storm Water Quality Management Plans for the operational phase of the completed project. These facilities would minimize pollutant loading.

It should be noted that the applicant is not required to complete an Urban Stormwater Mitigation Plan (USMP) for the current project application, due to the fact that the application was deemed complete by Planning prior to the February 15, 2001 SUSMP deadline. However, if future applications for development on this site fall within one or more of the SUSMP categories of concern, an approved USMP, that incorporates appropriate post construction best management practices (BMPs) into the design of the project, must be prepared and approved prior to issuance of any grading or building permits.

Response 8B

The commentor requests estimates of additional runoff during wet and dry seasons. Pre- and post-project peak (Q50) runoff estimates are shown in Table 4.3-1 in Section 4.3, *Hydrology and Water Quality*. Based on Los Angeles County methodologies (which include use of burning and bulking factors), site development would increase surface flow to Newhall Creek, but reduce surface flow to Railroad Canyon. Runoff during the dry season would be substantially less than during the wet season, but would depend on the type of landscaping and irrigation used.

Response 8C

The commentor requests an estimate of changes in percolation due to the project. Percolation on the site under existing conditions was estimated by Sikand Engineering (April 2002) to be 431 cfs under 10-year flood conditions, 1,230 cfs under 50-year flood conditions, and 1,785 cfs under 100-year flood conditions. The proposed project is projected to decrease percolation on the site by 29 cfs under 10-year flood conditions, by 80 cfs under 50-year flood conditions, and by 117 cfs under 100-year flood conditions.





Response 8D

The commentor requests estimates of the net change of groundwater and surface water contributions under historic drought and flood conditions. This information is not available, but is not relevant to the EIR. The purpose of the EIR is to assess the specific impacts of the proposed action, which is development of an industrial park. The impacts of the project with respect to surface water flows is discussed in Section 4.3, *Hydrology and Water Quality*. Impacts to water supplies, including groundwater, are discussed in Section 4.10, *Utilities*. Further discussion has been included in the water supply assessment provided by the Newhall County Water District pursuant to the requirements of SB 610. As noted in that assessment, there is currently no overdraft of area aquifers.

**SANTA MONICA MOUNTAINS CONSERVANCY**

RAMIREZ CANYON PARK  
750 RAMIREZ CANYON ROAD  
MALIBU, CALIFORNIA 90265  
PHONE (310) 589-3200  
FAX (310) 589-3207

9



February 25, 2002

Planning Commission  
City of Santa Clarita  
23920 Valencia Boulevard, Suite 300  
Santa Clarita, California 91355

**Gate-King Industrial Park Subdivision (Needham Ranch)  
Draft Environmental Impact Report (SCH NO. 2001021121) Comments**

Dear Chairperson Burkhart and Commission Members:

The Santa Monica Mountains Conservancy has advocated the protection of a critical mass of open space in the large block of natural land between Interstate 5 and State Route (SR)14 for over a decade. The proposed Gate-King Industrial Subdivision is located in this area that is commonly referred to as the Newhall Wedge (wedge). By all accounts this wedge of land holds the key to maintaining an adequate wildlife movement corridor between the San Gabriel and Santa Susana Mountains. The regional value of this inter-mountain range habitat linkage cannot be overstated. The subject 584-acre property comprises approximately one-fourth of the available wildlife habitat area within the wedge and is contained within the County's proposed Significant Ecological Area (SEA) expansion boundary.

9A

For the wedge to function well as an inter-mountain range wildlife corridor, it must permanently retain sub-populations of local mammals such as the American badger, bobcat, and grey fox. The only way sub-populations of these and other wildlife species can be retained is if a critical mass of habitat is permanently protected. The acreage and qualities of that critical mass are not known. The Draft Environmental Impact Report (DEIR) is deficient for not addressing or analyzing the impacts of the proposed project on the potential of the wedge area to maintain sub-populations of key mammal species. The Conservancy's April 9, 2001 Notice of Preparation comment letter requested the inclusion of specific, reasonable information in the DEIR to inform the public, agencies and decision makers about potential impacts to the wedge as a planning unit. The DEIR does conclude that the proposed project would result in unavoidable significant adverse impacts on this wildlife corridor. However, the DEIR provides no information to decision makers regarding the long term severity of these adverse effects if they were to approve the project based on a Statement of Overriding Considerations.

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Gate-King Industrial Park DEIR Comments  
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**Regionally Significant Viewshed Impacts**

The subject island of natural land between Interstate 5 and SR 14 also comprises a regionally significant green belt that separates the Santa Clarita Valley from the San Fernando Valley. The viewshed quality of this greenbelt on the east side of SR 14 has been enhanced by the Conservancy's and the City of Santa Clarita's joint purchase (pending) of the Whitney Canyon property through the Santa Clarita Watershed Recreation and Conservation Authority (SCWRCA). On the other hand, the greenbelt viewshed on west side of SR 14 has deteriorated from cemetery expansion and is threatened by the primary ridgeline grading of the proposed Gate-King Industrial Park. The proposed project would grade a one and one-quarter-mile-long section of this primary ridgeline that parallels Sierra Highway and SR 14.

9B

The DEIR concludes that the proposed project would result in unavoidably significant adverse visual impacts and that "outside of redesigning the project to eliminate the grading of primary and secondary ridgelines, no mitigation measures are available to avoid changes to public viewing areas." The project, as proposed (as well as any project that mass grades the subject primary ridgeline), is incongruous with the City's Ridgeline Preservation and Hillside Development Ordinances.

**Proposed Project's Incompatibility with Terrain, Visual and Ecological Resources**

The proposed project is a classic case of letting the use dictate the project footprint as opposed to letting the land, and its constraints, dictate the project footprint. The project proposal lays a 4.5 million-square-foot industrial commercial project on a site that includes steep terrain covered by intact native plant communities within a regional wildlife movement corridor. In order to force a project of this scale onto this site, it requires grading 1.25 miles of primary ridgeline, moving over seven million cubic yards of earth, filling almost seven acres of California Department of Fish and Game stream jurisdictional area, eliminating 1,100 healthy oak trees, removing 709 dead or fire damaged ecologically valuable oak trees, and adversely encroaching upon an additional 550 oak trees.

9C

**Importance of Ridgeline Preservation and Oak Tree Preservation DEIR Alternatives**

The key point of this letter is that major portions of the site are suitable for development and that major portions are entirely unsuitable for development. The disturbed northern areas are suitable for development and the undisturbed southern areas are not suitable. The DEIR includes two environmentally superior alternative projects that reflect the

9D

Santa Clarita Planning Commission  
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ecological and visual constraints of the property. Both the Ridgeline Preservation and Oak Tree Preservation alternatives provide for over two million square feet of commercial development on 70-acre footprints. Both of these DEIR alternatives are balanced because they require some oak removal, some impact to stream courses, and grading on the primary ridgeline. Likewise, they adequately protect the wildlife habitat, wildlife corridor and viewshed resources of the subject property.

90  
(Cont'd)

If the FEIR concludes that the Ridgeline Preservation and Oak Tree Preservation alternatives are economically infeasible, the FEIR must state that such a conclusion was based wholly on the applicants' feedback and was not based on an independently funded and prepared economic analysis. It may be possible to design an economically feasible project on this site without the need to adopt a Statement of Overriding Consideration for biological and visual impacts.

**Need for Reduced Footprint Alternative with 'C' Street Connector**

A key point in shaping an alternative project is that the Ridgeline Preservation and Oak Tree Preservation alternatives are conceptual and ripe for some modifications that could make the project more economically feasible while sufficiently protecting resources. For example, a blend between these two alternatives may be environmentally superior and provide more buildable square feet than each independent alternative.

9E

Although a by-pass road connection between San Fernando Road and Sierra Highway is not listed in the project objectives, indications are that such a road is important to the City. On this note, we urge the City to explore alternatives that stay true to the footprints contained in the Ridgeline Preservation and Oak Tree Preservation alternatives but also provide for such a connector road. Such an alternative was requested and carefully detailed in the Conservancy's April 9, 2001 letter. Unless such an alternative is included and analyzed within the Final EIR, the range of alternatives will remain deficient and inadequate because a substantially reduced footprint project with the described connector road is an essential combination of project components. The Reconfigured 'C' Street DEIR alternative does not substantially reduce the project footprint.

The Oak Tree Preservation alternative does include a connection for 'C' Street but omits the required slope grading in Figure 6-3. In addition, the DEIR text does explain the need for over 25 acres of grading along a major right-of-way that would contain landscaped slopes and trails as shown in Figure 6-3. The FEIR must analyze the adverse effects of this grading

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and landscaping on the ability of the adjacent natural open space to provide suitable denning and nesting sites for more human intolerant wildlife species

9E  
(Cont'd)

#### Existence of Public Controversy

The DEIR is misleading in stating that there are no known areas of public controversy, only that some public agencies have expressed concern about the project. The Conservancy is opposed to the proposed project even with minor adjustments. In addition the California Department of Fish and Game has strong concerns about the project. Some additional flaws in the DEIR are addressed below.

9F

#### Incorrect Characterization of Open Space Acreage

The DEIR states that project would provide for 220 acres of natural open space. The actual number is much closer to 180 acres. The 220 acre total includes approximately five acres of grading to create the road to a water tank, approximately 20 acres of grading to accommodate 'C' Street and a minimum of 10 acres of fuel modification area around buildings. At a maximum, the project would include 185 acres of undisturbed natural land. Thirty-five of the acres in the 220 acre figure would either be replanted manufactured slopes or permanently cleared for fuel modification. Because the project would also have an approximately 3,000 to 4,000-foot-long interface with the 180-185 acres of open space, the indirect impacts of lighting would further diminish its value.

9G

To begin with, a 38 percent open space figure is far below the standard open space dedication required by all county and city governments in the Conservancy Zone. With the proposed project's true amount of open space being 180-185 acres, less than one third of the project would be dedicated open space. The resources on numerous properties warrant undisturbed open space dedications greater than 65 percent, as was determined by the City on the recently approved Golden Valley project. The resources on this property warrant dedication of a great majority of the site.

#### Inadequately Defined Mitigation Measures

The DEIR states that the proposed development "may cause the direct loss of special-status wildlife through the conversion of onsite habitats to developed areas." The DEIR considers this a significant but mitigable impact. We challenge the DEIR conclusion that the impacts of such habitat conversion (loss) can be mitigated by string of amorphous measures that only provide for future avoidance of additional impacts. None of these measures replace the habitat lost to the special status species. Wildlife surveys do not constitute mitigation.

9H

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Gate-King Industrial Park DEIR Comments  
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The DEIR calls for special status species to be relocated if found and allowed to finish nesting before adjacent habitat is graded. These measures combined with landscaping slopes and doing an oak trees plan provide no identifiable mitigation for loss of special species habitat. The DEIR is deficient for not concluding that the loss of special species habitat is an unavoidable significant adverse impact.

9H  
(Cont'd)

The only exception is the proposed riparian habitat mitigation, which is totally undefined in the DEIR, other than to say that a Streambed Alteration Agreement would be required with the California Department of Fish and Game (CDFG) with a replacement ratio of 1:1 up to 4:1. The DEIR includes no information about where such riparian mitigation would occur, what it would consist of, and if it would benefit the subject special status species. CEQA requires mitigation to be included in an EIR as opposed to some future document or study.

A similar DEIR deficiency exists with the applicant's amorphous proposal to construct wildlife movement culverts under Sierra Highway. If these culverts are part of the project, or its mitigation measures, they must be defined in detail in the DEIR. We recommend that the applicant be required to pay three-fourths of the amount necessary to construct a CDFG approved undercrossing. The undercrossing would then be built coinciding with the future development, and corresponding funding from, of the adjacent "Hondo Oil" property.

**Dedication of Public Open Space and Maintenance Funding**

Because of the site's ecological sensitivity, any commercially viable project would result in substantial adverse ecological impacts. To partially mitigate these impacts, it is imperative that the City require all ungraded area to be dedicated to a public park agency. In addition, such a dedication must include easements in favor of the development entity to allow for privately funded fuel modification on public land. The DEIR should also incorporate a Landscape Maintenance District in the mitigation measures to fund maintenance of the open space. For a sense of scale, a 50-acre development footprint should fund a minimum of \$10,000 a year, in perpetuity. A 100-acre project should provide a minimum of \$15,000 a year, in perpetuity.

9I

The value of open space in the Santa Clara River watershed, in the green belt between Santa Clarita and Los Angeles, and in the connection between the Angeles National Forest and the Santa Clarita Woodlands is of State-wide significance. The most sound and enduring public policy direction on the subject property is to maximize the permanent protection of these resources. We urge the City to both include and support an alternative

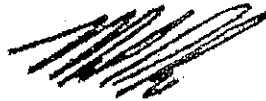
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in the Final EIR that includes less than an 80-acre project footprint in the mold of the  
Ridgeline Preservation and Oak Tree Preservation alternatives in the DEIR. Future  
generations will laud such an alternative project footprint.

91  
(Cont'd)

Please direct any questions or future correspondence to Paul Edelman of our staff at (310)  
589-3200 ext. 128.

Sincerely,



MICHAEL BERGER  
Chairperson

Letter 9

COMMENTOR: Michael Berger, Chairperson, Santa Monica Mountains Conservancy

DATE: February 25, 2002

RESPONSE:

Response 9A

The commenter notes that the project site constitutes about one-fourth of the Newhall Wedge area, which functions as an important habitat linkage between the San Gabriel and Santa Susana Mountains. He also states an opinion that the Draft EIR is deficient because it does not provide information about the long-term severity of impacts to wildlife movement if the City adopts a Statement of Overriding Considerations for wildlife movement impacts.

The Draft EIR acknowledges the presence of the wildlife movement corridor in the setting section in Section 4.6, *Biological Resources* and discusses the regional wildlife corridor issue and the importance of the Newhall Wedge in wildlife movement and providing habitat for local populations. Approximately 221 acres of high-quality native habitat in the southern portion of the site would be preserved, including the most critical wildlife crossing onsite (the Los Piñetos corridor). In addition, about 95 acres to be graded would be revegetated with native plant species. As a result, about 316 acres onsite (54% of the project area) would either be preserved as natural open space or enhanced with native plantings. Preservation of these habitat areas, particularly in the southern portion of the site where the most critical wildlife movement paths occur, would be expected to allow for the continued movement through the site between the San Gabriel Mountains and the Santa Susana Mountains.

As the project site constitutes roughly one quarter of the Newhall Wedge, development of about half of the site would remove about one-eighth of the remaining undeveloped area within the Wedge. Although this would reduce the wildlife carrying capacity of the Wedge area as a whole, the loss of one eighth of the Wedge is not expected to preclude the ability to maintain subpopulations of mammal species in the area.

The proposed open space dedication would allow for continued wildlife movement through the site; however, any development onsite would make movement more circuitous and difficult by reducing the width of available corridors. As noted in EIR Section 4.6, the Los Piñetos corridor in the southern portion of the site is of particular concern as evidence of large mammal movement has been noted in that area. The proposed project would largely preserve this corridor, but would place 'C' Street and associated industrial park development adjacent to the main path of wildlife movement. Although the presence of this development would not prevent wildlife movement, the additional human presence (lighting, traffic, noise, etc.) adjacent to the main corridor was determined to have the potential to make such movement more difficult and potentially hazardous. This potentially significant impact cannot be avoided outside of redesigning the project to eliminate development directly adjacent to the movement corridor. Section 6.0 of the EIR includes three alternative development scenarios that would eliminate portions of 'C' Street and associated industrial park development, thus reducing the impact to the Los Piñetos corridor to a level considered less than significant.





Response 9B

The commentor notes that the proposed project would involve grading of much of the Primary ridgeline onsite and states an opinion that the project is incongruous with the City's Ridgeline Preservation and Hillside Development Ordinance. These comments are noted. Although portions of the Primary ridgeline have previously been graded, the project would disturb an estimated 73% of the existing ridgeline. This was determined to be an unavoidably significant impact of the project for which the City would need to adopt a Statement of Overriding Considerations if it approves the project as proposed. City decisionmakers will make a final determination of consistency or inconsistency with the Ordinance. Section 6.0 of the EIR analyzes alternatives that would reduce the impact to the Primary ridgeline onsite.

Response 9C

The commentor states an opinion that the scale and layout of the project are inappropriate for the site. This opinion is noted. Section 6.0 of the EIR examines several alternative designs for the project that would reduce the overall amount of development onsite, thus reducing the severity of project impacts.

Response 9D

The commentor states opinions regarding the relative suitability of portions of the site for development and states a preference for Alternatives 3 and 4. The commentor's support for Alternatives 3 and 4 is noted. As discussed in Section 6.0 of the EIR, either Alternative 3 or Alternative 4 could be considered environmentally superior overall among the development scenarios, depending upon whether preservation of ridgelines or oak trees is deemed more important. Pursuant to State CEQA Guidelines Section 15126.6(f)(1), among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). If the City were to approve a project other than the environmentally superior alternative, it would need to adopt Findings setting forth the reasons the environmentally superior alternative is not feasible.

Response 9E

The commentor suggests consideration of an alternative that combines features of Alternative 3 and Alternative 4. He also states that the "Reconfigured 'C' Street Alternative" does not substantially reduce the project footprint and states an opinion that clarification of the impact of grading associated with the "Oak Tree Preservation" alternative is needed.

Pursuant to Section 15126.6(a) of the State CEQA Guidelines, "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a



reasonable range of potentially feasible alternatives that will foster informed decisionmaking and public participation." The alternatives studied attempt to address the major impacts of the project (biological resources and visual impacts) by reducing the overall development envelope and associated impacts. It is the opinion of the EIR preparers that the alternatives studied in the EIR provide a "reasonable range" as required by CEQA. Nevertheless, information about additional alternatives (including an alternative that avoids the Primary ridgeline entirely) has been presented to the Planning Commission as part of the environmental review process. The Commission could elect to approve some combination of the various alternatives studied. If the alternative would have any additional significant impacts beyond those identified for the proposed project in the Draft EIR, recirculation of the Draft EIR for additional public comment would be required.

The Reconfigured 'C' Street alternative would only incrementally reduce the overall building footprint as compared to the applicant's proposal. However, by eliminating most of 'C' Street and associated development, it would avoid the significant impact of the project to the Los Piñetos wildlife crossing.

With respect to grading associated with the Oak Tree Preservation alternative, the alternative is conceptual in nature and no specific grading envelope has been developed. It is presumed that grading would be substantially less than that required for the proposed project, but grading would be required to accommodate the 'A' Street connection to Sierra Highway. The 3.5-acre lot and the 8.8-acre lots in the southern portion of the site that are shown as "landscaped slopes and trails" on Figure 6-3 would in reality remain as open space. Figure 6-3 will be revised in the Final EIR to reflect this change.

#### Response 9F

The commentor states an opinion that the statement that there are no known areas of public controversy is misleading since several public agencies have expressed concern about the project. Section 1.5, *Areas of Controversy*, is intended to mention issues that have been a source of controversy with the public. At the time of publication of the Draft EIR, community members had not raised any significant concerns over the project as only one individual attended the public EIR scoping meeting held at the outset of the environmental review process. Nevertheless, it is true that several agencies have expressed concern about aspects of the project and City staff were aware that issues relative to ridgeline grading and loss of oak trees were likely to become controversial. In response to this comment, Section 1.5 is revised as follows:

*There is no known Public controversy surrounding the proposed project, as noted However, in the comments on the Notice of Preparation and the Draft EIR, included concerns by several public agencies and community groups expressed concern about possible impacts to on-site oak trees, wildlife movement corridors, ridgelines, and cultural resources.*

#### Response 9G

Although Lots 55 through 59 would contain minor improvements such as road grading and fuel modification zones, these lots would remain primarily as natural open space. Project impacts related to light and glare are described in Section 4.11, *Aesthetics*, of the Draft EIR. In



addition, as described in Section 4.6, *Biological Resources*, of the Draft EIR, wildlife dependent upon oak tree habitats and sensitive to human activity, such as raptors, could be displaced from retained oaks if trees are adjacent to lighting. Mitigation measure BIO-6(d) requires that the following low-light design features shall be implemented adjacent to open space and wildlife corridor areas:

- Low sodium lights shall be used on all roadways to reduce glare and direct it away from wildlife corridor and open space areas;
- Streetlight poles shall be of an appropriate height to reduce the glare and pooling of light into open space and corridor areas; and
- Street light elements shall be recessed or hoods shall be used to reduce glare impacts on open space and corridor areas.

The commentator states opinions regarding the sufficiency of the proposed dedication of 220.6 acres (37.8% of the site) to be preserved as permanent open space. The permanent open space area would encompass roughly the southern third of the site. The intent is to dedicate this portion of the site to the City or other designated agency for preservation as a permanent wilderness area that serves as a migratory corridor for wildlife as well as a passive recreational amenity for area residents. With the exception of about 22 acres that would be graded to provide an access easement for the water tank in Lot 42, the proposed open space area would be left in its natural condition.

#### Response 9H

The commentator states an opinion that impacts to special status species should be classified as unavoidably significant, notes that CEQA requires that mitigation be included in the EIR, and recommends that the applicant be required to pay three-fourths of the cost to construct wildlife movement culverts proposed as mitigation.

The Draft EIR includes several specific mitigation measures that would reduce project impacts on special-status species to a less than significant level. Multiple mitigation measures included in this document would reduce impacts to habitats onsite to the extent feasible, and thus to special-status species that are potentially present within these habitats. Measures BIO-1(a) and (b) require minimization of impacts to chaparral and scrub habitats within fire clearance zones, when feasible, and revegetation of landscape areas with native chaparral and scrub species. Mitigation measure BIO-4(a) would minimize impacts to oaks and oak woodland to the extent feasible and create a mitigation plan for oak replacement onsite. Mitigation measures BIO-5(a) and (b) would avoid impacts to the perennial riparian area onsite, and mitigate impacts to habitats associated with CDFG and Corps jurisdictional areas through habitat replacement. These measures would mitigate direct and indirect impacts to habitats onsite to the extent feasible. In addition, mitigation measure BIO-7(a) requires pre-construction surveys for nesting raptors and establishment of buffers if necessary, and mitigation measure BIO-7(b) requires pre-construction surveys for coast horned lizard, coastal western whiptail, coast patch-nosed snake, rosy boa, California horned lark, and the Southern California rufous-crowned sparrow and capture and relocation of identified species.

The commentator suggests that implementation of the recommended mitigation for loss of special-status species habitat would not reduce impacts to a less than significant level. It is



important to note that none of the special-status species identified on the project site are formally listed. Therefore, these species are not afforded formal protection under the state or federal endangered species acts. The proposed project provides for approximately 54% of the site to be left in natural open space or enhanced with native plants. Direct impacts to special-status wildlife species identified in the Draft EIR would be avoided and minimized through a nest avoidance and salvage and relocate program for individual animals. The habitat preservation and measures to avoid and minimize impacts on individual animals are commensurate with the potential impacts on these wildlife species relative to their rarity.

As described in the Draft EIR, the project applicant is required to comply with State and Federal law regarding riparian areas, and secure permits from the appropriate regulatory agencies for impacts on waters of the U.S. or waters of the State, which typically require mitigation. The Draft EIR recommends a minimum mitigation ratio of habitat created to that impacted at 2:1 and sets a minimum set back distance from perennial drainages to development of 100 feet. These recommended mitigation measures would reduce impacts to a less than significant level. Regulatory agency permitting will likely be even more stringent. The specific measures required by these agencies are at the discretion of agency staff rather than the City of Santa Clarita. As these measures have not yet been specified by the regulatory agencies, it would not be appropriate to include such permitting measures in the Draft EIR.

The commentor discusses the applicant's proposal to construct a culvert for wildlife movement under Sierra Highway. The Draft EIR does not include a recommendation for a wildlife culvert crossing under the Sierra Highway; however, Mitigation Measure BIO-6(a) does require wildlife culvert crossings for roadways within the project area. Implementation of this and other mitigation measures would reduce impacts resulting from project development to wildlife corridors to the degree feasible given the magnitude and design of the proposed development. However, outside of redesigning the project to eliminate lots 27, 28, and 42, impacts to the Los +Piñetos Road corridor cannot be avoided. Several project alternatives discussed in Section 6.0 would eliminate lots 27, 28, and 42, thus avoiding the significant impact to the wildlife movement corridor:

#### Response 9I

The commentor states opinions regarding project open space maintenance and reiterates an opinion that the City should consider an alternative similar to Alternatives 3 and 4. The opinion with respect to alternatives is noted. Alternatives are discussed under Response 9E. Maintenance of the landscaped slope areas would be the responsibility of the applicant and/or an association. Maintenance of the trail easements and natural open space areas would be the responsibility of the City or other public entity that takes ownership of the open space area. The intent of the project is to dedicate the natural open space portions of the site to the City or other designated agency for preservation as a permanent wilderness area that serves as a migratory corridor for wildlife as well as a passive recreational amenity for area residents.



COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

(323) 890-4330

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APR 09 2002

PLANNING AND BUILDING SERVICES
CITY OF SANTA CLARITA

10

P. MICHAEL FREEMAN
FIRE CHIEF
FORESTER & FIRE WARDEN
April 19, 2001

Joe Power, AICP
Planning Manager
Rincon Consultants, Inc.
790 East Santa Clara Street
Ventura, CA 93001

Dear Mr. Power:

"REQUEST FOR INFORMATION" -- GATE KING INDUSTRIAL PARK
CITY OF SANTA CLARITA -- (EIR #1107/2001)

The request for information for the Gate King Industrial Park has been reviewed by the Planning, Land Development, and Forestry Divisions of the County of Los Angeles Fire Department. The following are their comments:

FIRE PROTECTION AND EMERGENCY MEDICAL SERVICE AVAILABILITY:

The subject development will receive fire protection and paramedic service from the County of Los Angeles Fire Department. Fire Station 73, located at 24875 N. San Fernando Road, Newhall, CA 91321-1520, is currently the jurisdictional station for this property. Below are the closest response units, their approximate distance/time, and staffing.

104

Table with 4 columns: EQUIPMENT, DISTANCE IN MILES, TIME IN MINUTES, STAFFING. Rows include Engines 73 & 273, Engine 124, Truck 73, Squad 124, and Hazardous Materials Squad 76.

(A) to "A" Street and Lot 3

(B) to "C" Street and Lot 26

SERVING THE UNINCORPORATED AREAS OF LOS ANGELES COUNTY AND THE CITIES OF:

- List of cities and areas served: AGOURA HILLS, ARTESIA, AZUSA, BALDWIN PARK, BELL, BELL GARDENS, BELLFLOWER, BRADBURY, CALABASAS, CARSON, BALDWIN PARK, CLAREMONT, CLAMMERCE, COVINA, CUDAHY, DIAMOND BAR, DUARTE, EL MONTE, GARDENA, GLENDORA, HAWAIIAN GARDENS, HAWTHORNE, HIDDEN HILLS, HUNTINGTON PARK, INDUSTRY, INGLEWOOD, IRVINGDALE, LA CANADA-FLINTRIDGE, LA MIRADA, LA PUENTE, LAKEWOOD, - 67 - R, LOMITA, LYNWOOD, MALIBU, MAYWOOD, NORWALK, PALMDALE, PALOS VERDES ESTATES, PARAMOUNT, PICO RIVERA, POMONA, RANCHO PALOS VERDES, ROLLING HILLS, ROLLING HILLS ESTATES, ROSEMEAD, SAN DIMAS, SANTA CLARITA, SIGNAL HILL, SOUTH EL MONTE, SOUTH GATE, TEMPLE CITY, WALNUT, WEST HOLLYWOOD.

Joe Power, AICP  
April 19, 2001  
Page 2

In the near future Station 124 will be relocated to Hemingway Avenue and Stevenson Ranch Road, approximately 1.3 miles or 2.3 minutes farther from the project.

Additional manpower, equipment, and facilities will be needed to serve this development. The Fire Department may need a fire station placed in the southern portion of this proposed development, close to point B, in order to provide adequate fire and emergency medical service. Additional information is required before a complete analysis of fire protection needs can be completed. Please contact Barbara Herrera, Head, Planning Section, at (323) 881-2404 to discuss the need for a fire station site within this development and its inclusion in the tract map.

10A  
(Cont'd)

The applicant shall participate in an appropriate financing mechanism, such as a developer fee and/or an in-kind consideration in lieu of developer fees (such as a fire station site), to provide funds for fire protection facilities which are required by new commercial, industrial or residential development in an amount proportionate to the demand created by this project. Currently, the developer fee is a set amount per square foot of building space, adjusted annually, and is due and payable at the time a building permit is issued. In the event that the developer fee is no longer in effect at the time of building permit issuance, alternative mitigation measures shall be required.

**GENERAL REQUIREMENTS:**

The projected use of the proposed development may necessitate multiple ingress/egress access for the circulation of traffic, and emergency response issues. The development of this project must comply with all applicable code and ordinance requirements for construction, access, water main, fire flows and hydrants.

This property is located within the area described by the Forester and Fire Warden as a Fire Zone 4, Very High Fire Hazard Severity Zone (VHFHSZ). All applicable fire code and ordinance requirements for construction, access, water mains, fire hydrants, fire flows, brush clearance and fuel modification plans, must be met.

10B

Specific fire and life safety requirements for the construction phase will be addressed at the building fire plan check. There may be additional fire and life safety requirements during this time.

Every building constructed shall be accessible to fire department apparatus by way of access roadways, with an all-weather surface of not less than the prescribed width, unobstructed, clear to the sky. The roadway shall be extended to within 150 feet of all portions of the exterior walls when measured by an unobstructed route around the exterior of the building.

When a bridge is required, to be used as part of a fire access road, it shall be constructed and maintained in accordance with nationally recognized standards and designed for a live load sufficient to carry a minimum of 75,000 pounds.

The maximum allowable grade shall not exceed 15% except where the topography makes it impractical to keep within such grade, and then an absolute maximum of 20% will be allowed for up to 150 feet in distance. The average maximum allowed grade, including topography difficulties, shall be no more than 17%. Grade breaks shall not exceed 10% in 10 feet.

Joe Power, AICP  
 April 19, 2001  
 Page 3

When involved with subdivision, Fire Department requirements for access, fire flows and hydrants are addressed during the subdivision tentative map stage.

Fire sprinkler systems are required in some residential and most commercial occupancies. For those occupancies not requiring fire sprinkler systems, it is strongly suggested that fire sprinkler systems be installed. This will reduce potential fire and life losses. Systems are now technically and economically feasible for residential use.

10B  
 (Cont.)

COMMERCIAL OR INDUSTRIAL

Development may require fire flows up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to a five-hour duration. Final fire flows will be based on the size of the buildings, their relationship to other structures, property lines, and types of construction used. Fire hydrant spacing shall be 300 feet and shall meet the following requirements:

1. No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant.
2. No portion of a building shall exceed 400 feet via vehicular access from a properly spaced public fire hydrant.
3. When cul-de-sac depth exceeds 200 feet on a commercial street, hydrants shall be required at the corner and mid-block. Additional hydrants will be required if hydrant spacing exceeds specified distances.
4. A cul-de-sac shall not be more than 500 feet in length, when serving land zoned for commercial use.
5. A Fire Department approved turning area shall be provided at the end of a cul-de-sac.

10C

Turning radii shall not be less than 42 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for all driveways exceeding 150 feet in length and at the end of all cul-de-sacs.

All on-site driveways shall provide a minimum unobstructed width of 26 feet, clear-to-sky. The on-site driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. Driveway width for commercial or industrial developments shall be increased when any of the following conditions will exist:

1. Provide 28 feet in width, when a building has three or more stories, or is more than 35 feet in height, above access level. Also, for using fire truck ladders, the centerline of the access roadway shall be located parallel to, and within 30 feet of the exterior wall on one side of the proposed structure.
2. Provide 34 feet in width, when parallel parking is allowed on one side of the access roadway/driveway. Preference is that such parking is not adjacent to the structure.

Joe Power, AICP  
April 19, 2001  
Page 4

- 3. Provide 42 feet in width, when parallel parking is allowed on each side of the access roadway/driveway.
- 4. All "Fire Lanes" will be depicted on the final map, and will be designated with the appropriate signage. "Fire Lanes" are any ingress/egress, roadway/driveway with paving less than 34 feet in width, and will be clear-to-sky.

10C  
10Coutd

LIMITED ACCESS DEVICES (GATES ETC.):

- 1. Any single gate used for ingress and egress shall be a minimum of 26 feet in width, clear-to-sky.
- 2. Any gate used for a single direction of travel, used in conjunction with another gate, used for travel in the opposite direction, (split gates) shall have a minimum width of 20 feet each, clear-to-sky.
- 3. Gates and/or control devices shall be positioned a minimum of 50 feet from a public right-of-way, and shall be provided with a turnaround having a minimum of 32 feet of turning radius. If an intercom system is used, the 50 feet shall be measured from the right-of-way to the intercom control device.
- 4. All limited access devices shall be of a type approved by the Fire Department.
- 5. Gate plans shall be submitted to the Fire Department, prior to installation. These plans shall show all locations, widths and details of the proposed gates.

10D

TRAFFIC CALMING MEASURES

All proposals for traffic calming measures (speed humps/bumps, traffic circles, roundabouts, etc.) shall be submitted to the Fire Department for review, prior to implementation.

Should any questions arise regarding design and construction, and/or water and access, please contact Inspector Mike McHargue at (323) 890-4243.

10E

OTHER ENVIRONMENTAL CONCERNS:

The statutory responsibilities of the County of Los Angeles Fire Department Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed in the Draft Environmental Impact Report.

10F

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

DAVID R. LEININGER, ACTING CHIEF, FORESTRY DIVISION  
PREVENTION BUREAU

DRL:lc



Enclosure



COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90083-3294

(323) 890-4330

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PLANNING AND BUILDING SERVICES
CITY OF SANTA CLARITA

P. MICHAEL FREEMAN
FIRE CHIEF
FORESTER & FIRE WARDEN

April 10, 2002

Kelvin Parker, Assistant Planner
City of Santa Clarita
23920 Valencia Blvd., Suite 300
Santa Clarita, CA 91355-2196

Dear Mr. Parker:

DRAFT ENVIRONMENTAL IMPACT REPORT - THE GATES KING INDUSTRIAL PARK
PROJECT, MC #99-264, GPA #99-003, ZC #99-002, OTP #99-029, CUP #99-013, SCH #2001021121, TTM
#50283, "CITY OF SANTA CLARITA"- (EIR #1327/2002)

The Draft Environmental Impact Report for the "Gates King Industrial Park Project" has been reviewed by the
Planning, Land Development, and Forestry Divisions of the County of Los Angeles Fire Department. The
following are their comments:

PLANNING SECTION:

As an update to the information presented in Table 4.9-1, please note that one of the engines formerly located in
Station 73 has been transferred to new Fire Station 126 in the Valencia Civic Center. Station 73 now houses one
3-person engine company and the truck company.

Our most substantive comment letter on this project (copy enclosed dated April 19, 2001), although referenced in
the footnote to the table is not shown in Appendix A. Also, as provided for in Mitigation Measure PS-2(b) (on
Page 4.9-6), coordination with the Fire Department on a fire station site will be through Barbara Herrera, Head,
Planning Section. She can be contacted at (323) 881-2404 to coordinate with the developer the optimum site to
serve this area and the surrounding community. Access, road grades, and site configuration will be primary
factors in selecting a site.

LAND DEVELOPMENT UNIT - GENERAL REQUIREMENTS:

The projected use of the proposed development may necessitate multiple ingress/egress access for the circulation
of traffic, and emergency response issues. The Department may condition future development to provide
additional means of access.

The development of this project must comply with all applicable code and ordinance requirements for
construction, access, water mains, fire flows and hydrants.

SERVING THE UNINCORPORATED AREAS OF LOS ANGELES COUNTY AND THE CITIES OF:

- AGOURA HILLS BRADBURY CUDAHY HAWTHORNE LA MIRADA MALIBU POMONA SIGNAL HILL
ARTESIA CALABASAS DIAMOND BAR HIDDEN HILLS LA PUENTE MAYWOOD RANCHO PALOS VERDES SOUTH EL MONTE
AZUSA CARSON DUARTE HUNTINGTON PARK LAKEWOOD NORWALK ROLLING HILLS SOUTH GATE
BALDWIN PARK CERRITOS EL MONTE INDUSTRY PALMDALE ROLLING HILLS ESTATES TEMPLE CITY
BELL CLAREMONT GARDENA INGLEWOOD PALM DALE PALOS VERDES ESTATES ROSEMEAD WALNUT
BELL GARDENS COMMERCE GLENDORA IRVINDALE LOMITA PARAMOUNT SAN DIMAS WEST HOLLYWOOD
BELLFLOWER COVINA HAWAIIAN GARDENS LA CANADA-FLINTRIDGE LYNWOOD RICO RIVERA SANTA CLARITA

10b-A

10b-E

Kelvin Parker, Assistant Planner  
April 10, 2002  
Page 2

This property is located within the area described by the Forester and Fire Warden as a Fire Zone 4, Very High Fire Hazard Severity Zone (VHFHSZ). All applicable fire code and ordinance requirements for construction, access, water mains, fire hydrants, fire flows, brush clearance and fuel modification plans must be met.

Specific fire and life safety requirements for the construction phase will be addressed at the building fire plan check. There may be additional fire and life safety requirements during this time.

Every building constructed shall be accessible to Fire Department apparatus by way of access roadways, with an all weather surface of not less than the prescribed width, unobstructed, clear-to-sky. The roadway shall be extended to within 150 feet of all portions of the exterior walls when measured by an unobstructed route around the exterior of the building.

When a bridge is required to be used as part of a fire access road, it shall be constructed and maintained in accordance with nationally recognized standards and designed for a live load sufficient to carry a minimum of 75,000 pounds.

The maximum allowable grade shall not exceed 15% except where the topography makes it impractical to keep within such grade, and then an absolute maximum of 20% will be allowed for up to 150 feet in distance. The average maximum allowed grade including topography difficulties, shall be no more than 17%. Grade breaks shall not exceed 10% in ten (10) feet.

When involved with subdivision, Fire Department requirements for access, fire flows and hydrants are addressed at the Los Angeles County Subdivision Committee meeting during the subdivision tentative map stage.

Fire sprinkler systems are required in some residential and most commercial occupancies. For those occupancies not requiring fire sprinkler systems, it is strongly suggested that fire sprinkler systems be installed. This will reduce potential fire and life losses. Systems are now technically and economically feasible for residential use.

**NON-RESIDENTIAL - COMMERCIAL - INDUSTRIAL - INSTITUTIONAL:**

Development may require fire flows up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to a five-hour duration. Final fire flows will be based on the size of the buildings, their relationship to other structures, property lines, and types of construction used. Fire hydrant spacing shall be 300 feet and shall meet the following requirements:

1. No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant.
2. No portion of a building shall exceed 400 feet via vehicular access from a properly spaced public fire hydrant.
3. Additional hydrants will be required if hydrant spacing exceeds specified distances.
4. When cul-de-sac depth exceeds 200 feet on a commercial street, hydrants shall be required at the corner and mid-block.
5. A cul-de-sac shall not be more than 500 feet in length when serving land zoned for commercial use.

106-B

106-C

Kevin Parker, Assistant Planner  
 April 10, 2002  
 Page 3

6. A Fire Department approved turning area shall be provided at the end of a cul-de-sac.

Turning radii shall not be less than 42 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for all driveways exceeding 150 feet in length and at the end of all cul-de-sacs. All on-site driveways shall provide a minimum unobstructed width of 26 feet, clear-to-sky. The on-site driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. Driveway width for non-residential developments shall be increased when any of the following conditions will exist:

1. Provide twenty-eight (28) feet in width, when a building has three or more stories, or is more than 35 feet in height above access level. Also, for using fire truck ladders, the centerline of the access roadway shall be located parallel to, and within 30 feet of the exterior wall on one side of the proposed structure.
2. Provide thirty-four (34) feet in width when parallel parking is allowed on one side of the access roadway/driveway. Preference is that such parking is not adjacent to the structure.
3. Provide forty-two (42) feet in width when parallel parking is allowed on each side of the access roadway/driveway.
4. "Fire Lanes" are any ingress/egress, roadway/driveway with paving less than thirty-four (34) feet in width, and will be clear-to-sky. All "Fire Lanes" will be depicted on the final map.
5. For streets or driveways with parking restrictions: The entrance to the street/driveway and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs stating "NO PARKING - FIRE LANE" in three-inch high letters. Driveway labeling is necessary to ensure access for Fire Department use.

**LIMITED ACCESS DEVICES (GATES, ETC.):**

1. Any single gate used for ingress and egress shall be a minimum of twenty-six (26) feet in width, clear-to-sky.
2. Any gate used for a single direction of travel, used in conjunction with another gate, used for travel in the opposite direction, (split gates) shall have a minimum width of twenty (20) feet each clear-to-sky.
3. Gates and/or control devices shall be positioned a minimum of 50 feet from a public right-of-way, and shall be provided with a turnaround having a minimum of 32 feet of turning radius. If an intercom system is used, the 50 feet shall be measured from the right-of-way to the intercom control device.
4. All limited access devices shall be of a type approved by the Fire Department.
5. Gate plans shall be submitted to the Fire Department prior to installation. These plans shall show all locations, widths, and details of the proposed gates.

Kelvin Parker, Assistant Planner  
April 10, 2002  
Page 4

TRAFFIC CALMING MEASURES:

All proposals for traffic calming measures (speed humps/bumps, traffic circles, roundabouts, etc.) shall be submitted to the Fire Department for review prior to implementation.

106-E

Should any questions arise regarding design and construction, and/or water and access, please contact Inspector Mike McHargue at (323) 890-4243 (E-mail: mmchargu@lacofd.org).

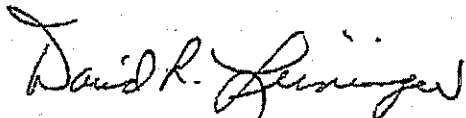
FORESTRY DIVISION - OTHER ENVIRONMENTAL CONCERNS:

The statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources and the County Oak Tree Ordinance. The areas germane to these statutory responsibilities of the County of Los Angeles Fire Department have been addressed.

106-F

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,



DAVID R. LEININGER, ACTING CHIEF, FORESTRY DIVISION  
PREVENTION BUREAU

DRL:sc

Enclosed

Letter 10

**COMMENTOR:** David R. Leininger, Acting Chief, Forestry Division, Prevention Bureau,  
County of Los Angeles Fire Department

**DATE:** April 19, 2001 (Letter 10) and April 10, 2002 (Letter 10b)

**RESPONSE:**

Response 10A

The commentor provides additional information regarding fire service to the project that is consistent with the analysis in Section 4.9, *Public Services*, of the Draft EIR. As described in Impact PS-2, the proposed project would increase demand for fire protection service. However, provision of funding for additional fire protection equipment and facilities, and adherence to guidelines regarding access to all property would reduce the impact to fire protection service to a less than significant level.

Response 10B

The commentor notes a number of general fire safety requirements that may apply to the proposed project. These requirements are noted. The applicant would be required to comply with all Fire Department safety requirements.

Response 10C

The commentor notes fire safety requirements for commercial or industrial uses that may apply to the proposed project. These requirements are noted. The applicant would be required to comply with all Fire Department safety requirements relevant to the industrial commercial development that is proposed.

Response 10D

The commentor notes Fire Department requirements pertaining to site access that may apply to the proposed project. These requirements are noted. The applicant would be required to comply with all Fire Department requirements pertaining to site access.

Response 10E

The commentor notes that any proposed traffic calming measures would require Fire Department review and approval. No such measures are proposed at this time, though any future proposals for calming measures would comply with Fire Department requirements.

Response 10F

The commentor notes that Fire Department responsibilities include erosion control, watershed management, rare and endangered species, vegetation, fuel modification, cultural resources, and County oak tree ordinance implementation. These responsibilities are noted.



Project impacts related to erosion control and watershed management are described in Section 4.3, *Hydrology*, of the Draft EIR. Impacts related to rare and endangered species, vegetation, and oak trees are discussed in Section 4.6, *Biological Resources*. Impacts related to fire hazards are discussed in Section 4.9, *Public Services*. Impacts related to archaeological and cultural resources are discussed in Section 4.12, *Cultural Resources*. It should be noted that the project site is within the City of Santa Clarita. As such, the City's oak tree ordinance applies to the site rather than the County ordinance.

Response 10b-A

The commentor provides updated information for the Public Services setting. In response to this comment, Table 4.9-1 of the EIR is revised as follows:

**Table 4.9-1 Fire Emergency Response Capabilities**

Equipment	Distance (Miles)	Time (Minutes)	Staffing
Engines 73 & 273	1.6 (A) 2.9 (B)	4.8 (A) 8.7 (B)	7
Engine 124	3.8 (A) 6.3 (B)	11.3 (A) 10.4 (B)	3
Truck 73	1.6 (A) 2.9 (B)	4.8 (A) 8.7 (B)	3 4
Squad 124	3.8 (A) 6.3 (B)	11.3 (A) 10.4 (B)	2
Hazardous Materials Squad	8.8 (A) 11.2 (B)	17.6 (A) 16.7 (B)	5

(A) A Street and Lot 3 (B) C Street and Lot 26

Source: Los Angeles County Fire Department, April 2001.

Note: Station 124 is to be permanently relocated, increasing the distance from the project site by about 1.3 miles, or 2.3 minutes.

The April 19, 2002 comment letter from the County of Los Angeles Fire Department is included in this document as Comment Letter 10.

Response 10b-B

The commentor notes several Fire Department requirements that may apply to the proposed project. These requirements are noted. If approved by the City, the project would need to be reviewed and approved by the County Fire Department prior to issuance of grading or building permits.

Response 10b-C

The commentor notes fire safety requirements for commercial or industrial uses that may apply to the proposed project. These requirements are noted. The applicant would be required to comply with all Fire Department safety requirements relevant to the industrial commercial development that is proposed.



Response 10b-D

The commentor notes Fire Department requirements pertaining to limiting site access that may apply to the proposed project. These requirements are noted. The applicant would be required to comply with all Fire Department requirements pertaining to site access.

Response 10b-E

The commentor notes that any proposed traffic calming measures would require Fire Department review and approval. No such measures are proposed at this time, though any future proposals for calming measures would comply with Fire Department requirements.

Response 10b-F

The commentor notes that Fire Department responsibilities include erosion control, watershed management, rare and endangered species, vegetation, fuel modification, cultural resources, and County oak tree ordinance implementation. These responsibilities are noted. Project impacts related to erosion control and watershed management are described in Section 4.3, *Hydrology*, of the Draft EIR. Impacts related to rare and endangered species, vegetation, and oak trees are discussed in Section 4.6, *Biological Resources*. Impacts related to fire hazards are discussed in Section 4.9, *Public Services*. Impacts related to archaeological and cultural resources are discussed in Section 4.12, *Cultural Resources*. It should be noted that the project site is within the City of Santa Clarita. As such, the City's oak tree ordinance applies to the site rather than the County ordinance.



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PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

William S. Hart Union High School District

April 1, 2002

11

City of Santa Clarita  
Planning Department  
Attention: Jeff Hogan  
23920 Valencia Blvd., Suite 300  
Santa Clarita, CA 91355

Re: TTM 50283 -- Gates King Project

Dear Mr. Hogan:

The William S. Hart Union High School District ("District") welcomes the opportunity to comment on the subject project, which, we understand, consists of 500 acres zoned primarily for commercial/industrial use.

Continual growth in the Santa Clarita Valley has created an urgent need for additional school facilities and the acquisition of land suitable for use as a school site is becoming increasingly difficult. Dedication of approximately 10 acres as a potential site for an alternative program would provide additional educational services to that portion of the Santa Clarita Valley.

Thank you for your consideration and if you require any additional information, please don't hesitate to call.

Sincerely,

Rory Livingston  
Assistant Superintendent - Business Services



*Letter 11*

**COMMENTOR:** Rory Livingston, Assistant Superintendent – Business Services, William S. Hart Union High School District

**DATE:** April 1, 2002

**RESPONSE:**

The commentor notes that dedication of a 10-acre parcel onsite for an alternative education program would provide additional educational services for the Santa Clarita Valley. This suggestion is noted. As described in Impact PS-4, in Section 4.9, *Public Services*, of the Draft EIR, the applicant would be required to pay applicable school impact fees to Newhall ESD and William S. Hart Union HSD. As this would meet the applicant's financial obligation under SB 150, it is presumed that payment of these fees would mitigate the project's potential indirect impact to public schools. Nevertheless, City decisionmakers will consider this suggestion as they review the project.



12

## SCOPE

Santa Clarita Organization for Planning and the Environment  
TO PROMOTE, PROTECT AND PRESERVE THE ENVIRONMENT, ECOLOGY  
AND QUALITY OF LIFE IN THE SANTA CLARITA VALLEY  
POST OFFICE BOX 1182, SANTA CLARITA, CA 91386



3-12-02

Planning Dept.  
City of Santa Clarita  
23920 Valencia Blvd.  
Santa Clarita, Ca. 91355

Re: Gate/King Industrial Park, SCH# 2212021121

Thank-you for the opportunity to comment on this EIR and the Industrial Project. Representatives from our group have met with the developer and toured the property. We would like to offer the following comments on the project.

12A

Although revitalization of the Northern area of Pine Street is a goal we fully support, we cannot support this project in its current configuration. The EIR is incorrect in stating there are no areas of public controversy. Approval of the current project would violate the hillside ordinance by grading on a significant ridgeline and destroy more oaks than any project ever approved in the Santa Clarita Valley. Also, further development approvals should be delayed until the ammonium perchlorate pollution in the Saugus Aquifer is remediated.

### Oak Trees

After touring the property to compare actual oak numbers to the oak tree report, it is apparent that the report has inaccuracies in certain areas that should be corrected. These inaccuracies are of three categories.

12B

1. Oaks indicated for removal on the oak tree map do not match the presentation given by the developer at the recent planning Commission hearing. For example, the heritage oaks touted as saved at the entrance on San Fernando Road are indicated for removal on the oak tree map. As permits are given according to what is on the oak tree map, the Commission and the public must have the latest up to date map before it to fully understand the project proposal. We therefore request a fully updated version of the oak tree location map (please consider this a request under the Public Records Act, Gov. Code Sec.6251-53) and ask that the Commission do the same for itself so that it can make informed decisions.
2. The oak trees slated for removal because they are fire damaged appear to be recovering. In fact the oak report lists many of these with canopies in "B" condition. We request that the City hire an independent oak consultant to evaluate fire-damaged trees as fire damage seems to be merely an excuse to remove excessive numbers of trees.
3. Some oaks on the property exist and are numbered, but do not appear in the oak tree report or on the oak tree map or both. For ir - 80 -, trees between 2215 and 2278 are

either missing on the map or missing on the list. Tree number 2313 is marked for removal on the map, but marked to be saved on the list. Again, it is the map that will direct the grading crews. These discrepancies must be carefully evaluated and corrected before the project receives further consideration.

Without an accurate oak tree map, the City cannot properly evaluate the project before it or comply with its own oak tree ordinance. We request that further hearings be delayed until an accurate map is available to both the public and the Commission for review.

We protest the EIR's use of the word "bank" for a proposal that would remove additional oaks. This use is mis-leading to the public and the Commission because a "bank" is normally associated with *saving* an item, *not* destroying it.

Any permitted oak removals should require replacement with oaks of the native variety that were removed, i.e. *quercus agrifolia* or *quercus lobata*. This should be a condition of project approval as it appears the City is allowing replacement of oaks with non-native species or species of other trees throughout the City.

Lastly, there continues to be an unresolved issue surrounding the illegal removal of 64 oaks on this property. The public was promised that this violation of the oak ordinance, the largest such infraction that has ever been brought to the attention of enforcement agencies, would be addressed in this EIR. It has not been. The City does not have to award permits to violators of the Oak Ordinance. We request that you exercise that right and demand redress for the illegal cutting of those oaks on behalf of the public.

### Wildlife Corridor

We concur with the Santa Monica Mountains Conservancy that the wildlife corridor is not sufficient in the proposed project configuration. Since this area provides the last link between the Santa Susanna and San Gabriel Mountain ranges, its maintenance is of vital importance to wildlife movement. Failure to maintain migration corridor links not only causes the decimation of species, but drives wildlife into inhabited areas as they continue to search for a means to reach natural areas. As we develop, it is most efficient for both the human and wildlife communities to work with the natural rhythms around them rather than spend time and money trying to "control" wildlife with staff time or poison.

Additionally, the US Forest Service denied the use of its portion of the Elsmere/Whitney Canyon area as a landfill because of the importance of this wildlife corridor. The Service has unconditionally stated at numerous public meetings that if the City does not protect the wildlife corridor as it develops, that would eliminate the Service's need to preserve it against a landfill as well. Our City spent almost a million dollars successfully opposing Elsmere Landfill. That investment must be protected as approval for this project is considered.

With the recent passage of Prop 40 and the availability of funds to purchase just this sort of important natural open space, we suggest that the City open a dialogue with the developer and the Conservancy to discuss purchase of the Southern areas of the proposal and eliminate the "C" Street connector.

12B  
(Cont'd)

12C

## Water

The Commission and the City of Santa Clarita has long been aware of our concern over the inadequacy of our local water supply to support the extreme and rapid amount of development approved and under consideration in this Valley. Failure to adequately evaluate water supply occurs in three areas.

12D

1) In spite of the recent appellate court decisions in PCL v. DWR, 1999 and Friends of the Santa Clara River v. Castaic Lake Water Agency, 2002, the City continues to rely on the misrepresentation that we will be able to receive a full state water entitlement and that the 41,000 acre foot water transfer is available. The embodiment of this problem is clearly stated in FN7 of the PCL decision:

*"Paper water always was an illusion. "Entitlement" is a misnomer, for contractors surely cannot be entitled to water nature refuses to provide or the body politic refuses to harvest store and deliver. Paper water represents the unfulfilled dreams of those, steeped in the water culture of the 1960's created the expectation that 4.23 million acre feet of water could be delivered by a state water project built to capacity".*

These two decisions are published and easily obtainable at [www.courtinfo.com](http://www.courtinfo.com), we have therefore not attached them to our comments, but encourage you to review and comply with their findings. It is an abuse of discretion to rely on information you know to be false.

2) Over draft of the Santa Clara River. The River is currently fully utilized according to expert testimony (Attached exhibit 1). Continued approvals without remediation of the Saugus Aquifer or another source of water are resulting in severe overdraft. This overdraft is causing the disappearance of surface flows and affecting endangered species.

3) The Saugus Aquifer cannot be relied upon as a water supply source until it is remediated. The City is well aware of the high ammonium perchlorate readings in the alluvial aquifer under the metrolink parking lot (report attached), the concern over the spread of the pollution due to continued use of this source (expert testimony attached) and the recent agreement to begin characterization of the pollution plume signed March 13th (attached) between the water agencies and the Army Corp of Engineers (attached). This agreement plans to have information characterizing the pollution plume by 2003. Actual remediation will take several additional years for facilities design and land acquisition before clean water is actually produced. The Santa Clarita water agencies are currently only pumping approximately 3000 AF per year from this source although the water agencies have reported that they can provide 40,000 AF in there Urban Water Management Plan. Again, it is an abuse of desecration to rely on information which the Commission knows to be false.

### Reliance on the Urban Water Management Plan.

As the City is aware, the Urban Water Management Plan for the Santa Clarita Valley is currently being litigated by several agencies and organizations due to its over-statement of water supply and understatement of demand. Reliance on a document that is being litigated for sufficiency of water supply will result in the project approval being over-turned if such litigation is successful as occurred in the Friends of Santa Clara River v. Castaic Lake

Water Agency. Therefore it is imperative that the City do its own analysis of the water supply for the Santa Clarita Valley to ensure that this project approval will stand.

12D  
(Cont'd)

Thank-you for your attention to these issues. We request that further hearings on this project be delayed until these issues can be addressed.

Sincerely,

*Pat Saletore*

Pat Saletore

## LIST OF ATTACHMENTS

1. Water graph showing overdraft of Santa Clara River
2. Testimony of Hydrologist Steven Bachman on overdraft before the Public Utilities Commission 2a. SCOPE Field Survey
3. News Articles on Water Supply
4. Health Effects of Ammonium Perchlorate
5. Dept. of Toxic Substances Control Maps/Report on ammonium perchlorate polluted wells.
6. Testimony of John Naginis, Sayareh Amir, Richard McJunkin from Dept. Of Toxic Substances Control regarding spread of pollution in the Saugus Aquifer.
7. Testimony of John Litz, expert witness for the water agencies regarding spread of pollution in the Saugus Aquifer
8. Report of John Naginis regarding ammonium perchlorate pollution in the Santa Clara River alluvium under the Metrolink Station
9. CLWA Memorandum on the Agreement with the US Army Corps of Engineers for characterization of the pollution plume in the Saugus Aquifer
- 10, Chart showing utilization of water from the Saugus Aquifer has been reduced to 3000AF

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

Application of Valencia Water Company )  
(U342-W) seeking approval of its updated )  
Water Management Program as ordered in )  
Commission Resolution W-4154 dated )  
August 5, 1999 ) Application No. A-99-12-025

DIRECT TESTIMONY OF

STEVEN B. BACHMAN

IN SUPPORT OF THE PROTEST BY VENTURA  
COUNTY TO APPLICATION OF VALENCIA WATER  
COMPANY FOR APPROVAL OF ITS UPDATED  
WATER MANAGEMENT PROGRAM

DUE: April 10, 2000

## TESTIMONY OF STEVEN B. BACHMAN

Q.: PLEASE STATE YOUR NAME.

A.: I am Steven B. Bachman.

Q.: DR. BACHMAN, WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A.: I have a doctor of philosophy degree from the University of California, Davis in geological sciences. Prior to that, I earned a masters degree in geological sciences from the University of California, Los Angeles and a bachelor of science degree in aeronautical engineering from the University of Washington. I have worked professionally as a geologist for 26 years and am a registered geologist in California. After my Ph.D., I was an assistant professor at Cornell University for four years. I then formed a consulting group in San Diego for Nekton, Inc. and two years later started my own consulting company, Crouch, Bachman, and Associates, Inc. in Santa Barbara. In 1990 I joined Integrated Water Technologies, Inc. ("IWT") as vice president, where I subsequently became president.

I began working for myself four years ago, while continuing to consult for IWT. As part of my consulting, in 1993 I became Groundwater Manager for United Water Conservation District ("United Water") in Ventura County, a position I continue to hold. United Water oversees groundwater management for most of the groundwater basins of Ventura County. Last year, I was retained as groundwater consultant to Calleguas Municipal Water District ("Calleguas"), the major wholesaler of State Water Project water ("State water") to Ventura County. For Calleguas, I oversee groundwater management issues, including effects of their joint Aquifer Storage and Recovery program with the Metropolitan Water District of Southern California. As part of this work for United Water and Calleguas, I maintain and operate the U.S. Geological Survey numeric groundwater model used by Ventura County agencies to determine potential effects of future surface water and groundwater management strategies. In 2000, I became a director for Montecito Water District.

My experience in groundwater projects in California, Nevada, and Arizona includes artificial recharge planning and implementation, groundwater management, groundwater quality studies, aquifer studies, groundwater modeling, groundwater recharge studies, wetlands treatment, and expert witness on groundwater. I have authored/co-authored over 50 geologic articles, including the recent book California Groundwater Management, funded by the U.S.



A.: The supply consists of State water from CLWA and local groundwater from both the Alluvial (shallower) Aquifer and the Saugus Aquifer. This includes:

1. for State water, a supply of CLWA's full entitlement of 95,200 acre-feet per year ("AFY") during wet and normal periods and a 50 percent entitlement of 47,600 AFY during dry years. (Exhibit 2, Valencia's Water Management Program, dated December 16, 1999 ("VWMP"), Figures III-1 and III-2.);
2. for the Alluvial Aquifer, 32,600 AFY of perennial yield (Exhibit 3, Hydrogeologic Investigation Perennial Yield and Artificial Recharge Potential of the Alluvial Sediments in the Santa Clarita River Valley of Los Angeles County, California, December 1986, published by hydrologist Richard Slade ("1986 Slade Report"), p. 91), with a maximum yield of 25,000 AFY in dry years (Exhibit 4, IWRP, pp. 3-7 and 3-8) and 40,000 AFY in wet or normal years. (Exhibit 2, VWMP, Figure III-2.) This dry year yield varies from Valencia's dry year yield of 32,500 AFY (Exhibit 2, VWMP, Figure III-2), because pumping of 40,000 AFY in wet years and 32,500 AFY in dry years exceeds the perennial yield, which must average 32,600 AFY. In addition, CLWA's IWRP reported Slade as saying that "the entire Alluvial Aquifer has the capability of yielding about 25,000 acre-ft/yr for multiple dry years." (Exhibit 4, IWRP, p. 3-8.);
3. 1,700 AFY of reclaimed water (Exhibit 2, VWMP, Figure III-2);
4. no State Drought Water Bank supply, as supported by Wallace G. Spinarski's testimony filed herein; and
5. the Saugus Aquifer supplies the remaining demand, as it is the only additional source.

Q.: ARE THE PROPOSED AQUIFER PUMPING LEVELS IN VWMP'S FIGURE III-2 REALISTIC?

A.: As stated in the previous answer, the pumping levels proposed in the Alluvial Aquifer of 40,000 AFY in wet years and 32,500 AFY in dry years exceed both the perennial yield and the capacity of the aquifer to supply water during dry years. Therefore, I believe that these pumping levels are too high. In my analysis, I used the rates of 40,000 AFY in wet years and 25,000 AFY in dry years, as did the IWRP. (Exhibit 5, IWRP, Table 3-7.)

The VWMP assumes production from the Saugus Aquifer of 20,000 AFY in wet years and 41,000 AFY in dry years, which includes 30,000 AFY of dry year firming supplies from the Saugus. (Exhibit 2, Figure III-2; and Exhibit 6, VWMP, p. 15.) These projections far exceed the wet year recharge of 21,000 AFY and

overdraft) and 2020 (planning horizon of the VWMP) as illustrations in the following table. The complete analysis for all years is indicated in Exhibit 10.

Supply/Demand (AF)	2011		2020	
Demand	110,000		146,500	
State Water Project		47,600		47,600
Reclaimed Water		1,700		1,700
Pumping of Alluvial Aquifer		25,000		25,000
Required Pumping of Saugus Aquifer		35,700		72,200
Accumulated Overdraft of Saugus		23,700		249,664

With dry years in both northern and southern California in the year 2011, a reduced supply of 47,600 AFY of State water and 25,000 AFY of water from the Alluvial Aquifer would be available. In this case, 35,700 AFY would be pumped from the Saugus Aquifer, well above either the wet year or dry year recharge of 21,000 AFY and 12,000 AFY, respectively. By the year 2020, 72,200 AFY must be pumped from the Saugus Aquifer. These high production rates from the Saugus create an accumulated overdraft of 249,664 acre-feet by 2020.

I have summarized the results of this analysis in three diagrams. The required Saugus Aquifer pumping is shown in Exhibit 10. As indicated, the stress on the Saugus Aquifer increases as demand continues to increase. To meet this demand, the Saugus will have to be pumped at levels up to 85,000 AFY during wet years. (Exhibits 9 and 10.) Although the application to the Public Utilities Commission ("PUC") states that the Saugus Aquifer will be pumped up to 40,000 AFY during dry years, in fact, the Saugus will have to be pumped at rates up to 100,000 AFY in dry years. (Exhibit 10.) By the 2040s, the Saugus Aquifer will be pumped at an average rate of above 80,000 AFY. When this is compared to annual recharge rates in the Saugus of 12,000 (dry) to 21,000 (wet) AFY, it is clear that there will be substantial overdrafting of the Saugus Aquifer. If the aquifer is pumped at a higher rate than it can be recharged, water levels will drop. At some point, this dropping water level will cause problems.

Q.: WHAT TYPES OF PROBLEMS COULD OCCUR AS WATER LEVELS DROP?

the aquifer. For instance, if water quality degrades in the basin, the basin may already be pumped beyond a safe limit.

Q.: IS THERE ANY EVIDENCE THAT WATER QUALITY IN THE BASIN HAS DEGRADED FROM PAST PUMPING OF THE BASIN?

A.: The water quality of the Saugus Aquifer, as measured by total dissolved solids (TDS), has generally deteriorated with increased pumping. This trend suggests that the vastly increased pumping of the Saugus Aquifer proposed by Valencia and the other water purveyors in the Santa Clarita area will continue to degrade groundwater quality. The trend also suggests that water quality under heavy pumping may reach levels where the water cannot be used directly for drinking water purposes.

Q.: HOW DID YOU DETERMINE THAT WATER QUALITY IN THE SAUGUS AQUIFER HAS CHANGED?

A.: I looked at Saugus Aquifer water quality data obtained from the California Department of Health Services data on drinking water wells. In addition, I used field conductivity measurements from 1998 and 1999 provided by Valencia to bring the records current. I then plotted TDS and annual well production on time graphs for each well for which information was available to examine water quality trends. I then analyzed these trends.

approach to increased pumping. Instead, Saugus pumping would have to be increased from an average level of around 9,000 AFY in the 1990s to 38,000 AFY in the 2010s to 82,000 AFY in the 2040s, a nearly ten-fold increase in pumping.

Q.: COULD PROBLEMS WITH THE SAUGUS AQUIFER AFFECT DOWNSTREAM USERS?

A.: Yes, they may. This analysis has shown the significant portion of future supplies that must come from the Saugus Aquifer. If the Saugus fails to yield these high pumping rates either because the yield of the aquifer is lower or there are water quality problems that curtail usage, Valencia and other purveyors would have to rely more heavily on the State Water Project or Alluvial Aquifer pumping. Since the VWMP assumes maximum State water deliveries already (Exhibit 2, Figure III-2), the Alluvial Aquifer would be a likely source. However, since the Alluvial Aquifer is being used at its perennial yield already, any additional pumping would "mine" the aquifer, lowering water levels in the aquifer. Any lowering of groundwater levels would affect the Santa Clara River, which flows directly over the Alluvial Aquifer and is the primary recharge source for the aquifer. Lowering of groundwater levels induces additional recharge from the river, decreasing the flow in the river to downstream users. Because the Santa Clara River is the primary recharge source for the aquifers in Ventura County, this could significantly reduce recharge in the Ventura County aquifers.

Q.: ARE THERE ANY OTHER PROBLEMS EVIDENT IN THE SAUGUS AQUIFER THAT COULD AFFECT USE OF THE AQUIFER FOR DRINKING WATER?

A.: There is a significant area of perchlorate contamination to the east of the wells that pump from the Saugus Aquifer. The perchlorate has seeped into the Saugus Aquifer and has flowed westward towards the wells, shutting down 25 percent of the total Saugus Aquifer wells.

Q.: WHAT IS THE STATUS OF THIS TOXIC RELEASE?

A.: The perchlorate contamination is coming from the Porta Bella property (former Whittaker-Bermite site) (testimony of Sayarah Amir ("Amir") and Richard

McJunkin ("McJunkin") filed herein), a former military ordinance manufacturing facility. The perchlorate is used in the manufacturing of solid rocket fuel. The perchlorate has contaminated a significant area of the soils that rest directly on the Saugus Aquifer. The perchlorate has penetrated the Saugus and has moved approximately 2 miles toward the Saugus production wells. (Exhibit 23, Map - Perchlorate Sources and Contaminated Wells.) The production wells encroached upon by the migrating contaminant have shown concentrations of perchlorate of between 9 micrograms per liter ( $\mu\text{g/l}$ ) to 45  $\mu\text{g/l}$ . The current provisional action level for drinking water for perchlorate is 18  $\mu\text{g/l}$ . (Testimony Amir and McJunkin.)

The extent of the perchlorate contamination in the Saugus Aquifer is not yet known, largely because there is a lack of wells to monitor west of well VWC No. 157. (Exhibit 23; and testimony of Amir and McJunkin.) Perchlorate that is still in the soils at the contamination site will be "a long-term source of contamination" that will continue to reach the aquifers as rains and runoff push the contaminants in the soil into the groundwater system. (Testimony of Amir and McJunkin.)

Q.: HOW DOES THE PERCHLORATE PROBLEM AFFECT SAUGUS AQUIFER PRODUCTION?

A.: As of March 2000, the full extent and severity of the contamination of the groundwater by perchlorate has not been determined. Current studies may show that other wells of the Saugus Aquifer are vulnerable to the migrating perchlorate. A combination of natural groundwater quality and aquifer properties constrains the areas in which new Saugus wells might be sited away from the known areas of contamination. The better quality Saugus groundwater is generally restricted to an area that trends parallel to, and just east of Interstate 5. (Exhibit 24, Map - Areas of Good Quality Water in Saugus Aquifer.) It is this area, adjacent to the South Fork of the Santa Clara River and its confluence with the main branch of the Santa Clara River, that is being contaminated by perchlorate.

The contamination of the Saugus Aquifer with perchlorate raises a major problem for water purveyors in the Santa Clarita Valley. During the early and mid-1990s, the Saugus Aquifer provided the purveyors between 7,400 to 11,500 AFY of groundwater. (Exhibit 25, 1999 Water Report, Table III-5.) In 1999, production

from the Saugus dropped to approximately 2,700 AFY, and wells were taken out of production. The areas that contain the good quality water in the Saugus (Exhibit 24) have been partially compromised by the contamination, and larger areas may also be eliminated from production as the perchlorate continues to migrate into the aquifer. The application to the PUC shows that the purveyors plan to pump the Saugus at 20,000 AFY during wet years, with pumping up to 40,000 AFY. (Exhibit 2, VWMP, Figure III-2; and Exhibit 6, VWMP, p. 15.) Because of the known contamination to the groundwater, both of these goals are problematic. The time required to characterize the extent of contamination, remediate the perchlorate in the soils that continue to pollute the aquifer, and then to remediate the aquifers themselves will likely be many years, especially since the technology to remediate the groundwater is only in a developmental stage. (Testimony of Amir and McJunkin.)

Q.: WHAT IS THE PROBABILITY FOR PERCHLORATE CONTAMINATION?

A.: The concentration of perchlorate in the production wells probably represents the leading edge of a much larger plume of higher concentrations of perchlorate. The total area of the Saugus Aquifer contaminated by the perchlorate has yet to be fully defined. We do know that the contaminant has migrated a minimum of 2 miles through the subsurface and over land to contaminate the vital pumping areas. (Exhibit 23.) Since the groundwater gradients in the contaminated area in the Saugus are towards the west, the contaminant is likely to continue to migrate further west and northwest. Time of travel from the soil contamination sites to the deep Saugus wells implies that the contaminant has been moving between 1 to 3 feet per day within the Saugus Aquifer. This implies that the perchlorate could impact Valencia's well No. 201 as early as next year. Further down gradient is Valencia's well No. 160.

## APPENDIX TO TESTIMONY OF STEVE B. BACHMAN

This Appendix further explains Exhibit 2.

Exhibit 2: The years 1944 to 1994 were used in the demand/supply projections because the period represents an approximately zero cumulative departure with respect to the Santa Clarita Valley. (Exhibit 26, 1999 Water Report, Figure II-17.) This also avoids the dramatic 1929 to 1934 drought in northern California. Figure II-15 (Exhibit 8) provides data for local wet and dry conditions. The hydrology classification of wet, normal, or dry, in northern California comes from Figure 3-4, Sacramento Four River Unimpaired Runoff (1906 to 1996), from Volume 1 of the California Water Plan Update Bulletin 160-98, attached as Exhibit 27. This provides data for the years 1944 to 1994, which become the years 2000 to 2050 in the projection.

Agricultural pumping was reduced from 12,000 AFY to 5,000 AFY as per CLWA's IWRP, pages 2-5 and 2-6, attached as Exhibit 28. The fraction of Alluvial to total agricultural pumping was held constant through the analysis at 0.8, which was the average for the period 1980 to 1999.

The column "Purveyors GW Demand-Total" is calculated as total demand *less* agricultural GW demand *less* reclaimed water *less* State water available. (See Exhibit 9, p. 2.) If this number is less than zero, it is recorded as zero. The purveyors Alluvial pumping is calculated as all of the total purveyors GW demand up to the dry or wet limit of 25,000 AFY or 40,000 AFY *less* the agricultural Alluvial pumping (agricultural *plus* purveyors Alluvial cannot exceed 25,000 or 40,000, respectively). The purveyors Saugus GW demand equals the total purveyors GW demand *less* the purveyors Alluvial pumping.

The Saugus overdraft for each year is calculated by comparing Saugus pumping to Saugus recharge of 21,000 AFY (wet year) or 12,000 AFY (dry year). If Saugus pumping exceeds the recharge appropriate for that year, the excess pumping is added to the overdraft. If Saugus pumping is less than the recharge amount, the difference is subtracted from the overdraft. The "Saugus Overdraft" column is a running total of the annual overdrafts. The overdraft is never less than zero, because the aquifer is considered to be full at zero.

# Exhibit 1



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**Castaic Lake Water Agency**

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Draft

**Integrated Water Resources Plan:  
Water Demand and Supply Evaluation**

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February 1998

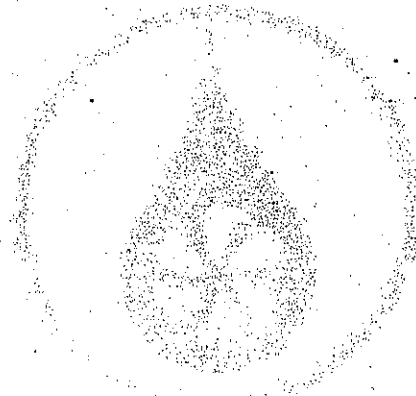


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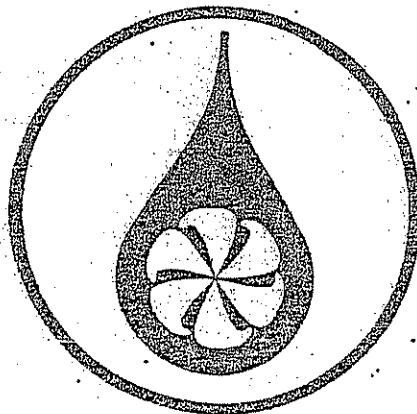
Exhibit 2



VALENCIA WATER COMPANY  
WATER MANAGEMENT PROGRAM

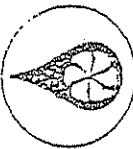
DECEMBER 16, 1999

*Valencia Water  
Company*



# SANTA CLARITA VALLEY WATER SUPPLIES

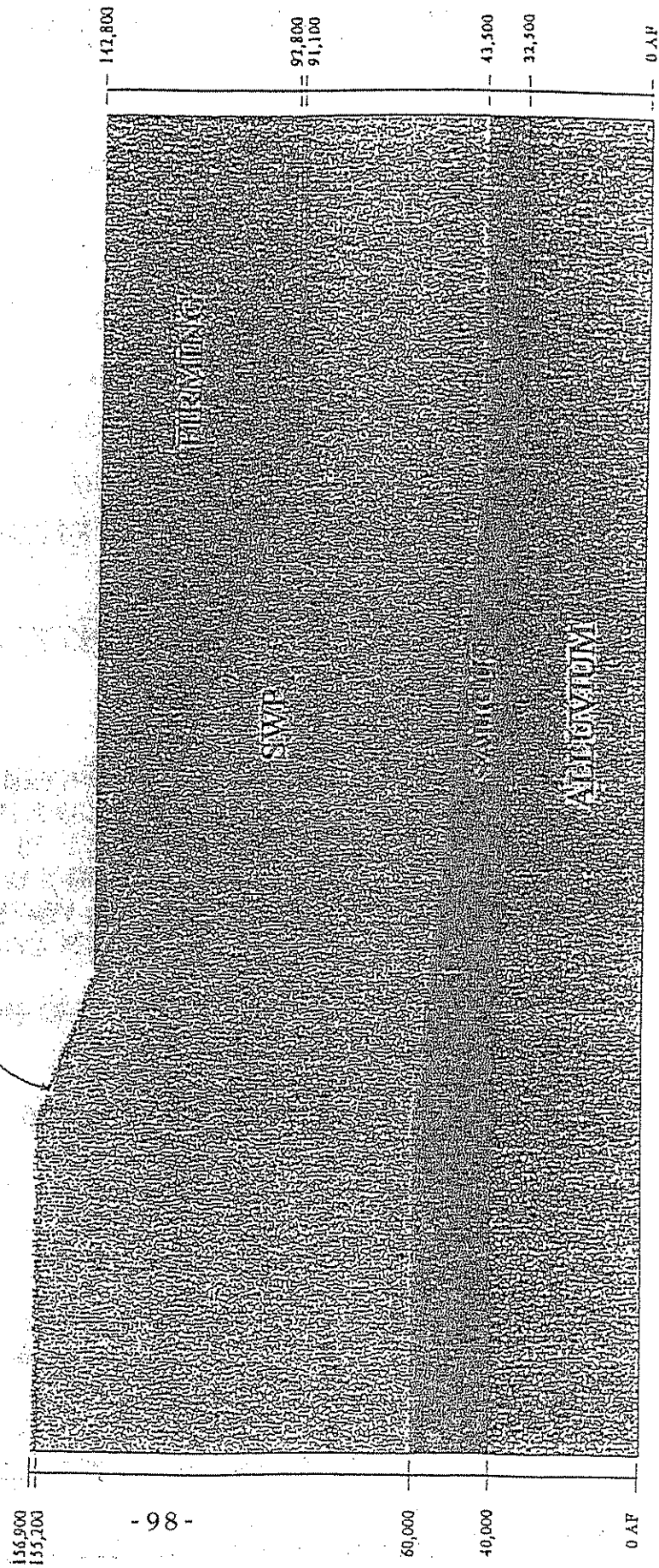
FIGURE III-1



FULL SUPPLY	
ALLUVIUM	40,000
SAUGUS	20,000
SWP	95,200
RECYCLED	1,700
	156,900 AF

DRY YEAR	
ALLUVIUM	32,500
SAUGUS	11,000
SWP	47,600
RECYCLED	1,700
	92,800 AF
FIRMING SUPPLIES	50,000
	142,800 AF

RECYCLED



SUPPLY AVAILABILITY

WET YEAR

DRY YEAR

# VOLUME I — REPORT TEXT

## HYDROGEOLOGIC INVESTIGATION PERENNIAL YIELD and ARTIFICIAL RECHARGE POTENTIAL of the ALLUVIAL SEDIMENTS in the SANTA CLARITA RIVER VALLEY of LOS ANGELES COUNTY, CALIFORNIA

FOR  
UPPER SANTA CLARA WATER COMMITTEE  
MEMBERS: LOS ANGELES COUNTY WATERWORKS  
DISTRICT NO. 36 — VAL VERDE  
NEWHALL COUNTY WATER DISTRICT  
SANTA CLARITA WATER COMPANY  
VALENCIA WATER COMPANY  
AFFILIATE: CASTAIC LAKE WATER AGENCY

DECEMBER 1986



RICHARD C. SLADE  
CONSULTING GROUNDWATER GEOLOGIST

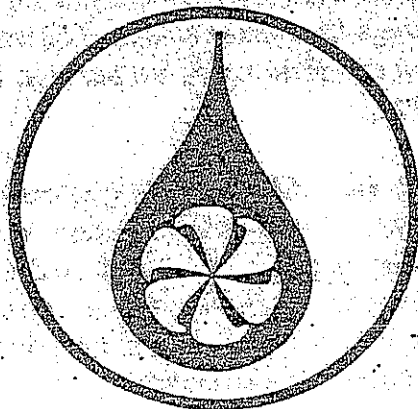
EXHIBIT 3, Page 1 of 4

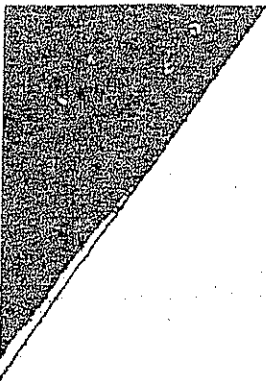
VALENCIA WATER COMPANY

WATER MANAGEMENT PROGRAM

DECEMBER 16, 1999

*Valencia Water  
Company*





foreseeable future. As water demands increase, Valencia, CLWA and the other purveyors will analyze and determine the most beneficial mix of supply options available on a short term basis to meet customer demands. In summary, Valencia's WMP has identified approximately 50,000 acre-feet of firming water supplies (excluding 10 percent voluntary conservation) that is available to Valencia and the other purveyors to be used if and when SWP supplies are reduced.

- 6) Future Water Sources: Water supply and facilities for the Valley have increased incrementally over the years in order to keep pace with customer demands. It is not reasonable for service providers to build all that is necessary and acquire water rights to accommodate projected water demands twenty to thirty years in the future. CLWA and the local purveyors plan for new supplies and facilities a minimum of 3 to 5 years ahead of need. In its *IWRP*, CLWA addressed opportunities to increase the sources of both local and imported water supplies over time. These programs include:

**Acquisition of Additional SWP Entitlements.** CLWA has recently purchased under the Monterey Agreement an additional entitlement of 41,000 acre-feet. In the near term, this additional supply of water will provide added reliability to CLWA's base water supplies. At the present time, additional SWP entitlement is available and CLWA is evaluating the benefits of acquiring additional entitlement along with other programs such as water banking and other storage opportunities needed for planned growth within the Valley.

**Devils Den Ranch Groundwater.** CLWA is studying the potential to develop groundwater supplies from property it owns on the west side of the San Joaquin Valley near the Kings-Kern County line. Known as the Devil's Den Ranch, water from this groundwater basin could be pumped into the California Aqueduct and delivered to CLWA.

**Water Conservation.** CLWA will continue to develop and implement its comprehensive water conservation program in cooperation with the four retail agencies. The major emphasis will be on landscape water conservation activities. Based on empirical data on the impact of conservation measures in other cases, which range from 10 to 20 percent, a minimum 10 percent reduction in water demand through conservation is expected.

Exhibit 7



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## Castaic Lake Water Agency

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Draft

### Integrated Water Resources Plan Water Demand and Supply Evaluation

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February 1998

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This preliminary assessment of the minimum amount of potential recharge to the Saugus Formation incorporates only portions of the two main forms of deep percolation and recharge into these strata. As such, this preliminary assessment should not be construed as a rigorous determination of the perennial yield of the Saugus, with such determination not being a part of the scope of work.

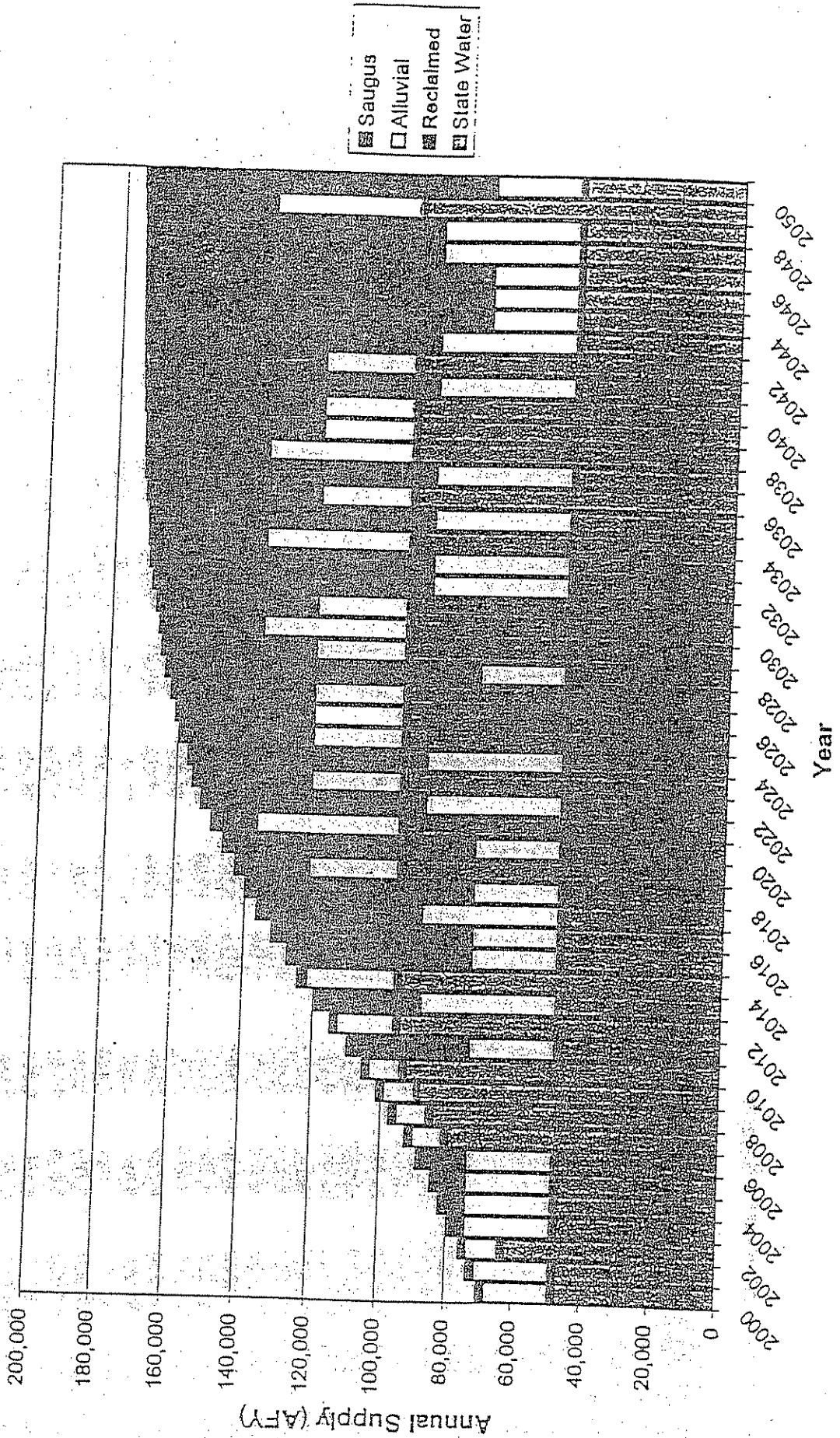
Furthermore, because so much of the Saugus Formation (both laterally and vertically) contains no active water wells and/or has never contained any water wells, the vast majority of the aquifer system has never been stressed; indeed, for much of the region, there are no definitive hydrogeologic data at all. A meaningful evaluation of the perennial yield of this formation must await, as yet unavailable, long-term water level and water quality data and a data base that includes actual data from wells northerly of the Holser and San Gabriel faults.

It is also noteworthy that the natural losses of groundwater via subsurface leakage from the alluvium into underlying strata, including the Saugus Formation, occur continuously and wherever there are relatively permeable strata underlying saturated alluvium; even in dry years, the lower portions of the alluvium still contain groundwater. The leakage losses are natural and cannot be terminated because it would require an infinite number of wells to totally dewater all of the alluvium on a permanent basis.

In our method of assessing the perennial yield of the overlying alluvium (Slade, December 1986), we considered only the change in water levels vs. groundwater extraction from the alluvium for a specific

Exhibit 8

# Water Supply Sources Necessary to Meet Demand

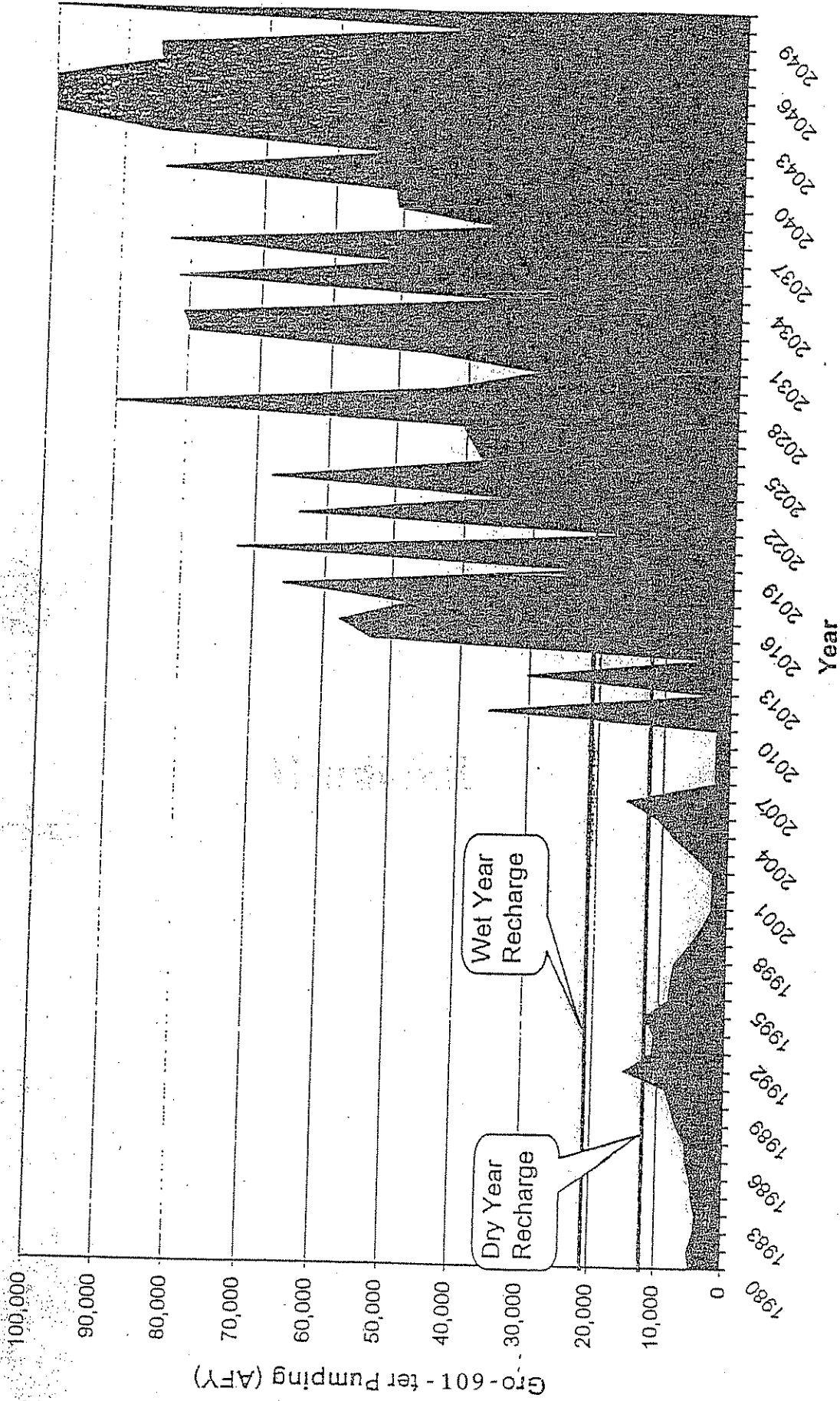


Santa Clarita Area Demand vs Supply

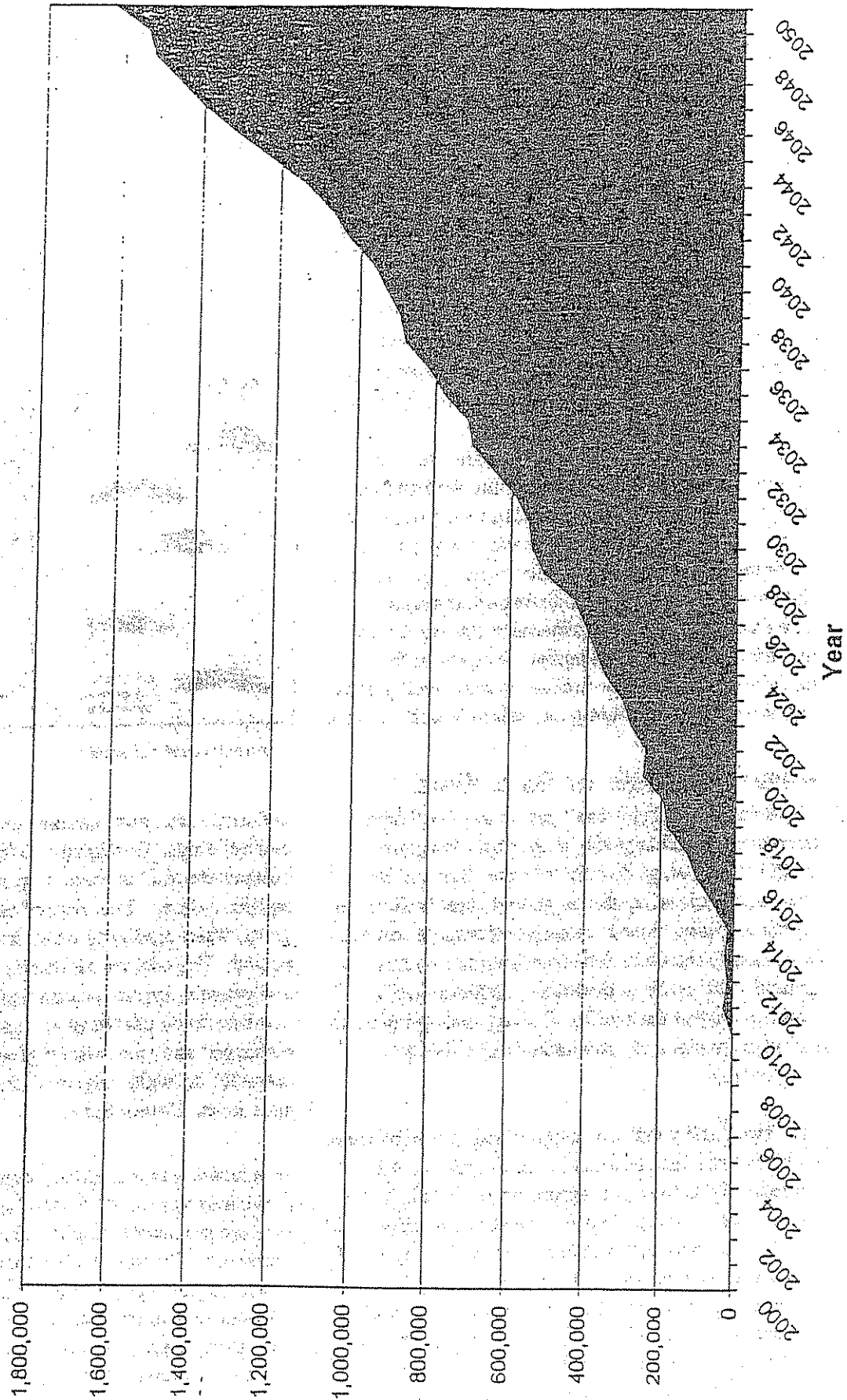
Year	Hydrology	N Calif	Local	Total Demand		Agricultural GW Demand		Recl Water	State Water Proj Available	Purveyors GW Demand		Total		Saugus Overdraft
				Demand	Total	Total GW	Alluv AQ			Saugus AQ	Alluv	Saugus	Alluv AQ	
0000	Dry			70,500	12,000	9,600	2,400	1,700	47,600	9,200	9,200	16,800	2,400	-
0001	Dry			78,500	11,880	8,488	2,372	1,700	47,600	12,340	12,340	21,828	2,372	-
0002	Normal			76,000	11,720	9,976	2,344	1,700	95,200	-	-	9,376	2,344	-
0003	Dry			79,500	11,580	9,284	2,316	1,700	47,600	18,620	16,736	25,000	5,200	-
0004	Dry			62,500	11,440	9,152	2,288	1,700	47,600	21,760	16,848	25,000	8,200	-
0005	Dry			85,000	11,300	9,040	2,260	1,700	47,600	24,400	15,860	25,000	10,700	-
0006	Dry			89,500	11,160	8,928	2,232	1,700	47,600	29,040	16,972	25,000	15,200	-
0007	Wet			83,000	11,020	8,816	2,204	1,700	95,200	-	-	8,816	2,204	3,200
0008	Wet			87,500	10,880	8,704	2,176	1,700	95,200	-	-	8,704	2,176	-
0009	Wet			101,250	10,740	8,592	2,148	1,700	95,200	-	-	8,592	2,148	-
0010	Normal			105,500	10,600	8,480	2,120	1,700	95,200	-	-	8,480	2,120	-
0011	Dry			110,000	10,460	8,368	2,092	1,700	47,600	50,240	16,632	25,000	35,700	23,700
0012	Wet			116,000	10,320	8,256	2,064	1,700	95,200	7,780	7,780	16,036	2,064	13,784
0013	Dry			119,500	10,180	8,144	2,036	1,700	47,600	60,920	31,856	40,000	30,200	22,984
0014	Wet			124,500	10,040	8,032	2,008	1,700	95,200	17,560	16,988	25,000	2,600	13,564
0015	Dry			127,500	9,900	7,920	1,980	1,700	47,600	68,300	17,090	25,000	53,200	54,784
0016	Dry			132,000	9,760	7,808	1,952	1,700	47,600	72,940	17,192	25,000	57,700	100,464
0017	Dry			136,500	9,620	7,696	1,924	1,700	47,600	77,580	17,294	40,000	47,200	128,664
0018	Dry			140,000	9,480	7,584	1,896	1,700	47,600	81,220	17,396	25,000	65,700	180,364
0019	Wet			143,000	9,340	7,472	1,868	1,700	95,200	88,760	17,498	25,000	72,200	189,464
0020	Dry			146,500	9,200	7,360	1,840	1,700	47,600	88,000	17,600	25,000	72,200	249,684
0021	Wet			150,000	9,060	7,248	1,812	1,700	95,200	44,040	32,762	40,000	13,100	241,784
0022	Dry			153,000	8,920	7,136	1,784	1,700	47,600	94,780	32,864	40,000	63,700	284,464
0023	Wet			155,500	8,780	7,024	1,756	1,700	95,200	49,820	17,978	25,000	33,600	308,064
0024	Dry			167,000	8,640	6,912	1,728	1,700	47,600	59,080	33,088	40,000	67,700	352,784
0025	Wet			159,500	8,500	6,800	1,700	1,700	95,200	64,100	18,200	25,000	37,600	378,364
0026	Wet			161,000	8,360	6,688	1,672	1,700	95,200	55,740	18,312	25,000	38,100	405,464
0027	Wet			162,500	8,220	6,576	1,644	1,700	95,200	57,380	18,424	25,000	40,600	434,084
0028	Dry			164,250	8,080	6,464	1,616	1,700	47,600	109,870	18,536	25,000	89,850	512,014
0029	Wet			165,500	7,940	6,352	1,588	1,700	95,200	60,880	18,648	25,000	43,800	543,614
0030	Wet	Normal		168,500	7,800	6,240	1,560	1,700	95,200	61,800	33,760	40,000	29,600	552,214
0031	Wet			167,600	7,660	6,128	1,532	1,700	95,200	63,040	18,872	25,000	45,700	585,914
0032	Dry	Normal		169,000	7,520	6,016	1,504	1,700	47,600	112,180	33,984	40,000	79,700	644,614
0033	Dry			170,000	7,380	5,904	1,476	1,700	47,600	113,320	34,088	40,000	60,700	704,314
0034	Wet			170,500	7,240	5,792	1,448	1,700	95,200	66,360	34,208	40,000	33,600	716,914
0035	Dry			170,750	7,100	5,680	1,420	1,700	47,600	114,350	34,320	40,000	81,450	777,384

Exhibit 10

# Groundwater Pumping of Saugus Aquifer, 1980 to 2050



# Overdraft of Saugus Aquifer



OV-111 - (A7)



If wells are too close to each other, their cones of depression can interfere with each other, causing reduced yields and possible legal consequences. The extent of the cone of depression of each well should be considered in any groundwater management plan.

### Aquifer Tests

Aquifer tests are conducted to determine hydraulic characteristics of the aquifer materials. The characteristics are transmissivity and storativity (see "Technical Definitions," page 9). These values are then used to estimate the amount of groundwater that can be produced by a well. Aquifer tests are often called "pump tests," but a pump test actually is conducted by an electric company to determine pump efficiency.

During the most common type of aquifer test, the depths to groundwater in the pumping well and an observation well or wells are measured at frequent intervals. The difference in the water levels in the pumping well and the observation wells gives a good indication of the shape of the cone of depression. The data are then used to determine the storativity and transmissivity of the aquifer. Results of the calculations can then be used to estimate well yields and the effects of pumping the well on nearby wells.

### Perennial Yield or Safe Yield

The terms "safe yield" and "perennial yield" have been used interchangeably in the past. Perennial yield is the average quantity of water that can be extracted from an aquifer or groundwater basin over a period of time without causing undesirable results. Undesirable results include permanently lowered groundwater levels, subsidence or degradation of water quality in the aquifer. If water management in the basin changes, the perennial yield of the basin may change.

The term "safe yield" is a technical definition of basin yield that has been adopted by the courts to define the legal rights to extract groundwater in a basin. In most of the adjudicated basins in California, safe yield is a fixed amount that is determined by the court and is characterized as being equivalent to net groundwater recharge. In one basin, "operational" safe yield includes whatever temporary surplus can be stored in the basin. In the San Gabriel, Chino and Mojave basins, it is not limited; pumpers simply pay to replace the extra amount of groundwater extracted.

### Subsidence

Groundwater extraction from an aquifer can result in compaction of the fine sediments within the aquifer system (Figure 5). Compaction of these clays and silts leads to subsidence of the land surface that can change the gradients in rivers, streams, and canals

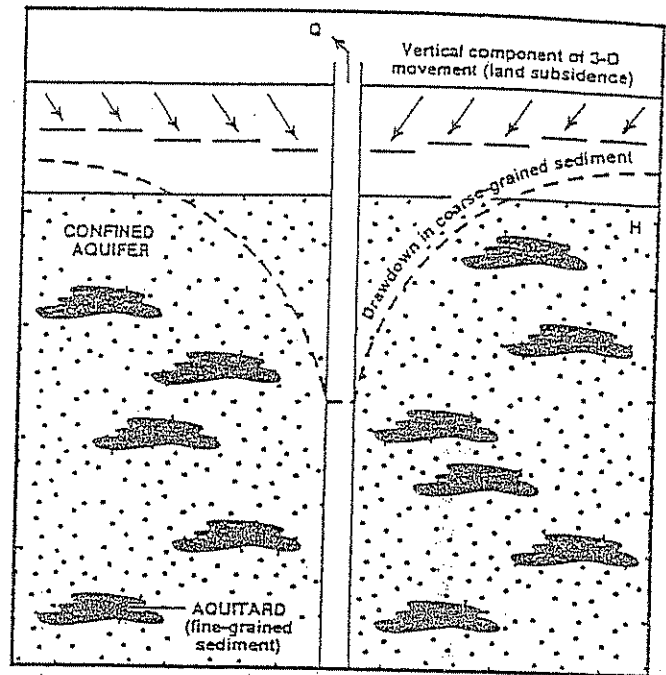


Figure 5: Land subsidence.

and cause structural damage to highways, bridges, and buildings. Compaction of these fine sediments reduces the total amount of groundwater stored in the aquifer system. That part of the aquifer system that yields water readily to wells, however, is not compacted. The coarser sediments, consisting of sands and gravels, are not compacted. These sediments continue to be usable as an aquifer that can be recharged and from which groundwater can be extracted by wells. Figure 6 shows areas of subsidence in the United States.

Groundwater management plans should include provisions to monitor for land subsidence. The simplest monitoring might include annual surveying of a network of benchmarks, either by spirit leveling or by use of global positioning system techniques. If subsidence is noted, the agency may decide to mitigate by some means, compensate for damages, reduce groundwater extractions, or cease entirely.

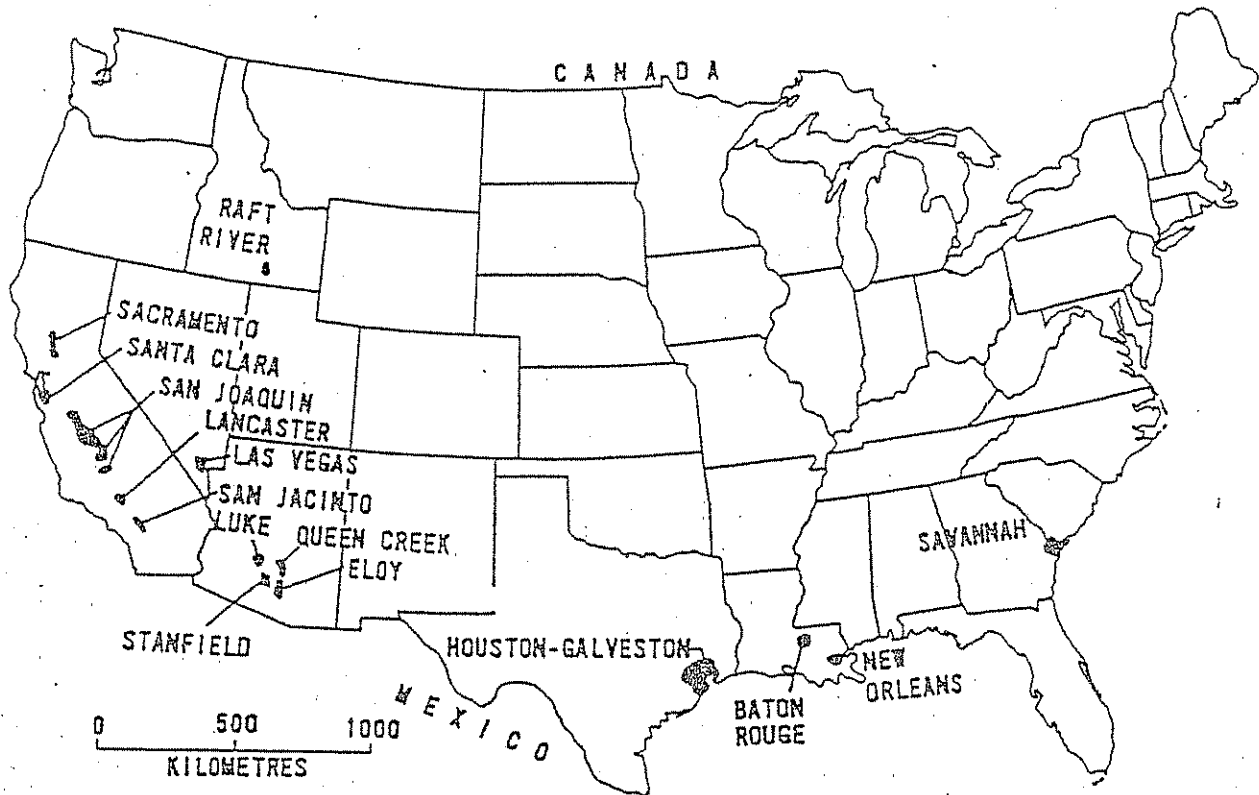


Figure 6: Areas of land subsidence from groundwater withdrawal in the United States.

### Overdraft

Overdraft is the condition of a groundwater basin or aquifer in which the amount of water extracted exceeds the amount of water that recharges the basin over a period of years during which average precipitation and water management in the basin remain approximately the same.

Droughts or periods of abnormally low rainfall do not cause overdraft. Droughts lower the amount of water in storage in the groundwater reservoir, just as they lower the amount of water in storage behind

dams. When the drought is over and all other conditions being equal, the water in storage behind the dam, as well as in the groundwater reservoir, returns to normal (Figure 7).

Overdraft is a term that should be used cautiously. In some areas of California, projections of water supply versus water demand show that if average conditions prevail, long-term water shortages will occur. Such long-term shortages may or may not be met by overdrafting groundwater basins.

Exhibit 12

# VOLUME I — REPORT TEXT

HYDROGEOLOGIC ASSESSMENT

OF THE

SAUGUS FORMATION

in the

SANTA CLARA VALLEY

of

LOS ANGELES COUNTY, CALIFORNIA

FOR

CASTAIC LAKE WATER AGENCY

LOS ANGELES COUNTY WATERWORKS DISTRICT NO. 36 — VAL VERDE

NEWHALL COUNTY WATER DISTRICT

SANTA CLARITA WATER COMPANY

VALENCIA WATER COMPANY

FEBRUARY 1988



RICHARD C. SLADE

CONSULTING GROUNDWATER GEOLOGIST



comparison, our assignment of specific yield values for the alluvium which overlies the Saugus Formation ranged between 9 and 16 percent (Slade, December 1986).

#### USABLE GROUNDWATER IN STORAGE

This final step calculated the total estimated volume of usable groundwater in storage in the Saugus Formation by multiplying the total surface area of each storage unit, by the average sand thickness of each sand thickness interval within each of the subunits, by the specific yield value assigned to that sand thickness interval.

Table 6 - Summary of Usable Groundwater in Storage - presents the results of our computations. It identifies the usable quantity (volume) of groundwater in storage in the Saugus Formation between the depth limits of 500 feet and either: 2500 feet; or the base of fresh water within the Saugus Formation, whichever is shallower. As seen on Table 6, the total estimated amount of groundwater in storage in the sands and gravels which constitute the potential aquifers within the Saugus Formation is approximately 1.41 million acre-feet. Storage Unit No. 1 (northerly of the San Gabriel fault) has approximately 130,500 acre-feet of usable groundwater in storage (about 9 percent of the total); Unit No. 2 (between the two faults) and Unit No. 3 (southerly of the Holser fault) each has approximately 641,000 acre-feet of usable groundwater in storage (about 45 percent of the total for each).

In comparison to the calculated 1.41 million acre-feet of usable groundwater in storage in the sand and gravel aquifers of the Saugus, Robson (1972) for the U. S. Geological Survey reported a total storage capacity for the entire Saugus Formation of approximately 6 million acre-feet.



TABLE 6 - SUMMARY OF USABLE GROUNDWATER IN STORAGE

STORAGE UNIT NO.	LOCATION OF STORAGE UNIT	STORAGE UNIT DESIGNATIONS	TOTAL SURFACE AREA (acres)	RANGE OF SAND THICKNESS (ft)	RANGE OF SPECIFIC YIELDS (%)	USABLE GROUNDWATER IN STORAGE (ac-ft)
1	Northerly of San Gabriel fault	1A - 10b	7,507	0 to 440	7	130,540
2	Between the two faults	2A - 20	13,980	0 to 1400	5-8	641,330
3	Southerly of Holser fault	3A - 3H	16,501	0 to 1240	5-8	641,240
TOTALS			39,088			1,413,110

Exhibit 13

# NCWD 9

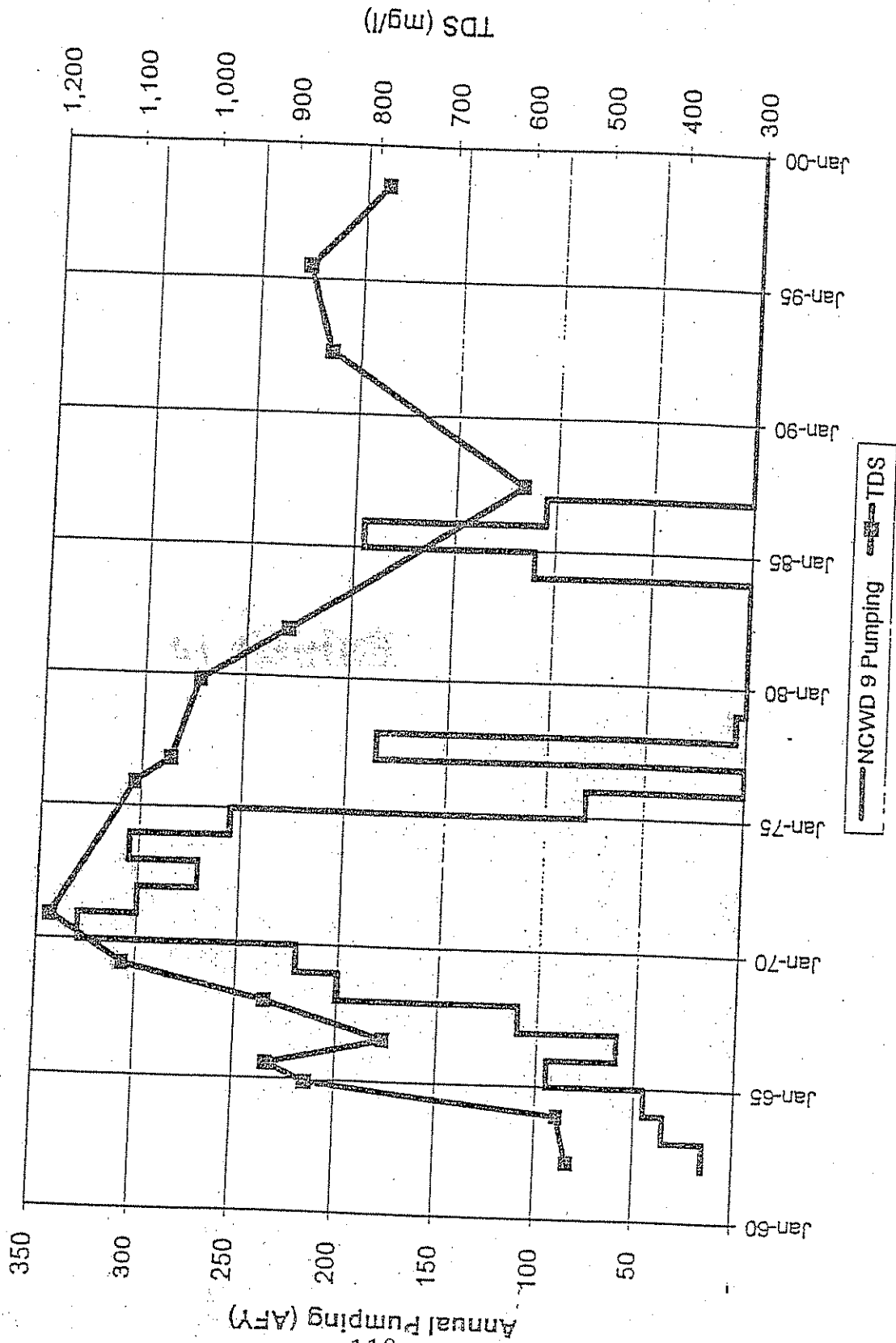




Exhibit 14

NCWD 10

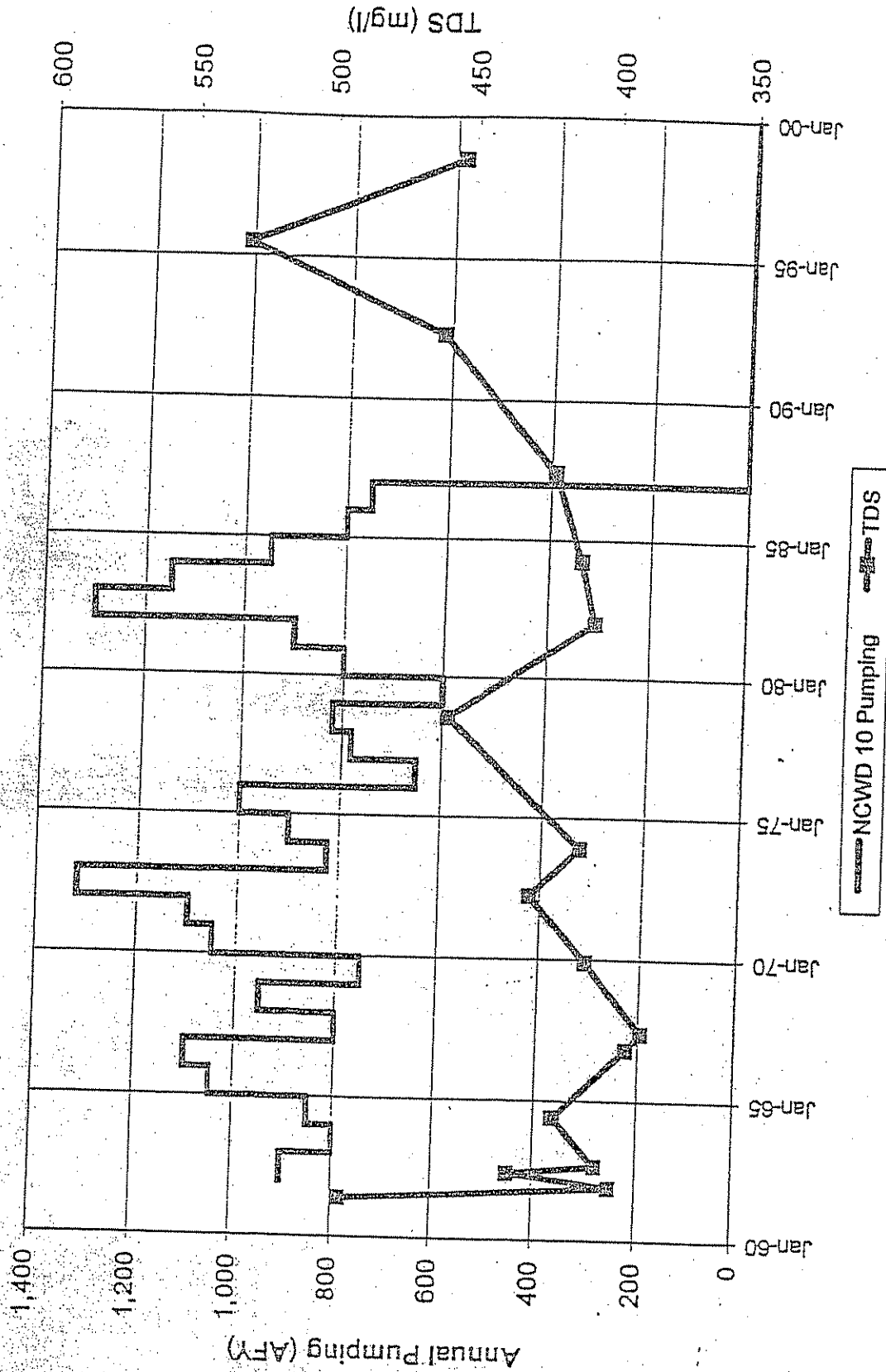
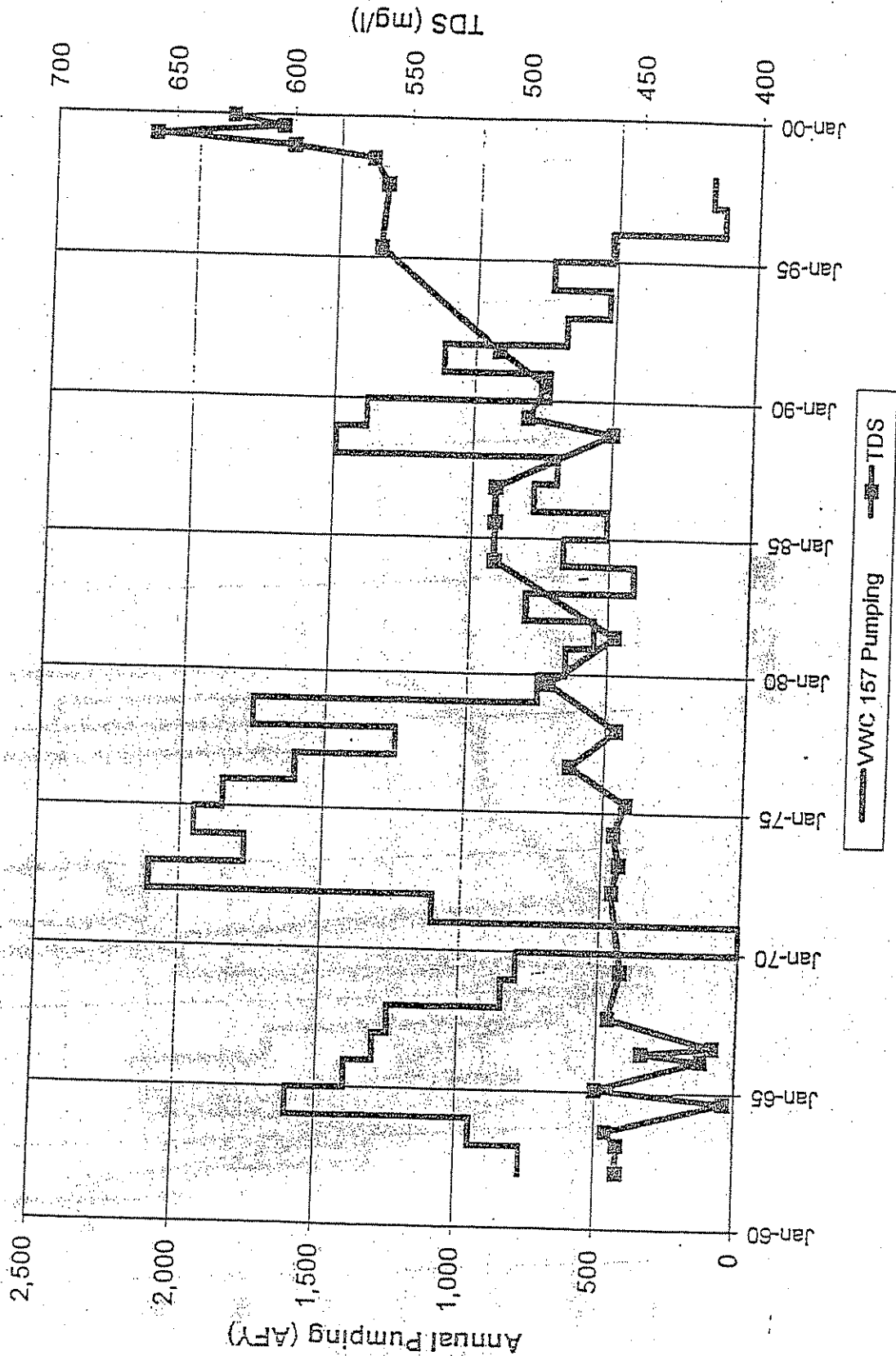
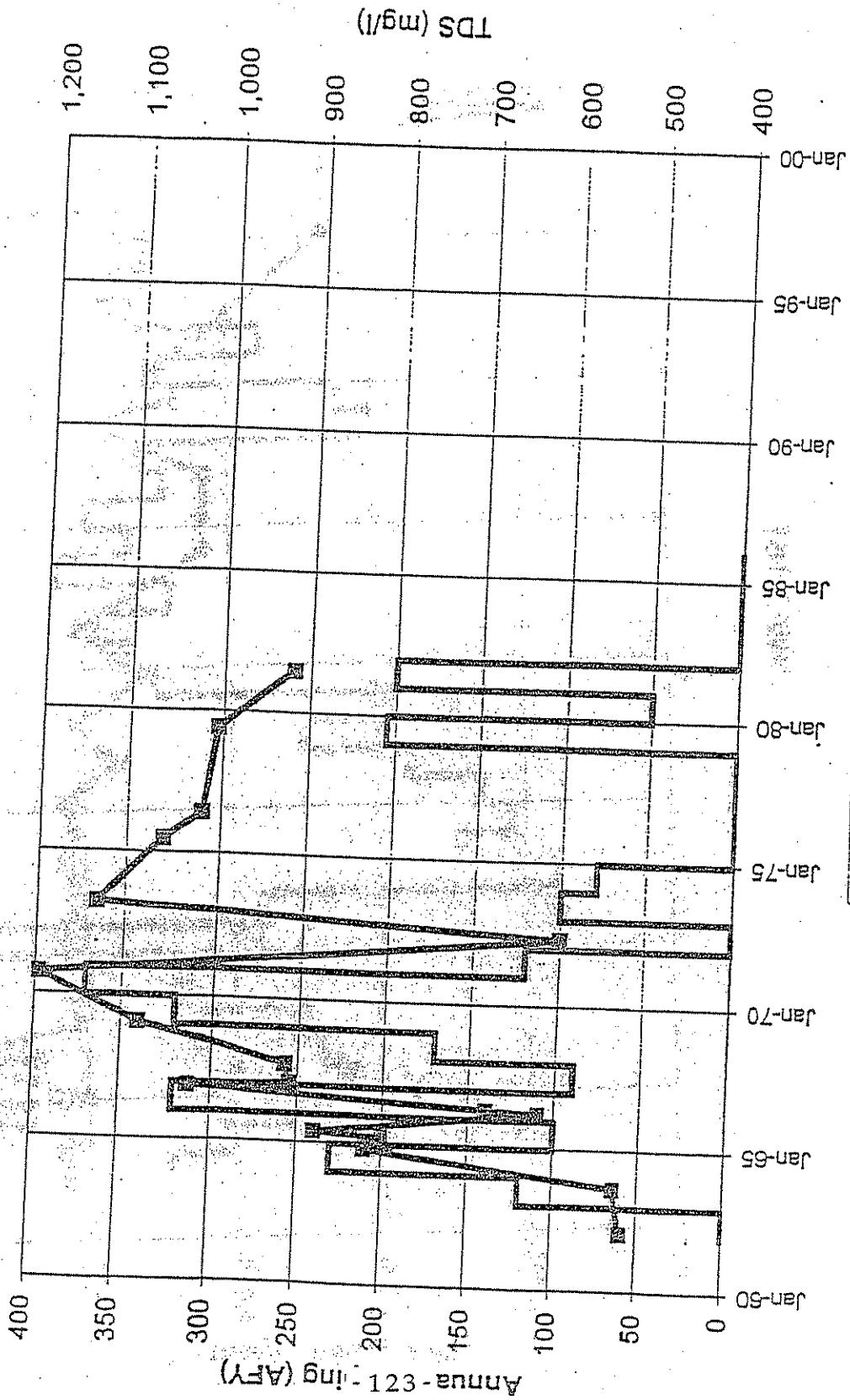


Exhibit 15

VWC 157



# VWC 158



110

Exhibit 17

VWC 160

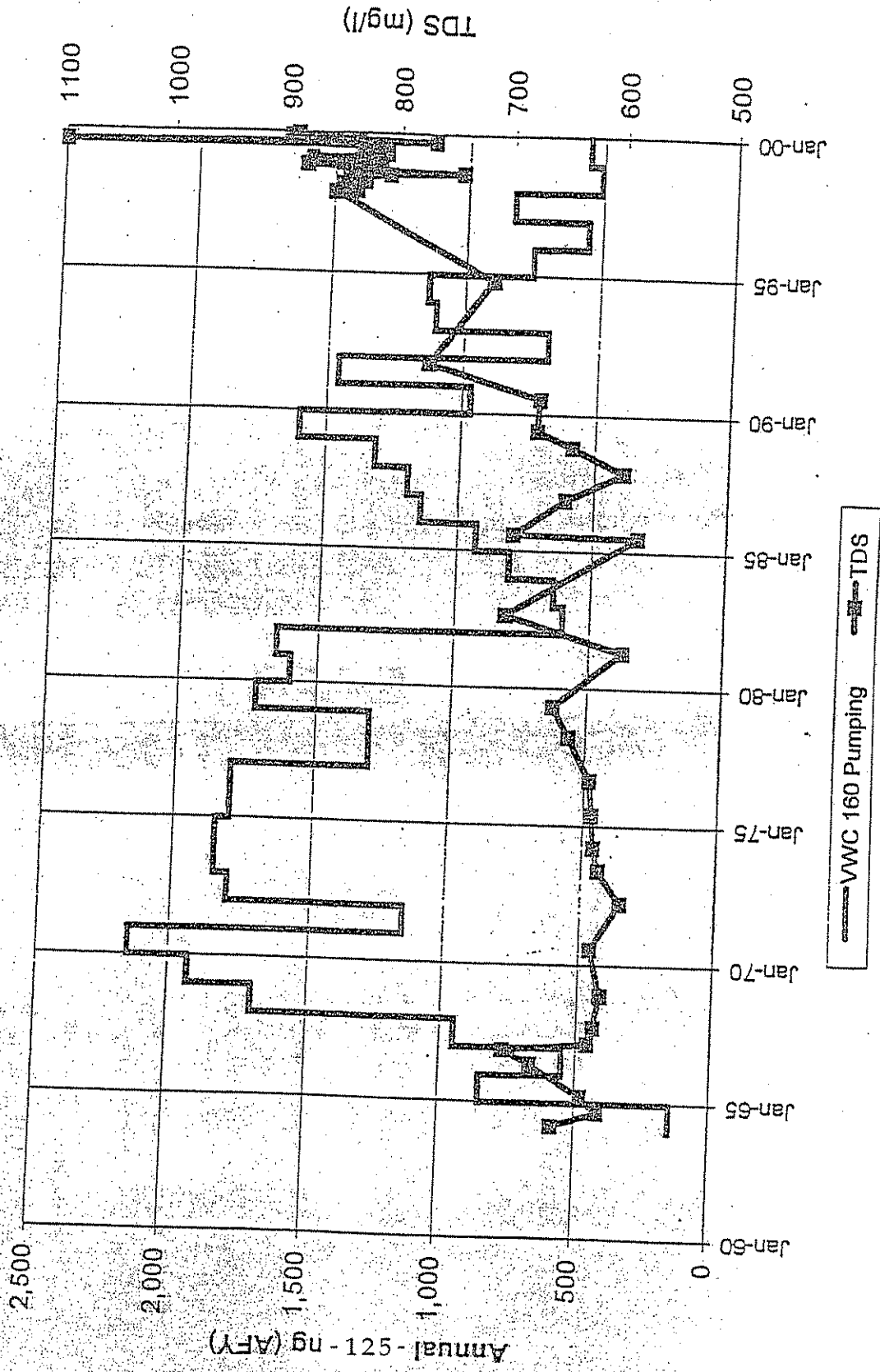
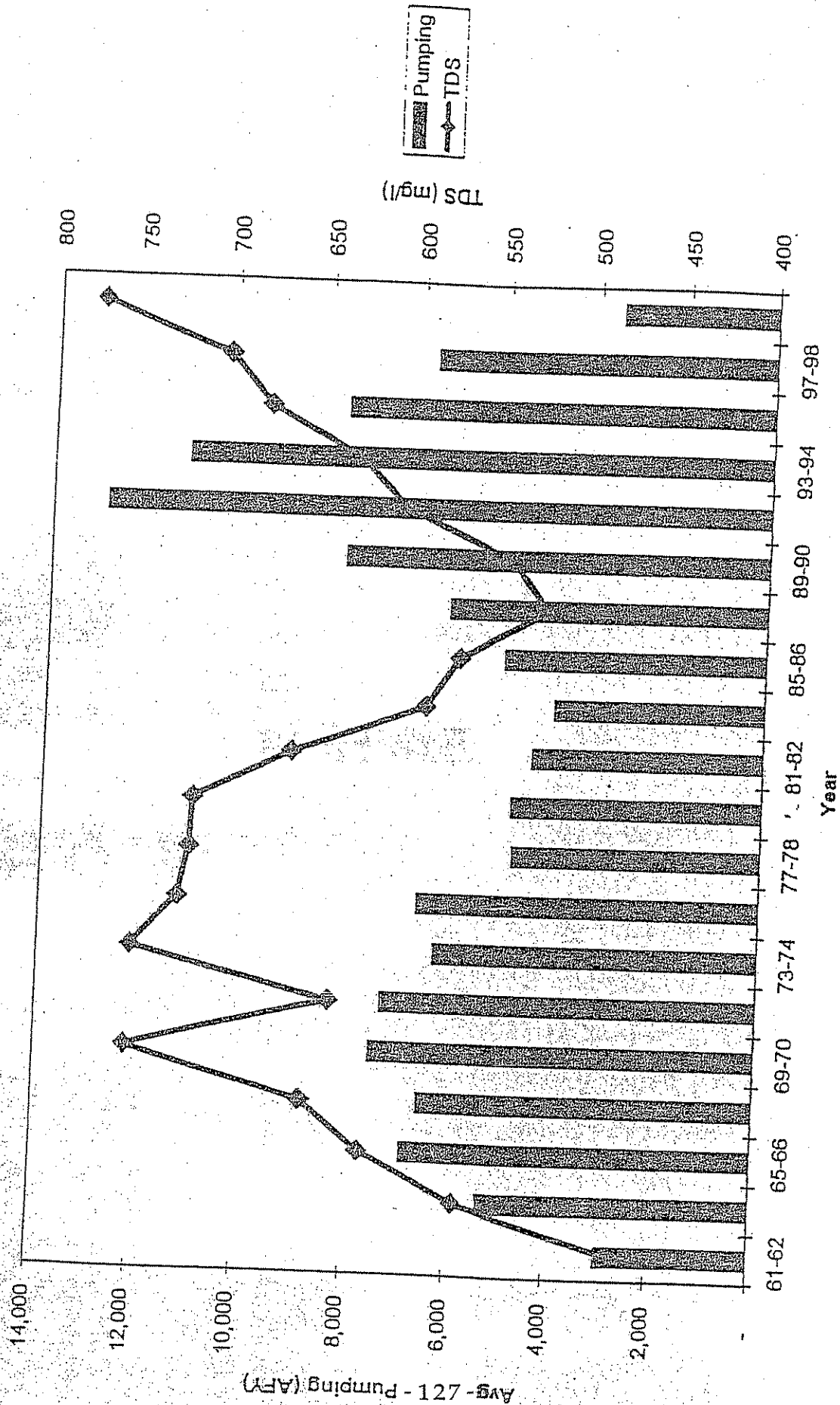


Exhibit 18



# Water Quality (TDS) vs Pumping, Saugus Aquifer



VWC 159

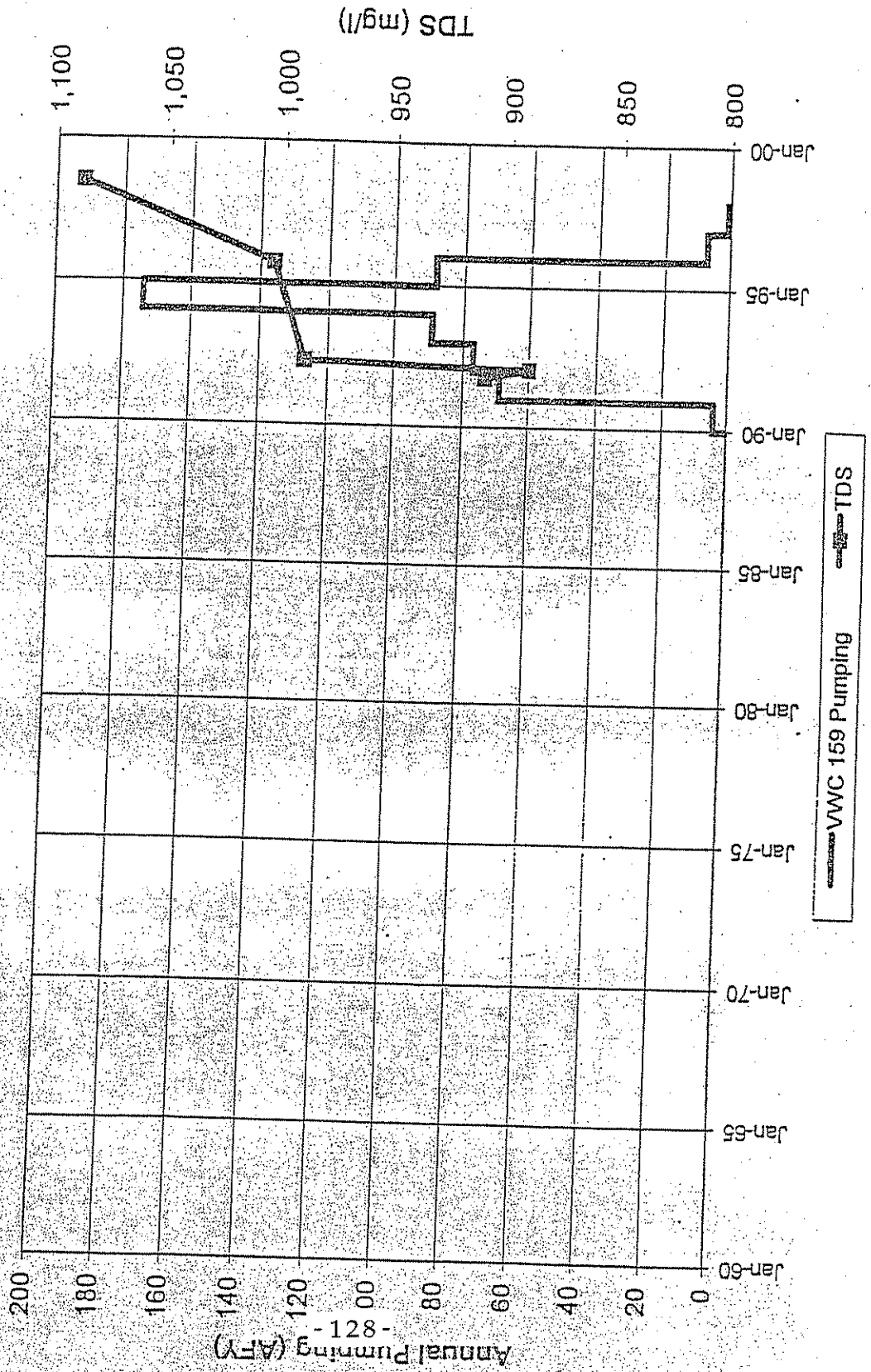
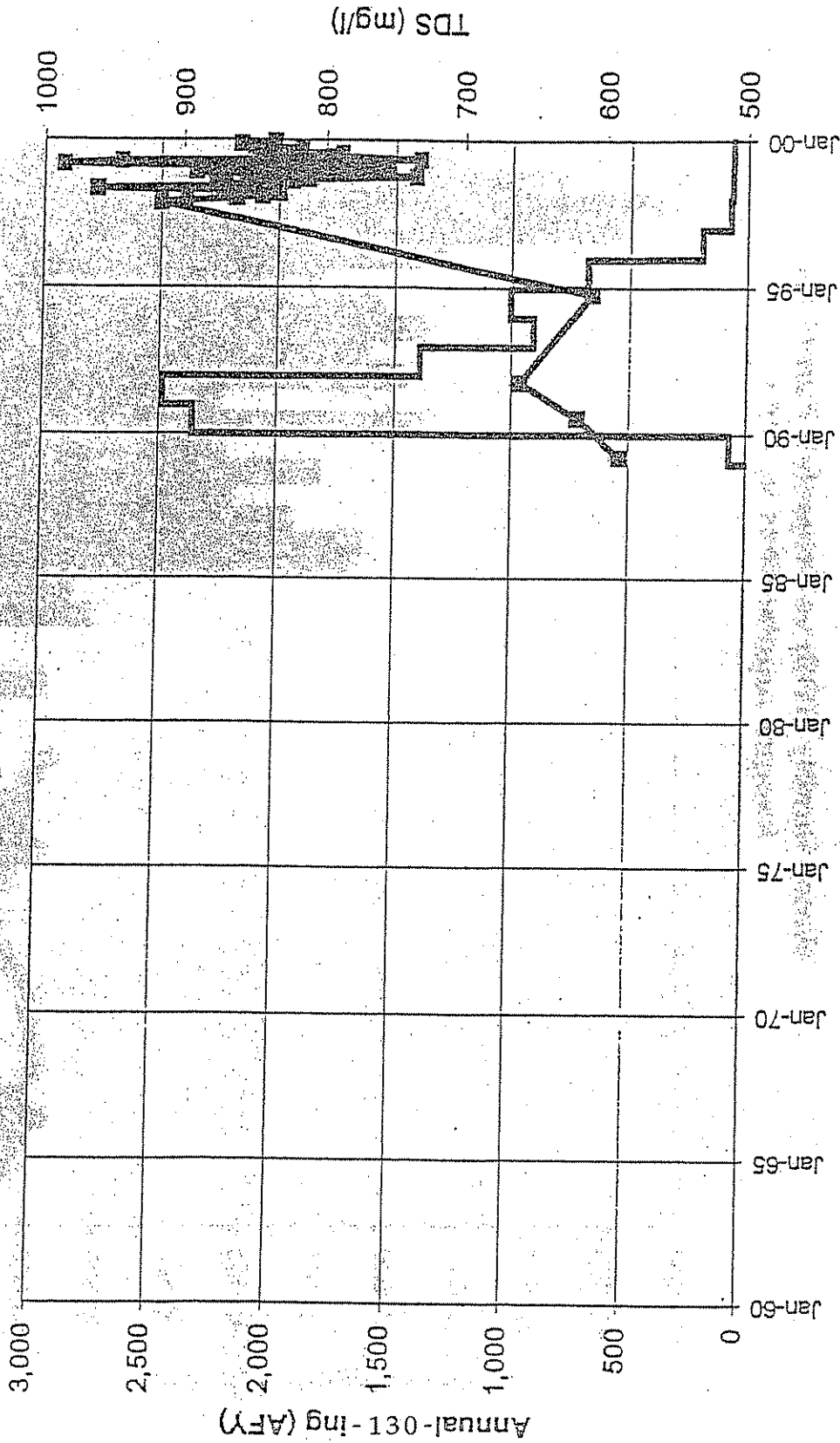


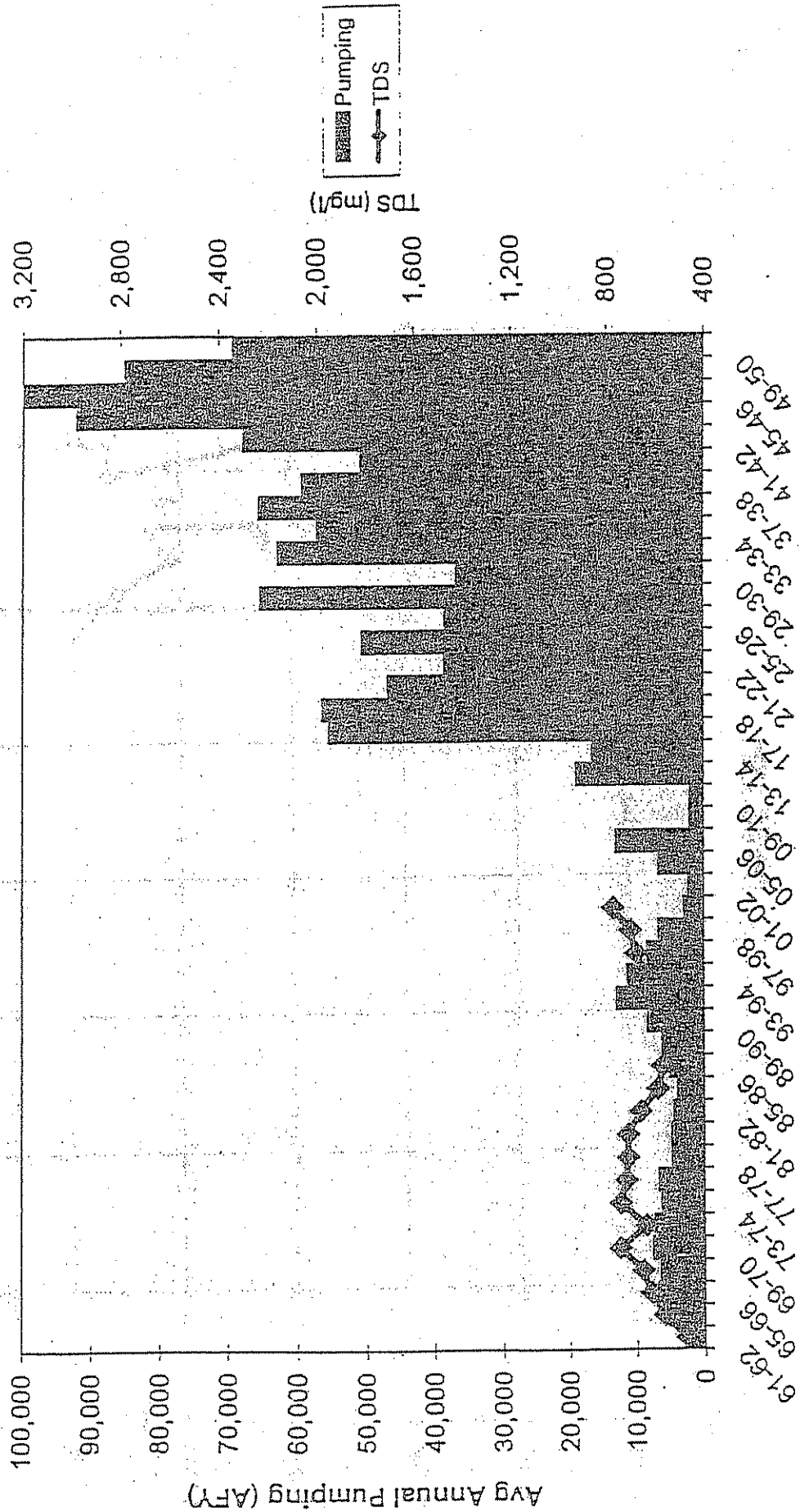
Exhibit 20

VWC 201



— VWC 201 Pumping    - - - TDS

Water Quality (TDS) vs Projected Pumping,  
Saugus Aquifer 1961 to 2050



2-Year Period

### Alluvial Aquifer

The Alluvial Aquifer system historically has provided the principal source of water supply in the CLWA service area, and will continue to be an important supply in the future. The Alluvial Aquifer, however, is limited in extent and depth and has a rather modest storage volume of about 200,000 acre-ft. Inspection of groundwater production and groundwater elevations in the Alluvial Aquifer indicates that with two or three years of reduced precipitation, groundwater production from the Alluvial Aquifer could be counted on to produce approximately 25,000 acre-ft/yr, of which 5,000-10,000 acre-ft/yr is higher salinity water located westerly of Castaic Junction. In normal and wet periods, production from the Alluvial Aquifer is estimated to be 32,000 acre-ft/yr and as much as 40,000 acre-ft/yr, respectively.

The three methods of increasing supply from this aquifer during these periods include: (1) modest over-pumping of the Alluvial Aquifer during wet years to create storage space so that the capture of runoff is increased; (2) increased recharge with Castaic Reservoir storm inflows; (3) groundwater recharge with imported SWP supplies. The existing recharge capability also needs to be maintained and the river bottoms in recharge areas should remain unpaved.

Increasing groundwater production to lower the water levels during wet periods increases the ability to capture storm water. However, it also increases the risk of having inadequate supplies in dry periods. Therefore, an evaluation should be performed to determine if the procedure is reasonable and to determine the quantities of water salvaged.

Increased urbanization in the CLWA area could have two effects on the Alluvial Aquifer. Increased urbanization of the hill and canyon area will result in an increase in runoff from these less permeable areas to the very permeable Santa Clara River. This could increase infiltration into the groundwater and prove beneficial. Additionally, urbanization can bring with it increased risk of contamination, and serious consideration should be given to a program to protect the quality of the groundwater resources.

### Saugus Aquifer

The second source of groundwater production in the Santa Clarita Valley is from the Saugus Aquifer. The Saugus Aquifer is currently capable of producing about 16,000 acre-ft/yr in dry years based on current installed well capacity. During wet years, about 5,000 acre-ft/yr of water is produced to meet water demands in local areas that do not have access to other water supplies.

The Saugus Aquifer has not been fully developed, but available data indicates a strong possibility that it can provide a reliable local dry year supply, if managed properly. High yielding wells exist in the aquifer producing high flow rates of good quality water. Unsuccessful wells have also been constructed in the Saugus Aquifer and those unsuccessful wells help to define the areas of probable high production. Estimates of recharge to the Saugus prepared by Slade (1988) indicate that recharge may range between 11,000 - 13,000 acre-ft in dry years, increasing to 20,000 - 22,000 acre-ft/yr in wet periods. Therefore, a long-term sustained yield between those quantities appears possible. Slade (1997) has indicated that the Saugus should be capable of producing as much as 40,000 acre-ft/yr during a 132 y period of five to six years. However, since

there are currently not sufficient wells to produce this amount of water, staged construction of additional wells in conjunction with careful monitoring is recommended. The Saugus Aquifer has recently experienced some localized water quality problems (perchlorate) due to industrial discharges. These water quality problems could impact the future use of the Saugus Aquifer.

The best operation of the Saugus Aquifer would involve minimal use when other supplies (such as imported water) are plentiful, and increased pumping during dry periods. The water levels in the Saugus Aquifer will recover during wet periods when recharge is higher and pumping is reduced. Additional use of Saugus Aquifer storage could be developed by aquifer recharge through injection wells (or injection/extraction wells) during periods of surplus water supply.

For supply planning purposes in this study, it is assumed that dry year production from the Saugus Aquifer can be increased from its current 16,000 acre-ft/yr to 40,000 acre-ft/yr over the next twenty years. This would be accomplished through staged construction of new wells and related facilities. It is conservatively assumed that the maximum annual production from the Saugus would be increased at a rate of about 1,000 acre-ft/yr (the equivalent of about one 1,500 gpm well per year). This rate could be increased if the hydrogeologic response to increased pumping indicates a higher potential. Wet year production would likely increase from 5,000 to 10,000 acre-ft/yr over the same period. A recharge program would be essential for reaching this level of production from the Saugus Formation.

### Recycled Water

Recycled water is available from two existing water reclamation plants and, in the future, a third plant could be constructed in conjunction with a proposed development. CLWA prepared a draft *Reclaimed Water System Master Plan* dated September 1993. This report recommended development of 9,100 acre-ft of recycled water from the Valencia plant. The major use is for irrigation of golf courses, parks, and schools. In addition, future development projects could include increase potential use by 6,500 acre-ft/yr. This additional use would be served by the proposed third reclamation plant.

Currently identified use indicates that a total of about 15,000 acre-ft of recycled water can be developed for use within the Agency. Based on anticipated downstream environmental considerations, this amount may represent approximately the maximum potential use of recycled water within CLWA. Additional recycled water is expected to be produced in the future but plans have not yet be prepared. It is assumed that recycled water use could increase to about 24,000 acre-ft/yr. To develop this level use is an ambitious program requiring a total commitment on the part of the Agency and local water purveyors. CLWA plans to begin construction of the initial phase of the recycling project in 1998.

### State Project Water, Existing Contracts

As discussed in Section 3, CLWA has existing contract entitlement to 54,200 acre-ft/yr of SWP water. Current reliability estimates prepared by DWR indicate average deliveries of 41,000 acre-ft/yr based on use of 1922-1993 hydrology and current SWP facilities. In dry periods which occur about once in every 20 years, the yield of the SWP supplies is 18,000 acre-ft/yr. In

# Wells, Sources and Contaminated Wells

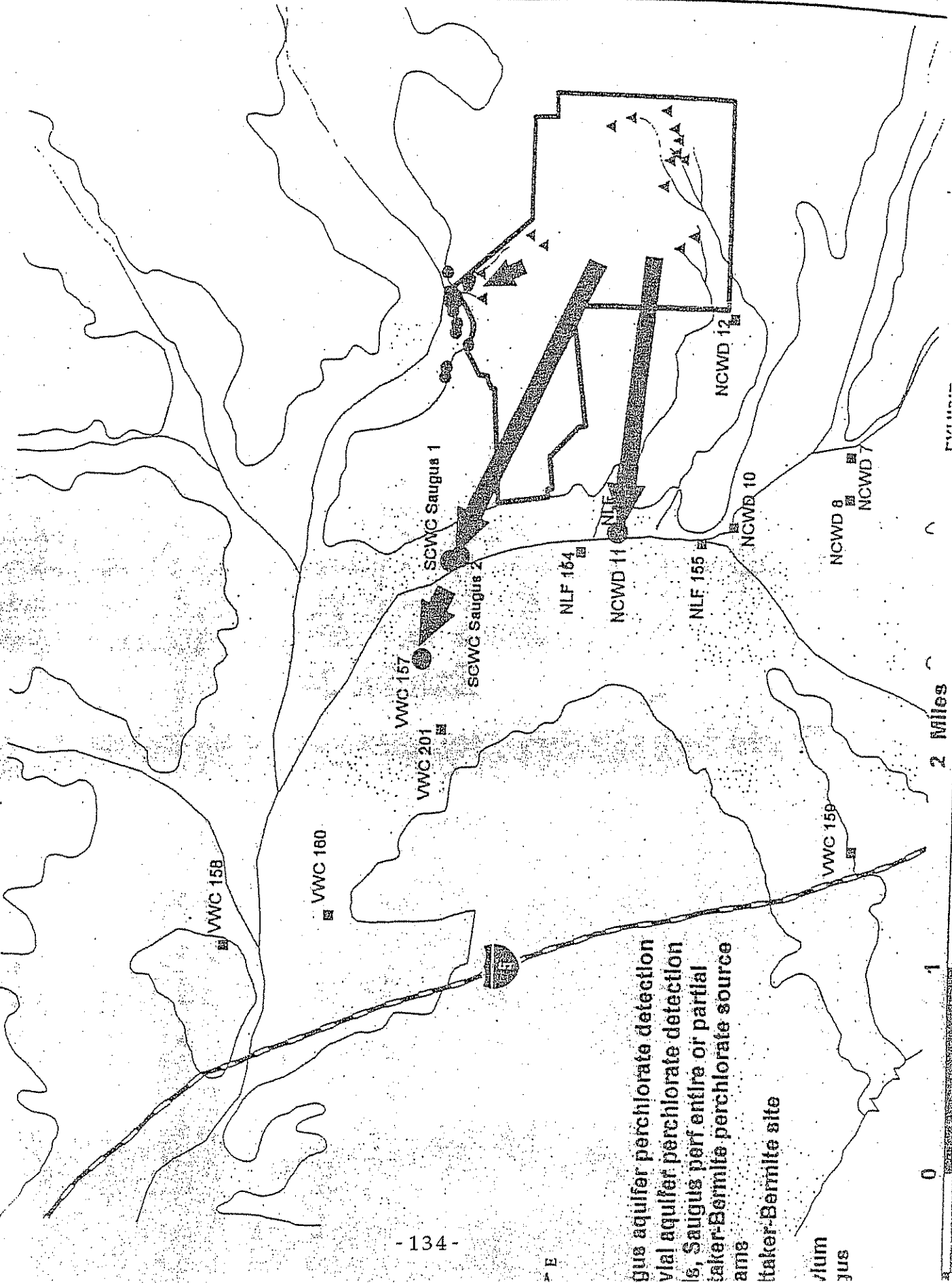
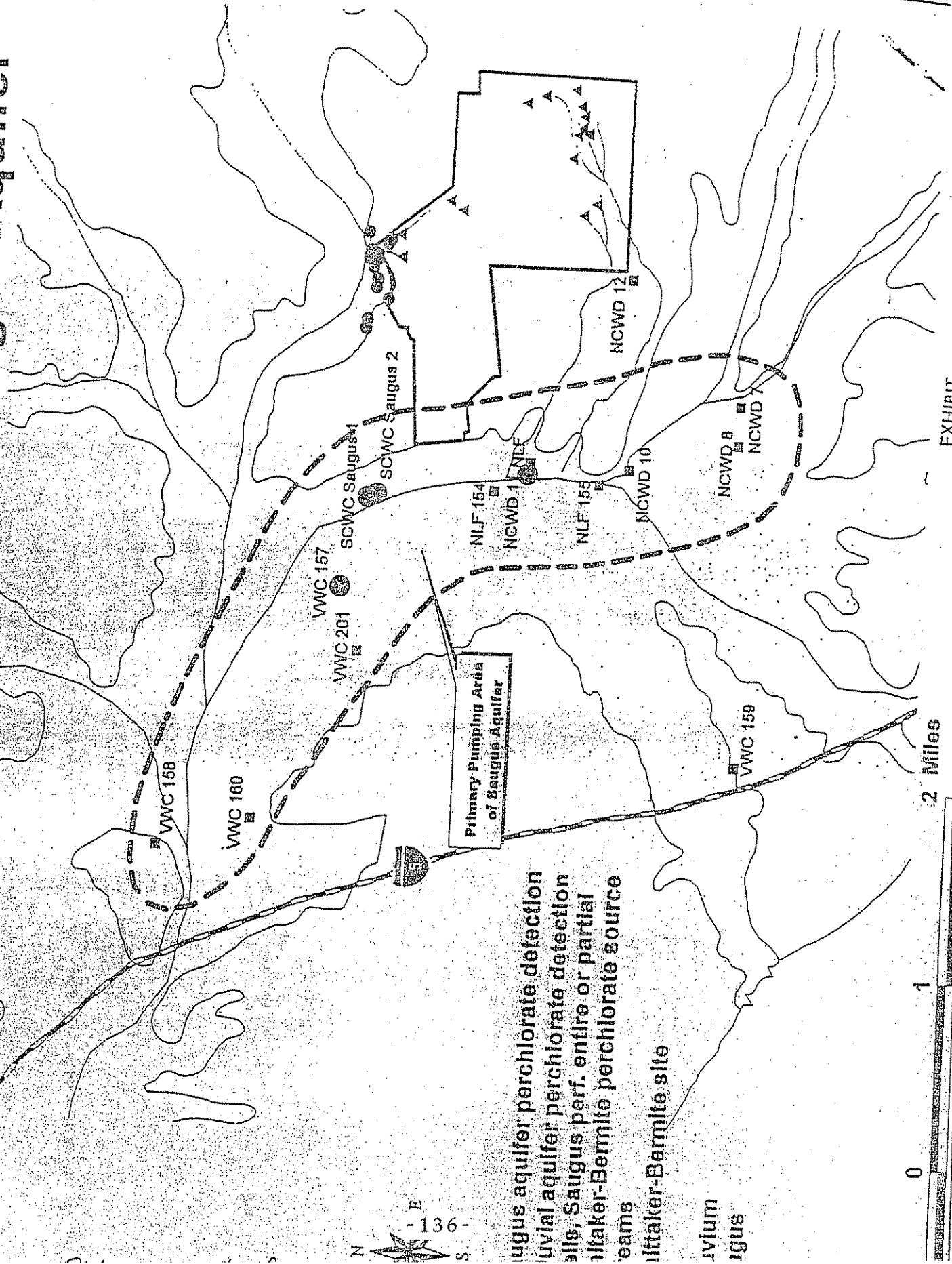




Exhibit 24

# Areas of Good Quality Water in Saugus Aquifer



EXHIBIT

Exhibit 25

# SANTA CLARITA VALLEY WATER REPORT

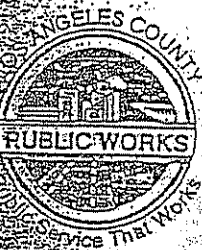
1999

CASTAIC  
L A K E



WATER  
AGENCY

Castaic Lake Water Agency



Los Angeles County Waterworks District #36

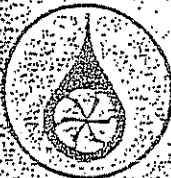


NCWD

Newhall County Water District



Santa Clarita Water Company



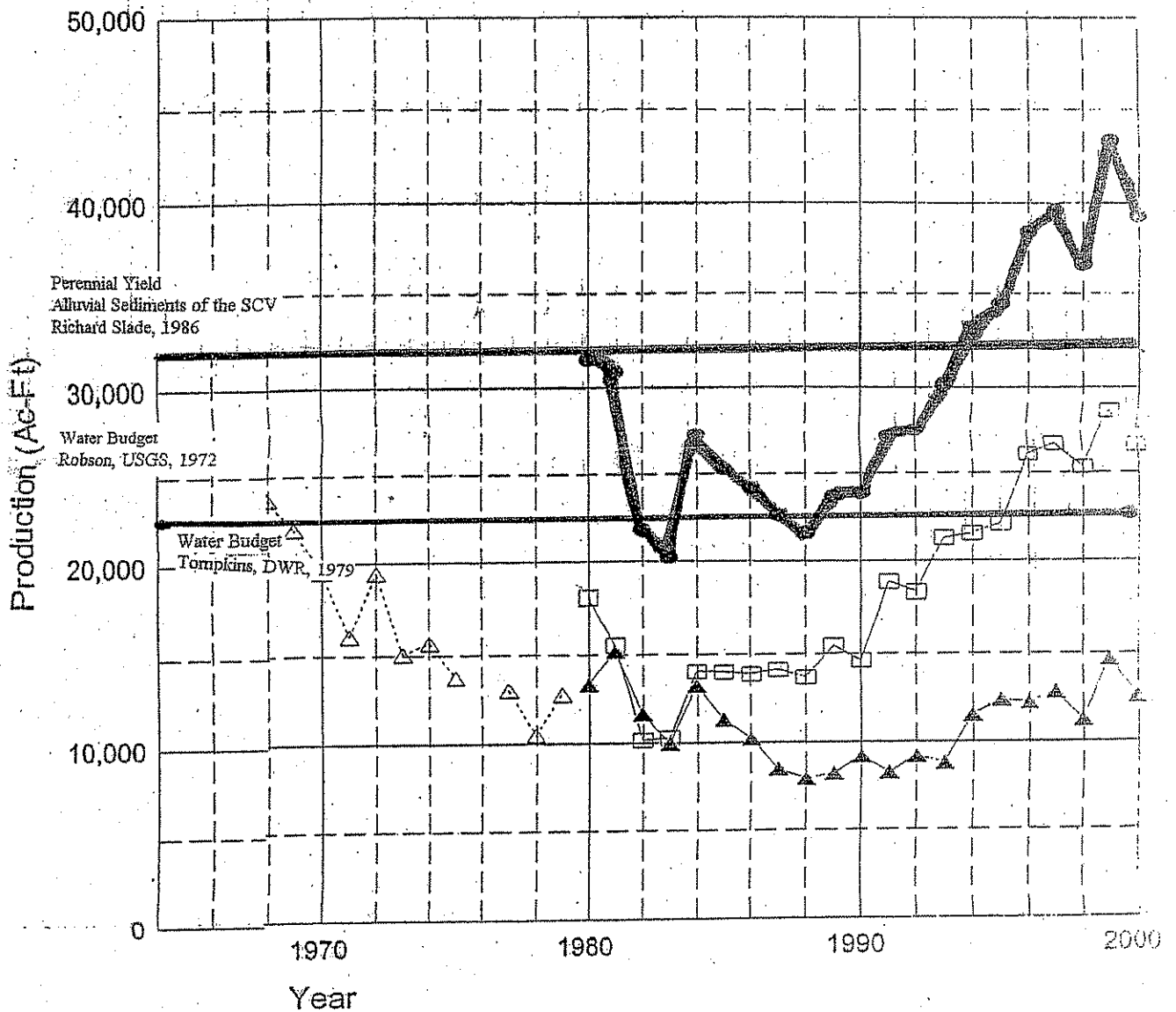
Valencia Water Company

Total Water Production  
Water Purveyors (a)  
Acre-Feet Per Year

Year	Sources of Supply						
	Alluvial Aquifer	% of Total	Saugus Formation	Saugus % of Total	State Project Water	State Project % of Total	Total
1980	16,625	74%	4,569	20%	1,125	5%	22,319
1981	14,056	57%	4,950	20%	5,816	23%	24,822
1982	8,684	40%	3,569	16%	9,659	44%	21,912
1983	8,803	41%	3,398	16%	9,185	43%	21,386
1984	12,581	46%	3,809	14%	10,996	40%	27,386
1985	12,519	44%	4,140	15%	11,823	42%	28,482
1986	12,418	40%	4,975	16%	13,759	44%	31,152
1987	12,630	37%	4,962	15%	16,285	48%	33,877
1988	12,197	32%	6,404	17%	19,033	51%	37,634
1989	13,978	33%	7,217	17%	21,618	50%	42,813
1990	13,151	31%	8,302	19%	21,613	50%	43,066
1991	17,408	44%	14,417	36%	7,968	20%	39,793
1992	16,897	41%	10,458	25%	13,911	34%	41,266
1993	19,808	46%	10,151	23%	13,393	31%	43,352
1994	20,068	44%	11,531	25%	14,389	31%	45,988
1995	20,590	45%	8,087	18%	16,996	37%	45,673
1996	24,681	49%	7,373	15%	18,093	36%	50,147
1997	25,273	47%	6,752	12%	22,148	41%	54,173
1998	23,898	49%	4,706	10%	20,254	41%	48,858
1999	27,240	48%	2,728	5%	27,282	48%	57,250

(a) Includes LACWD 36, NCWD, SCWD, VWC

## Groundwater Production Santa Clarita Valley Alluvial Aquifer

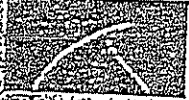


Total  
  Municipal/Industrial      Agricultural  
  (Estimated Ag)

Exhibit 26

# SANTA CLARITA VALLEY WATER REPORT 1999

CASTAIC  
LAKE



WATER  
AGENCY

Castaic Lake Water Agency



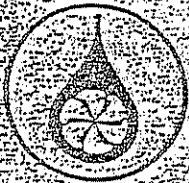
Los Angeles County Waterworks District #36



Newhall County Water District



Santa Clarita Water Company



Valencia Water Company



Exhibit 27



CALIFORNIA  
WATER PLAN UPDATE  
BULLETIN 160-98

Volume 1  
*November 1998*

Pete Wilson  
Governor

Douglas P. Wheeler  
Secretary for Resources  
The Resources Agency

David N. Kennedy  
Director  
Department of Water Resources



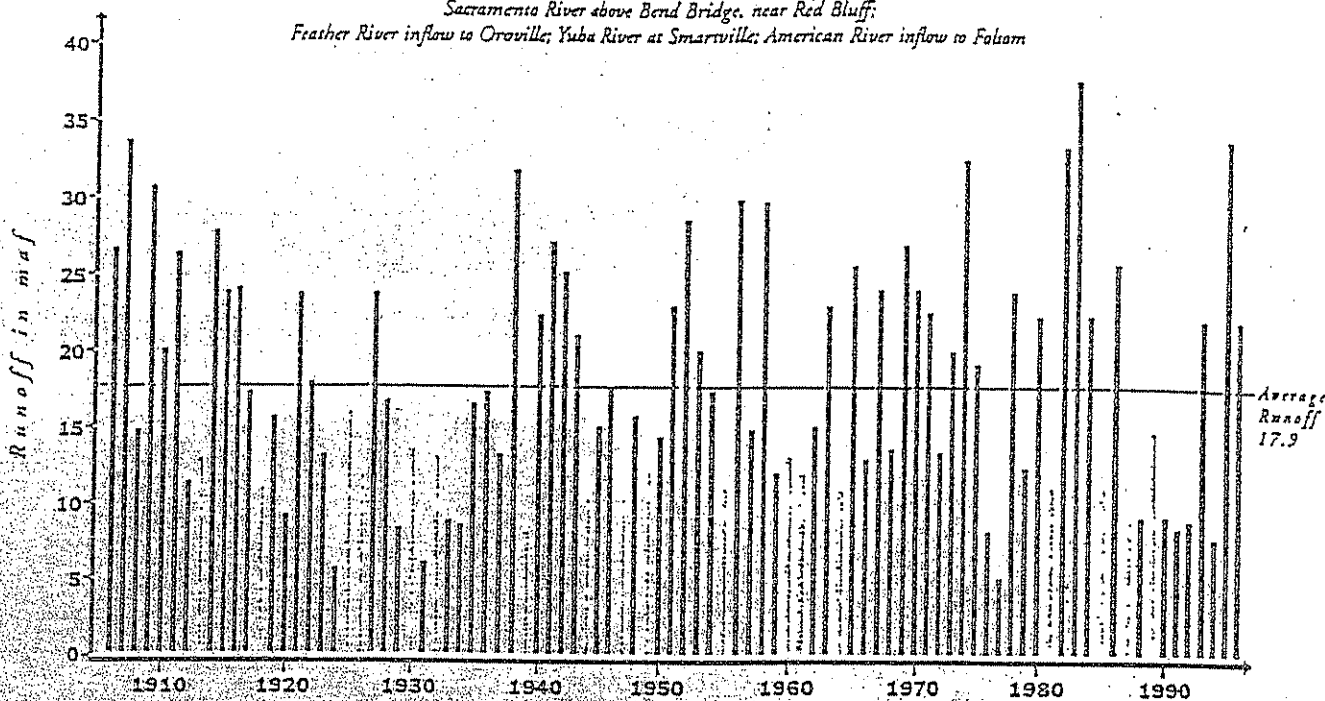
FIGURE 3-4  
Sacramento Four Rivers Unimpaired Runoff

The WR 95-6 year types are:

Wet Above Normal Below Normal Dry Critical

The Sacramento Four Rivers are:

Sacramento River above Bend Bridge, near Red Bluff;  
Feather River inflow to Oroville; Yuba River at Smartville; American River inflow to Folsom



### Climatic Variability

California's water development has generally been dictated by extremes of droughts and floods. The six-year drought of 1929-34 established the criteria commonly used to plan storage capacity or water yield of large Northern California reservoirs.

The influence of climatic variability on California's water supplies is much less predictable than the influences of geographic and seasonal variability, as evidenced by the recent historical record of precipitation and runoff. For example, the State's average annual runoff of 71 maf includes the all-time low of 15 maf in 1977 and the all-time high (exceeding 135 maf) in 1983. Floods and droughts occur often, sometimes in the same year. The January 1997 flood was followed by a record-setting dry period from February through June and the flooding of 1986 was followed by six years of drought (1987-92).

Figures 3-4 and 3-5 show the estimated annual

unimpaired runoff from the Sacramento and San Joaquin River basins to illustrate climatic variability. Because these basins provide much of the State's water supply, their hydrologies are often used as indices of water year classification systems (see sidebar, page 3-8).

*Droughts of Recent Record.* Numerous multi-year droughts have occurred in California this century: 1912-13, 1918-20, 1922-24, 1929-34, 1947-50, 1959-61, 1976-77, and 1987-92. In order to provide water supply reliability, major reservoirs are designed to maintain and deliver carryover storage through several years of drought. The 1929-34 drought established the criteria commonly used to design the storage capacity and water yield of large Northern California reservoirs. Many reservoirs built since this drought were sized to maintain a reliable level of deliveries should a repeat of the 1929-34 hydrology occur. Even a single critical runoff year such as 1977 can be devastating to water users with limited storage reserves, who are more dependent

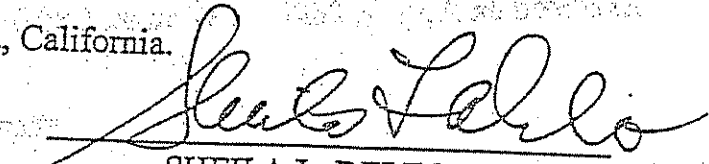
Exhibit 28

CERTIFICATE OF SERVICE

STATE OF CALIFORNIA, COUNTY OF VENTURA

I hereby certify that I have this day served a copy of the DIRECT TESTIMONY OF STEVEN B. BACHMAN IN SUPPORT OF THE PROTEST BY VENTURA COUNTY TO APPLICATION OF VALENCIA WATER COMPANY FOR APPROVAL OF ITS UPDATED WATER MANAGEMENT PROGRAM on all known parties to Application No. A-99-12-025 by mailing a properly addressed copy by first-class mail, with postage prepaid, to each party named below in the service list.

Executed on April 7, 2000, at Ventura, California.

  
SHEILA L. DELEO

SERVICE LIST

Bertram D. Patrick  
California Public Utilities Commission  
Division of Administrative Law Judges  
505 Van Ness Avenue, Room 5110  
San Francisco, California 94102-3214  
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Water Advisory Branch  
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California Public Utilities Commission  
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320 West Fourth Street, Suite 500  
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Sandra Graham  
California Public Utilities Commission  
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Fred L. Curry  
California Public Utilities Commission  
Water Advisory Branch  
505 Van Ness Avenue, Room 3106  
San Francisco, California 94102-3214

Robert J. DiPrimio, President  
Valencia Water Company  
24631 Avenue Rockefeller  
Valencia, CA 91355

CERTIFICATE OF SERVICE

STATE OF CALIFORNIA, COUNTY OF VENTURA

I hereby certify that I have this day served a copy of the DIRECT TESTIMONY OF WALLACE G. SPINARSKI IN SUPPORT OF THE PROTEST BY VENTURA COUNTY TO APPLICATION OF VALENCIA WATER COMPANY FOR APPROVAL OF ITS UPDATED WATER MANAGEMENT PROGRAM on all known parties to Application No. A-99-12-025 by mailing a properly addressed copy by first-class mail, with postage prepaid, to each party named below in the service list.

Executed on April 7, 2000, at Ventura, California.

  
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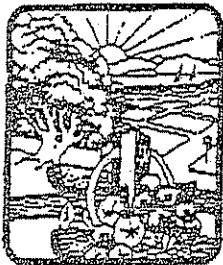
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24631 Avenue Rockefeller  
Valencia, CA 91355



## SCOPE

Santa Clarita Organization for Planning the Environment

To Promote, Protect and Preserve the Environment, Ecology and Quality of Life  
in the Santa Clarita Valley

P.O. Box 1182, Santa Clarita, CA 91386

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### Field Survey of San Francisquito Creek (Significant Ecological Area 19, LA County)

Waters under the jurisdiction of the United States,  
Santa Clarita, CA

26 February 2000

## Field Survey of San Francisquito Creek

A field survey of a portion of Significant Ecological Area (SEA) 19 (San Francisquito Creek) within the jurisdictional waters of the United States was conducted on February 26th, 2000. Present for the field survey were M Kotch, L Plambeck, K Ollenkemp, and T Savaiekic. The objective of the survey was to assess the surface water conditions of San Francisquito Creek, and to assess the general condition of the flora and fauna within the SEA by walking in the jurisdictional waters of the United States and observing these and surrounding lands. (Remote observations were made by binocular survey while staying within jurisdictional waters.)

The upland west of the San Francisquito Creek banks, but within the SEA boundaries, in this area was observed to be disked and disturbed soil with no agricultural production. An unpaved road entered into the SEA and across San Francisquito Creek without any improvements of the roadway or SEA protective measures at the stream crossing. It is unknown at this time whether this is a permitted crossing of the SEA and of jurisdictional waters of the United States.

Flora in this portion of the SEA consisted of willows, cottonwoods, Arrundo grass, and an under story of grasses and shrubs typical of a riparian habitat. Despite recent rains (Exhibit A shows a total of 4.81 inches of rainfall in the prior week)<sup>1</sup>, no water was flowing in the creek. No ground animals were observed at this point. Birds observed in the area included Turkey vultures, Ravens; a red-tailed hawk carrying nesting material, a Red shouldered hawk, a says phoebe, a black phoebe, a sharp-shin hawk, California Quail, cedar waxwings, flickers, nuttalls, a woodpecker, a western blue bird, scrub jay, brewers blackbirds, California and Spotted Towhees, Ruby Crowned Kinglets, and California Thrashers. The survey continued north along the western edge of SEA 19. The land here is generally flat. It was our understanding that the boundaries of SEA 19 include an upland buffer zone beyond the banks of San Francisquito Creek, but here the disturbed disked area (again unplanted for any agricultural use) extended to the banks of the creek.

Two water wells (W-6 and W-9) were observed along the west edge in the upland zone and all were heard to be operating. As there was no active agricultural operation anywhere in the vicinity and there was no observable discharge from these wells into San Francisquito Creek, a reasonable presumption was that the wells were being used for municipal & industrial (M&I) purposes to service potable water storage tanks, and not for agriculture. A line of stakes was observed along this route that appeared to delineate the centerline of a road along the creek bank for planning purposes.

There are hillsides further to the west of the upland plain adjacent to the SEA, and a massive concrete spillway was observed which would facilitate drainage of a hillside drainage course with no water retention or percolation facilities.

The typical observation was that all upland areas up to the bank of the creek were unplanted and disked soil that offered no habitat or cover for ground animals, and any native plant species had been extirpated. The only significant plant growth was within the banks of the creek, and some of these plants showed stress due to lack of water. Some coyote scat was observed along this traverse, and a solitary very large black-eared jack rabbit. There were no usable nesting or cover sites for ground birds.

The traverse along the west side of the SEA continued north to Copperhill Drive. Just before this was a third well (W-4, which has apparently from the record not been operated since the mid 90s<sup>2</sup>). There was rubber hosing about 2 inches in diameter that went from this well to the San Francisquito Creek

<sup>1</sup> See Exhibit A for recent rainfall histories in the vicinity of these wells.

<sup>2</sup> No VWC data is presented for W-4 from 1996 onward.)



to the San Francisquito Creek bed. This appeared to be a well intended for providing irrigation for riparian mitigation plantings, but the entire system was inoperable at the time of the survey.

We followed this hose and progressed south within the bed of San Francisquito Creek. The hose expanded into numerous rows of plastic drip-style irrigation piping that was broken in many places, in obvious disrepair, unusable, and abandoned in place. The piping wended through a number of artificial plantings for a length of about 600 feet and a width of about 150 feet. These artificial replacement plantings were in a fair state of health, but lacked attendant grasses and low-level plants to complete the habitat. No sections in this area were so thick as to be impassable, and so no sections represented adequate nesting and cover areas for ground animals and birds.

As elsewhere, San Francisquito Creek was dry throughout, with no running surface water. However, many areas had dried moss on rocks in the streambed indicating previous surface flow, and a few areas showed the moss turning from green to brown, indicating that the disappearance of surface flow was relatively recent.

There was a whitish residue on many of the rocks lining San Francisquito Creek around area K5, which tasted salty.

Some scat (noted previously) was found in this area, indicating that larger mammals were using the streambed as a corridor. The scat was rare, however, and no indications (scattered feathers, bones, etc.) were found to indicate that the streambed was providing a plentiful food resource for larger mammals and/or raptors.

There is storm water drainage in the vicinity of Summerhill Lane off McBean Parkway. Here the storm drain outlet provided a small water flow that supported riparian-related flora. The water flow sank below the surface before reaching San Francisquito Creek. To our knowledge this area is not mapped as a riparian area.

#### Summary -

1. Upland buffer areas adjacent to San Francisquito Creek have been disked to the creek banks and lack either native vegetation or agricultural plantings that can provide food sources, nesting, and cover in these areas for ground-based fauna.
2. Water well pumping for M&I purposes appears to have depressed the groundwater table to the extent that there is no surface flow along San Francisquito Creek in this area, even after recent rainfall<sup>1</sup>. This field observation correlates with the recorded depressions in water well data available for wells in San Francisquito Creek.
3. There is evidence of some sort of mitigation/restoration planting within San Francisquito Creek in this area, for which maintenance has been abandoned.

<sup>1</sup> Op. cit. See also Exhibit C, which shows water levels for the W-6 and W-9 wells between 1988 and 1999. For nearly half this time VWC did not report water levels for the W-6 and W-9 wells and the data does not indicate whether these are static or running conditions. The observed land use history for this area is that the missing 1988 through 1990 data is an interval when VWC considered these to be agricultural wells not subject to CPUC reporting. The data from 1991 onwards indicates a significant depression of groundwater levels due to drought (1991 shows about a 40 foot depression), with some recovery in subsequent wet years but a bending trend toward continued depression as these wells are used for M&I purposes. (compare 1996 and 1999 {1995 and 1997 data is missing from this VWC report}). The data in Exhibit C indicates that any surface flow in this stretch of San Francisquito Creek will be ephemeral and unable to sustain surface water and near-surface water flows needed by flora and fauna within SEA 19 for environmental purposes due to the depressions in surface water flow documented in Exhibit B.

4. The mitigation/restoration planting in this area provided mitigation for only certain medium-sized floral species and did nothing for the smaller under story and surface-based flora.
5. The presence of dead and dying moss on rocks within the San Francisquito Creek bed indicates that the increased water extractions in this area -- to the extent of eliminating surface flow -- were relatively recent at the time of the survey.<sup>4</sup>
6. Human activities, by disking to creek banks and by pumping to eliminate surface flow, are having an adverse effect on the health of SEA 19 as a habitat.

---

<sup>4</sup> See "Effect of Groundwater Withdrawals on Surface Water", page 14, "Ground Water & Surface Water, a Single Resource", United States Geological Survey, Circular 1139, 1998, presented here as Exhibit B.

Exhibit A  
Rainfall Figures

# NEWHALL COUNTY WATER DISTRICT

Record of Weather Observations  
Feb-00  
( Normal Time of Reading 5:00 P.M. )

DATE	High Temperature	Low Temperature	Rain-fall 1999	Rain-fall 1998
1-Feb	74	45	0.00	0.00
2-Feb	69	38	0.00	0.00
3-Feb	64	41	0.00	0.00
4-Feb	70	50	0.00	0.00
5-Feb	54	52	0.00	0.32
6-Feb	48	47	0.00	0.11
7-Feb	50	46	0.00	0.22
8-Feb	51	48	0.01	0.00
9-Feb	49	36	0.00	0.00
10-Feb	52	47	0.00	0.00
11-Feb	58	45	1.05	0.00
12-Feb	62	46	1.39	0.00
13-Feb	50	38	0.50	0.00
14-Feb	58	42	0.61	0.00
15-Feb	68	46	0.00	0.00
16-Feb	64	47	0.46	0.00
17-Feb	52	49	0.00	0.00
18-Feb	53	48	0.00	0.00
19-Feb	51	49	0.00	0.00
20-Feb	55	50	1.32	0.00
21-Feb	60	50	1.55	0.00
22-Feb	50	48	0.03	0.00
23-Feb	52	38	1.91	0.00
24-Feb	56	44	0.00	0.00
25-Feb	58	52	0.00	0.00
26-Feb	64	39	0.00	0.00
27-Feb	74	42	0.60	0.00
28-Feb	78	18	0.00	0.00
29-Feb	0	0	0.00	0.00
0-Jan	0	0	0.00	0.00
0-Jan	0	0	0.00	0.00
<b>TOTAL</b>			<b>9.43</b>	<b>0.65</b>

	1999 - 2000	1998 - 1999
Total Rain-fall End of Current Month	9.43	0.65
Total Rain-fall End of Previous Month	1.26	5.19
Total Rain-fall Since October 1st	10.89	5.84
 Temperature Averages For Current Month		
HIGH	58.57	64.86
LOW	45.39	42.57

# Santa Clarita Valley Rainfall 1988 - 1998

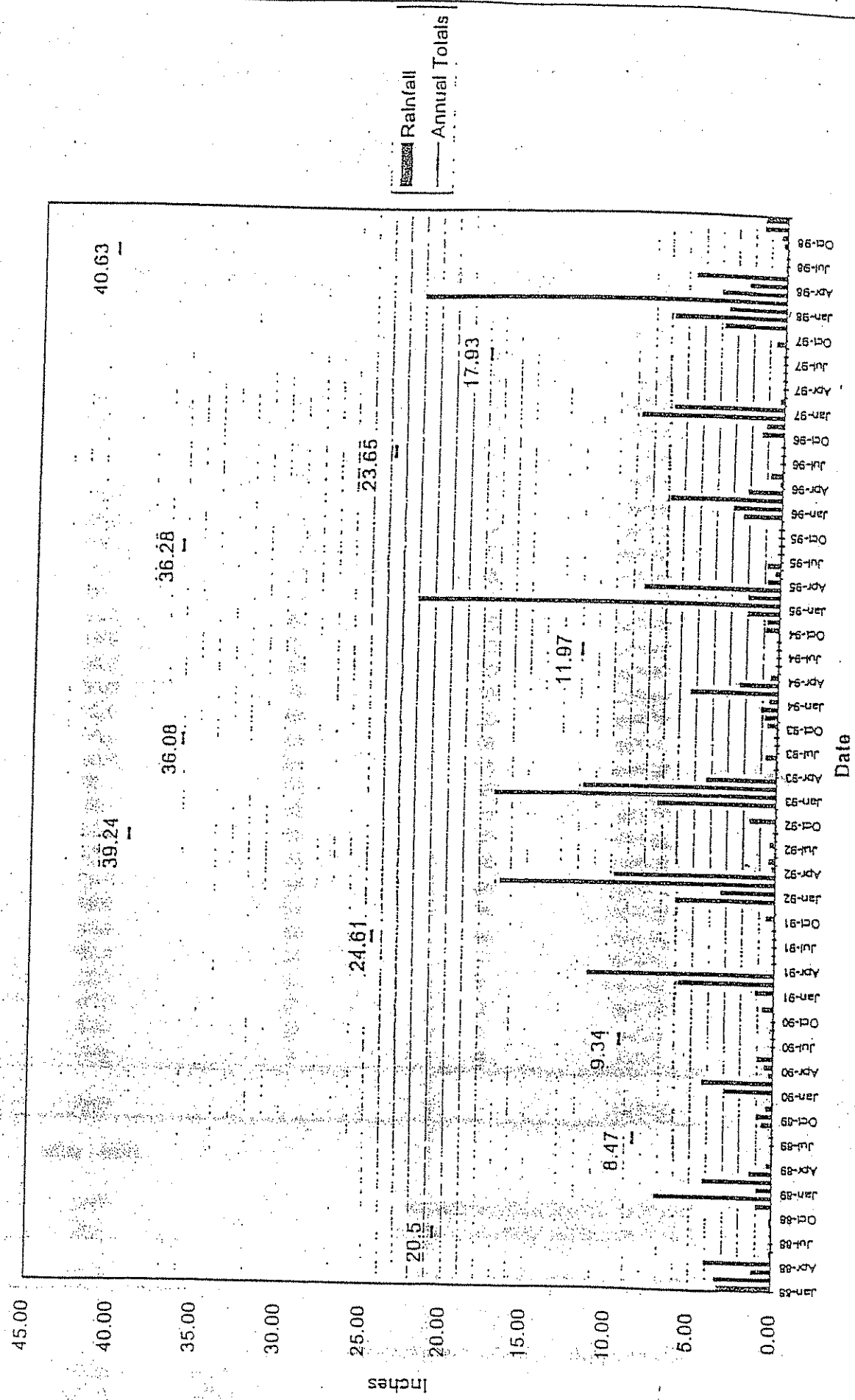


Figure II - 5

Santa Clarita Valley Precipitation  
Saugus Powerplant Gage

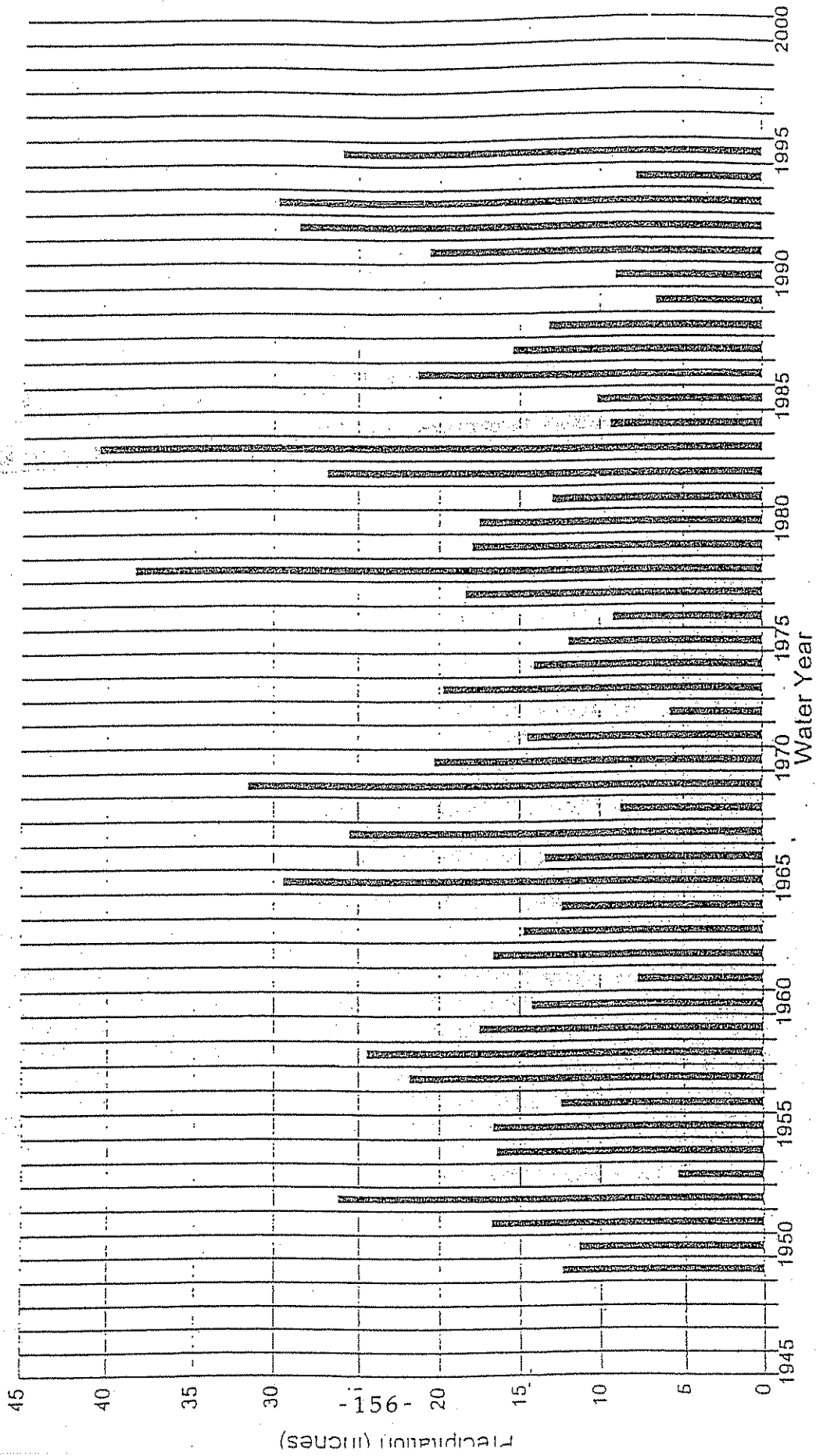


Figure II-16

Exhibit B

Reference from USGS Circular 1139 (1998)

"Effect of Groundwater Withdrawals on Surface Water"

# Ground Water and Surface Water A Single Resource

U.S. Geological Survey Circular 1139

by Thomas C. Winter  
Judson W. Harvey  
O. Lehn Franke  
William M. Alley

Denver, Colorado  
1998



# The Effect of Ground-Water Withdrawals on Surface Water

Withdrawing water from shallow aquifers that are directly connected to surface-water bodies can have a significant effect on the movement of water between these two water bodies. The effects of pumping a single well or a small group of wells on the hydrologic regime are local in scale. However, the effects of many wells withdrawing water from an aquifer over large areas may be regional in scale.

Withdrawing water from shallow aquifers for public and domestic water supply, irrigation, and industrial uses is widespread. Withdrawing water from shallow aquifers near surface-water bodies can diminish the available surface-water supply by capturing some of the ground-water flow that otherwise would have discharged to surface water or by inducing flow from surface water into the surrounding aquifer system. An analysis of the sources of water to a pumping well in a shallow aquifer that discharges to a stream is provided here to gain insight into how a pumping well can change the quantity and direction of flow between the shallow aquifer and the stream. Furthermore, changes in the direction of flow between the two water bodies can affect transport of contaminants associated with the moving water. Although a stream is used in the example, the results apply to all surface-water bodies, including lakes and wetlands.

A ground-water system under predevelopment conditions is in a state of dynamic equilibrium—for example, recharge at the water table is equal to ground-water discharge to a stream (Figure C-1A). Assume a well is installed and is pumped continually at a rate,  $Q_1$ . After a new state of dynamic equilibrium is achieved, inflow to the ground-water system

from recharge will equal outflow to the stream plus the withdrawal from the well. In this new equilibrium, some of the ground water that would have discharged to the stream is intercepted by the well, and a ground-water divide, which is a line separating directions of flow, is established locally between the well and the stream (Figure C-1B). If the well pumped at a higher rate,  $Q_2$ , at a later time a new equilibrium is reached. Under this condition, the ground-water divide between the well and the stream is no longer present and withdrawals from the well induce movement of water from the stream into the aquifer (Figure C-1C). Thus, pumpage reverses the hydrologic condition of the stream in this reach from a ground-water discharge feature to a ground-water recharge feature.

In the hydrologic system depicted in Figures C-1A and C-1B, the quality of the stream water generally will have little effect on the quality of the shallow ground water. However, in the case of the well pumping at the higher rate,  $Q_2$  (Figure C-1C), the quality of the stream water, which locally recharges the shallow aquifer, can affect the quality of ground water between the well and the stream as well as the quality of the ground water withdrawn from the well.

This hypothetical withdrawal of water from a shallow aquifer that discharges to a nearby surface-water body is a simplified but compelling illustration of the concept that ground water and surface water are one resource. In the long term, the quantity of ground water withdrawn is approximately equal to the reduction in streamflow that is potentially available to downstream users.

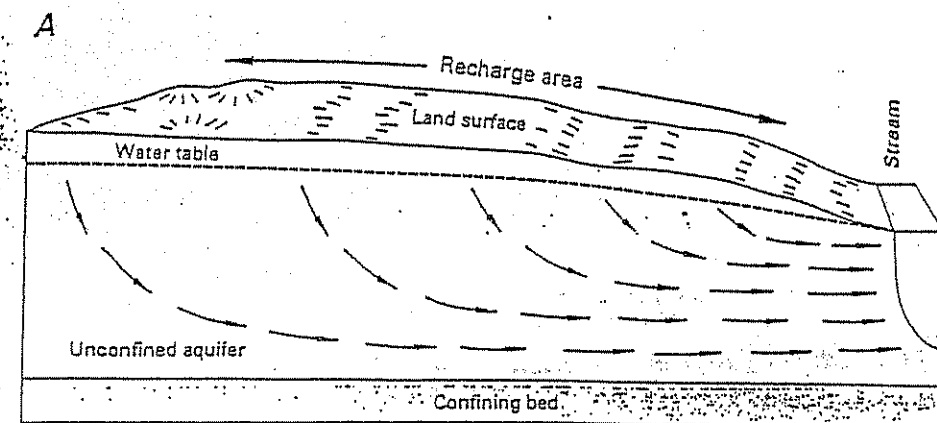


Figure C-1. In a schematic hydrologic setting where ground water discharges to a stream under natural conditions (A), placement of a well pumping at a rate ( $Q_1$ ) near the stream will intercept part of the ground water that would have discharged to the stream (B). If the well is pumped at an even greater rate ( $Q_2$ ), it can intercept additional water that would have discharged to the stream and can draw water from the stream to the well (C).

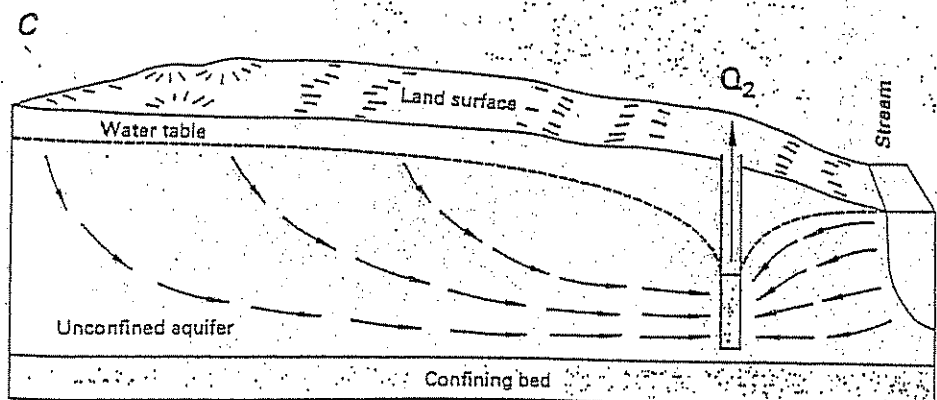
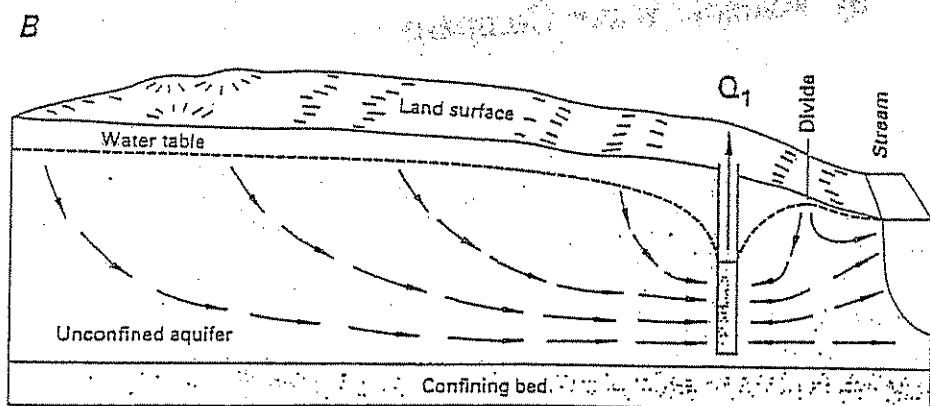


Exhibit C  
Well Level Data from Annual Reports  
Submitted to the PUC  
by Valencia Water Company

Well Level Data  
from Annual Reports submitted to the PUC  
by Valencia Water Company

	1988	1989	1990	1991+	1993**	1994	1996	1998***	1999
Well I (Ave Scott)	14'	14'	20'	23'	23'	23'	17'	15'	20'
Well N (Pardee Field)	25'	25'	30'	43'	40'	34'	27'	28'	36'
Well W-4 (San Francisquito)	NR	15'	40'	49'	19'	18'	NR	NR	NR
Well W-6 (San Francisquito)	NR	NR	NR	55'	15'	20'	27'	20'	28'
Well W-9 (San Francisquito)	NR	NR	NR	58'	18'	22'	29'	23'	30'
Well 160 (SCE Substa)	22'	22'	100'	92'	83'	85'	73'	62'	77'
Well U4 (LA Aqueduct)	30'	30'	55'	68'	10' *	10' *	16'	12'	23'
Well Q2 Bouquet Canyon	18'	18'	30'	43'	27'	25'	26'	21'	24'

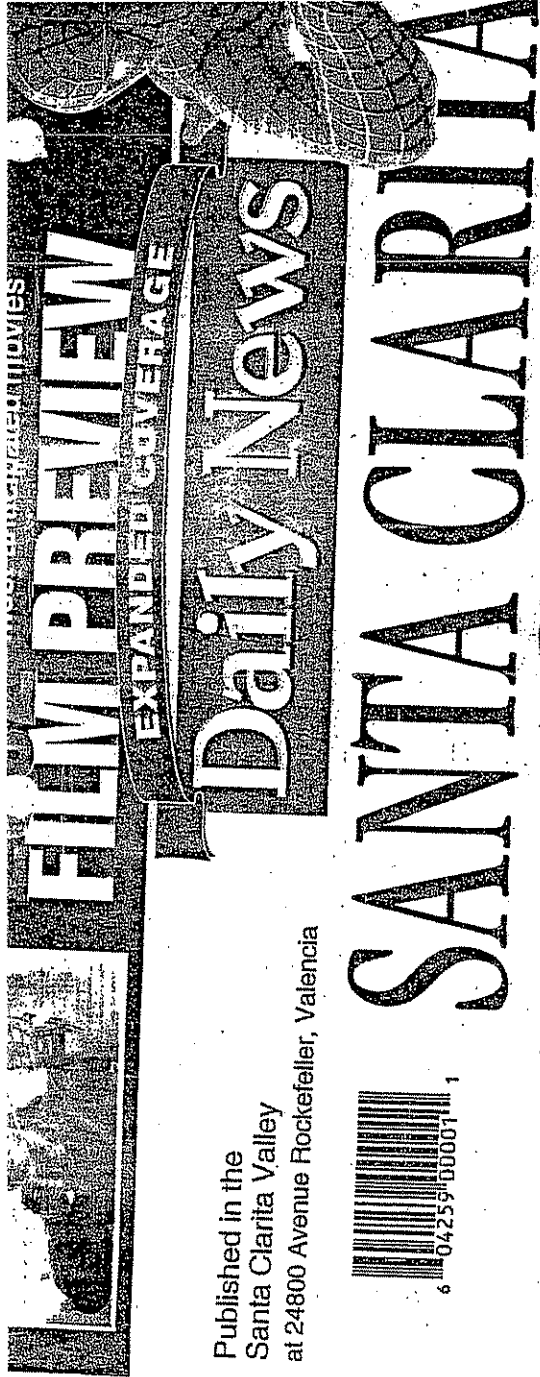
Notes:

+ Drought

\* pumping reduced to app. .006 of normal in these years

\*\* high rainfall - end of drought cycle

\*\*\* highest rainfall in almost 20 years


**FILM PREVIEW**  
 EXPANDED COVERAGE  
**Daily News**  
**SANTA CLARITA**  
**SUNDAY**  
 JANUARY 20, 2002  
 Online: [dailynews.com](http://dailynews.com)

Published in the  
 Santa Clarita Valley  
 at 24800 Avenue Rockefeller, Valencia



# Outlook cloudy on v

## Court ruling on transfer raises questions of supply, puts pr

By Heather MacDonald  
Staff Writer

**SANTA CLARITA** — Uncertainty about the water supply in the Santa Clarita Valley has thrown several large developments, including the massive Newhall Ranch project, into limbo.

A court decision earlier this month found that the environmental impact report for the Castaic Lake Water Agency's purchase of 41,000 acre-feet of water from Kern County was insufficient.

"Every single project now has to at least take another look at their water supply," said Barbara

Wampole, vice chairwoman of Friends of the Santa Clara River, one of the groups that challenged the water transfer. "How foolish it would be to build homes that may not have water."

While the ruling by Superior Court Judge David Yaffe did not invalidate the water purchase, and dry up the projects' supplies,

it has been sent back to a lower court for review.

"We're in limbo," said Conal McNamara, a deputy for 5th District Supervisor Michael Antonovich, who will move this

week to delay the board's consideration of the 21,600-home Newhall Ranch project for 90 days because of the court decision.

"The board cannot be reach a decision without information," McNama

Once the court rules picture in Santa Clarita become more clear, officials and mentalists will start add water demand in the growing Santa Clarita

**THINGS TO DO**

**Daily News**

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**Incendio will perform Latin jazz, 8 p.m., Saturday at Borders Books Music & Cafe, 24445 Town Center Drive, Valencia. Call (661) 286-1131.**

**The Skinny Little Twits will perform original and classic rock music, 9 p.m., midnight**

**merica proud to be mom now**

# Newhall Ranch delayed

**WATER / From Page 1**

Newhall Ranch is expected to bring 70,000 new residents to the Santa Clarita Valley.

An additional 10,000 units are now under development in the unincorporated areas of Los Angeles County that surround Newhall Land's West Creek and Westridge projects and Sun Cal Co.'s Tesoro Del Valle.

Plambeck and other environmentalists assert that there is not enough water for any of those developments, under construction near environmentally sensitive land west of the Golden State Freeway and along San

Francisquito Creek. However, Marlee Lauffer, a spokeswoman for The Newhall Land and Farming Co., said none of those projects would be affected. Newhall Ranch is expected to need 17,600 acre-feet of water per year, and less than 10 percent of that is expected to come from the water transfer in question.

One acre-foot of water is enough to supply two families for a year. "We agreed to the delay to give the supervisors sufficient time to understand how the issue affects Newhall Ranch," Lauffer said. The legal dispute over water has stalled Newhall Ranch for

more than two dozen studies and cut several deals to buy and store enough water for twice the expected demand of the developer's future residents to comply with the judge's order, Lauffer said.

# City will reconsider project

**GOLDEN / From Page 1**

Proponents of the project have said they are tired of driving to Valencia to shop for necessities such as underwear.

Plans call for the 1,259-acre subdivision, which would designate 140 homes for residents 55 years or older and include a fire station and a 3-acre trailhead park to be annexed by the city.

In March, the council rejected the development in a 4-1 vote. Only Ferry said the project warranted further study. That decision was reversed in May, after Pac Sun vowed to ask county officials to approve their plans.

Some city officials blamed the council's rejection of Golden Valley Ranch for the Local Agency Formation Commission's denial of the city's bid to expand

agreement to build a new 500-student elementary school for the Sulphur Springs School District, which would help relieve overcrowding at schools throughout Canyon County, officials said. The project is only expected to generate about 170 children.

"We've reached an unprecedented agreement," Cameron said. "It will be a safety valve school for Sulphur Springs forever."

Pac Sun plans to donate 974 acres of undeveloped land to the city to preserve as open space. That land is worth almost \$20 million, according to an appraisal commissioned by the developer, Cameron said.

The company will pay the city \$100,000 in 2002.

to stay alive  
NEWS

Marathon  
NEWS, SPORTS MONDAY




going  
MONDAY

# Daily News

in the  
Santa Clarita Valley  
at the new  
Valencia  
Rockefeller, Valencia

**WEATHER**



Rainy  
High: 48  
Low: 37  
Back of  
Money &  
Careers

# SANTA CLARITA

EDITION

MONDAY, MARCH 6, 2000

DESIGNATED AREA: HISTORIC

mynews.com

# Region's water war heats up

## Project spurs debate

By Jason Takenouchi  
Staff Writer

SANTA CLARITA — Political wrangling over the massive Newhall Ranch project put Santa Clarita in the national spotlight. The mounting water war in the area could keep it there.

The court battle over the 21,615-home project saw opening arguments last week. Environmentalists say the lawsuit is just part of a broader dispute over how explosive development will affect the area's water supplies and the environment.

Environmental groups claim large-scale projects such as Newhall Ranch will lead to overpumping of the area's aquifers, pushing the Santa Clarita Valley down the same path that has resulted in permanently damaged water systems across Southern California.

Water providers counter that the Santa Clarita Valley is not endangered and that critics are using water as an excuse to stop development.

"Although some of them may have the environment at heart, their focus is no-growth," said Robert DiPrimio, president of the Valencia Water Company. Valencia Water is a wholly owned subsidiary of The Newhall Land and Farming Co., the developer of Newhall Ranch.

The latest chapter in the water conflict began last month with the

release of the second annual Santa Clarita Valley Water Report. The document is prepared by the region's water providers and is supposed to provide government planners with definitive data on the valley's supply.

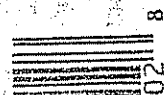
This year's report presents a generally rosy picture of the area's water system. According to the report, the valley has a surplus of 56,000 to 70,000 acre-feet of water, more than enough to accommodate Newhall Ranch and other planned projects. An acre-foot is about 326,000 gallons; the Valencia Water Co. estimates that its average household uses about 0.6 acre-feet a year.

But critics say the report overestimates the valley's water supply. If the study is used as the basis for urban planning decisions, they say, the Santa Clarita Valley will end up with chronic shortages and an environmental disaster.

"It's a deception," said Lynne Plambeck, a board member of the Newhall County Water District and an environmental activist with the Santa Clarita Organization for Planning the Environment. "They have overstated the water supply and understated the water demand."

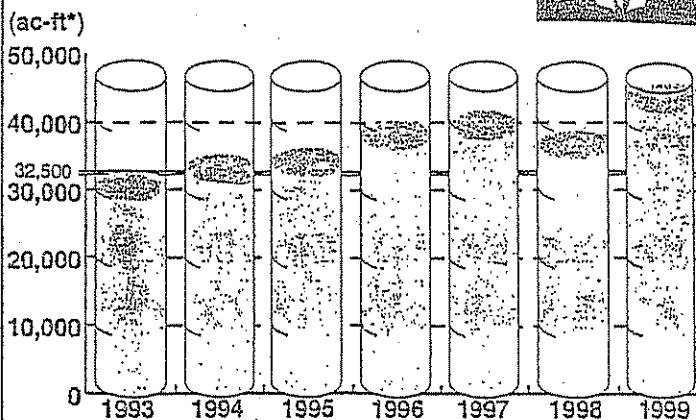
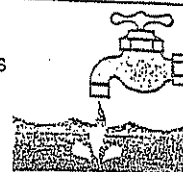
Among Plambeck's concerns is a steep increase in the pumping of the

See WATER // Page 3



## RIISING WATER USE

Pumping from the Santa Clara River alluvium has exceeded its estimated perennial yield of 32,500 acre-feet in each of the last 6 years.



\*An acre-foot of water is about 326,000 gallons

SOURCE: The Upper Santa Clara Valley Water Committee

# Newhall Ranch fuels the debate

WATER / From Page 1

area's main aquifer, the Santa Clara River alluvium. According to the report, pumps have taken more water out of the system for each of the past six years than rainfall put back in.

In 1999, users pumped 43,400 acre-feet from the aquifer, about 34 percent more than the estimated annual yield of 32,500 acre-feet. Pumping last year exceeded even the report's "wet year" estimate of 40,000 acre-feet.

DiPrimio said the Santa Clara River aquifer has historically been able to maintain high pumping levels without causing permanent damage.

"That's really not a concern," he said.

Environmentalists also say the valley's water providers are overstating the reliability of imported water from the State Water Project. That water accounted for nearly 37 percent of the valley's supply last year.

The water report estimates that in wet years the valley can obtain 100 percent of its 95,200 acre-foot "entitlement" from the state water system. In dry years, according to the report, the valley can count on

166 percent of its entitlement.

water providers say their estimates take into consideration the reliability of state water — should be used for long-term planning.

Robert Gottlieb, professor of urban and environmental policy at Occidental College, said planners should be leery of water supply estimates that rely on imported water. Because of political battling and periodic shortages, he said, the state project should not form the bulk of any project's water supply.

"The State Water Project is a very unreliable water supply," said Gottlieb, a former board member of the Metropolitan Water District, a major Southland water agency. "Any water agency that says we have enough water because we have the State Water Project ... that's a precarious situation."

Jeff Lambert, director of planning and building services for the city of Santa Clarita, said officials will analyze the water report's assumptions closely in coming weeks. If the study passes muster, Lambert said, it will form the basis for much of the city's understanding of the valley water supply.

County planners are also taking an in-depth look at the water study, according to Santa Clarita Mayor Jo Anne Darcy, senior field deputy for county Supervisor Michael D. Antonovich.

"We have a couple of water users





## ENVIRONMENTAL WORKING GROUP

## A Toxic Legacy

## Chapter 1

## Top Issues:

- Pesticides
- Drinking Water
- Air Pollution
- Enforcement
- Farm Subsidies

## Other EWG Sites:

- Chemical Industry Archives
- California
- Dirty Money Tracker
- FoodNews.org
- BanDursban.org

## Archives

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## EWG Supports:

- Our Stolen Future
- Earth Day Network
- Coming Clean
- PBS' Trade Secrets

Sources of drinking water for almost 7 million Californians and unknown millions of other Americans are contaminated with perchlorate, a chemical that disrupts normal thyroid function, may cause thyroid cancer and persists indefinitely in the environment, but is unregulated by the state or federal government.

An Environmental Working Group investigation found that the state has known about contamination of California groundwater by perchlorate, the main ingredient in rocket and missile fuel, for almost 50 years. Groundwater is an important source of drinking water in California, contributing about one-sixth of the state's drinking water during an average year, and almost one-third in drought years. (CADWR 1998.) Yet today, state and federal regulators are still dragging their feet on setting safety standards for perchlorate in drinking water, in part because of concerted pressure from the U.S. military, the space program and major defense contractors. As a result, standards that emerge are unlikely to provide adequate protection for developing fetuses, infants or children.

The human thyroid gland controls growth, development and metabolism. Perchlorate affects the thyroid because it is taken up preferentially by the gland in place of iodide, a necessary nutrient. This, in turn, can affect thyroid hormone levels. An underactive thyroid gland in adults can lead to fatigue, depression, anxiety, unexplained weight gain, hair loss, and low libido. More serious, however, are the effects of thyroid hormone disruption in the developing fetus and child. Small changes in maternal thyroid hormone levels during pregnancy have been associated with reduced IQs and attention deficit in children. Fetuses, infants and children who experience bigger changes in hormone levels may suffer mental retardation, loss of hearing and speech, or deficits in motor skills.

There are many scientific unknowns surrounding the health effects of perchlorate. To date, none of the scientific studies performed on the effects of perchlorate have adequately addressed how perchlorate might affect neurological development of children whose mothers were exposed to perchlorate while pregnant. Nor has there been any research conducted to determine whether perchlorate is concentrated in breast milk, which is considered a distinct possibility, if not likely. (EPA 1999c.)

What has been documented through animal research, however, is that perchlorate can disrupt the thyroid hormone system at low levels of

## Rocket Science

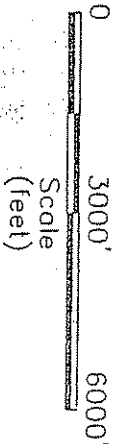
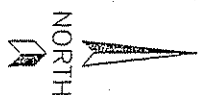
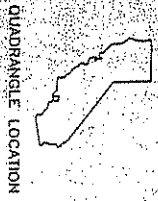
- » [Press Release](#)
- » [Executive Summary](#)
- » [Ch.1: A Toxic Legacy](#)
- » [Ch.2: A Perchlorate Primer](#)
- » [Ch.3: Rocket Science](#)
- » [Ch.4: Polluting the Regulatory Process](#)

» [Rocket Science in PDF Format](#)



LEGEND:  
 ----- BERMITE FACILITY PROPERTY

NOTES:  
 1. BASE MAP FROM U.S.G.S. MINT CANYON AND NEWMALL CALIFORNIA QUADRANGLES, 7.5 MINUTE SERIES (TOPOGRAPHIC), PHOTOREVISED 1988.  
 2. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

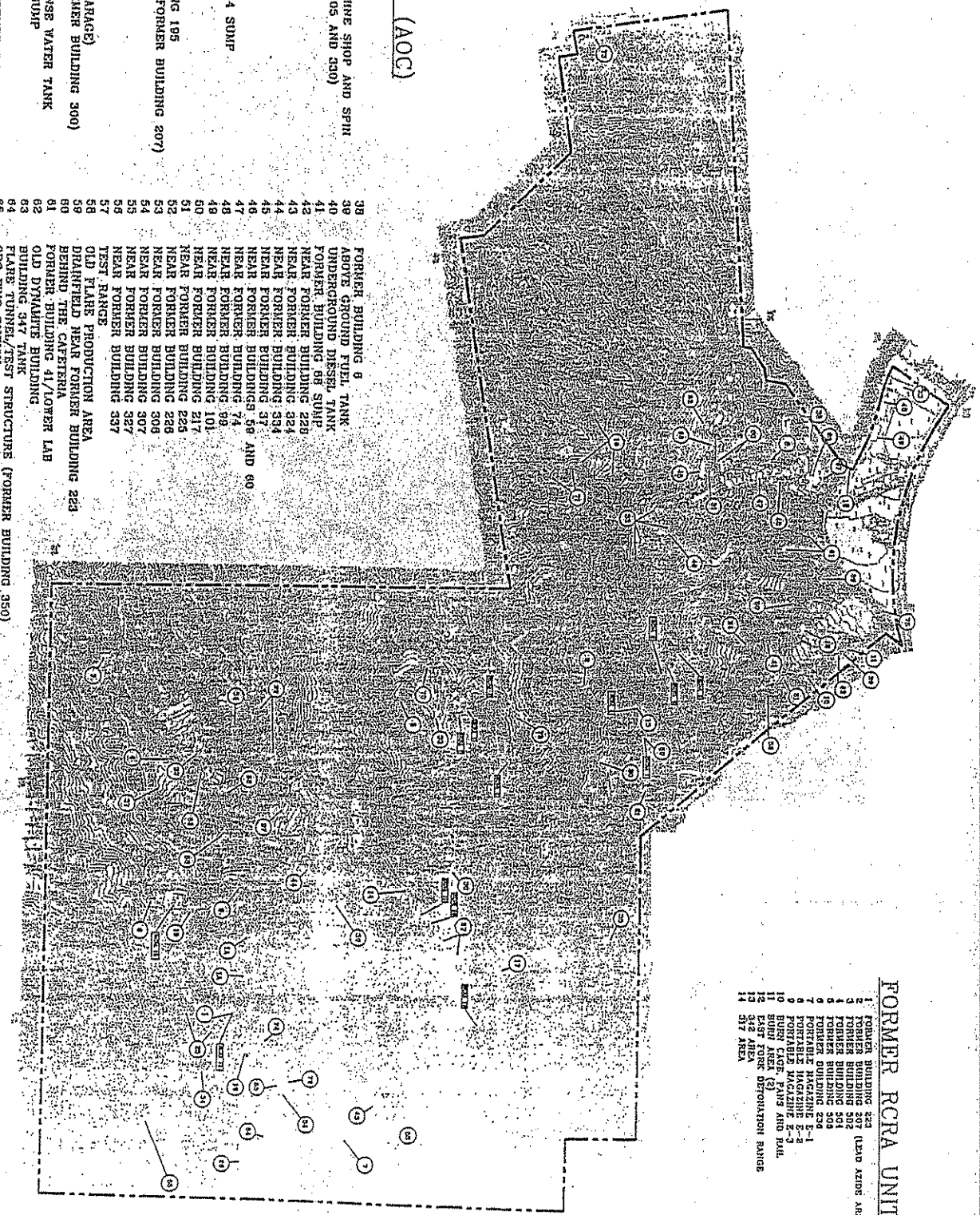


BERMITE SITE LOCATION MAP

**AREAS OF CONCERN (AOC)**

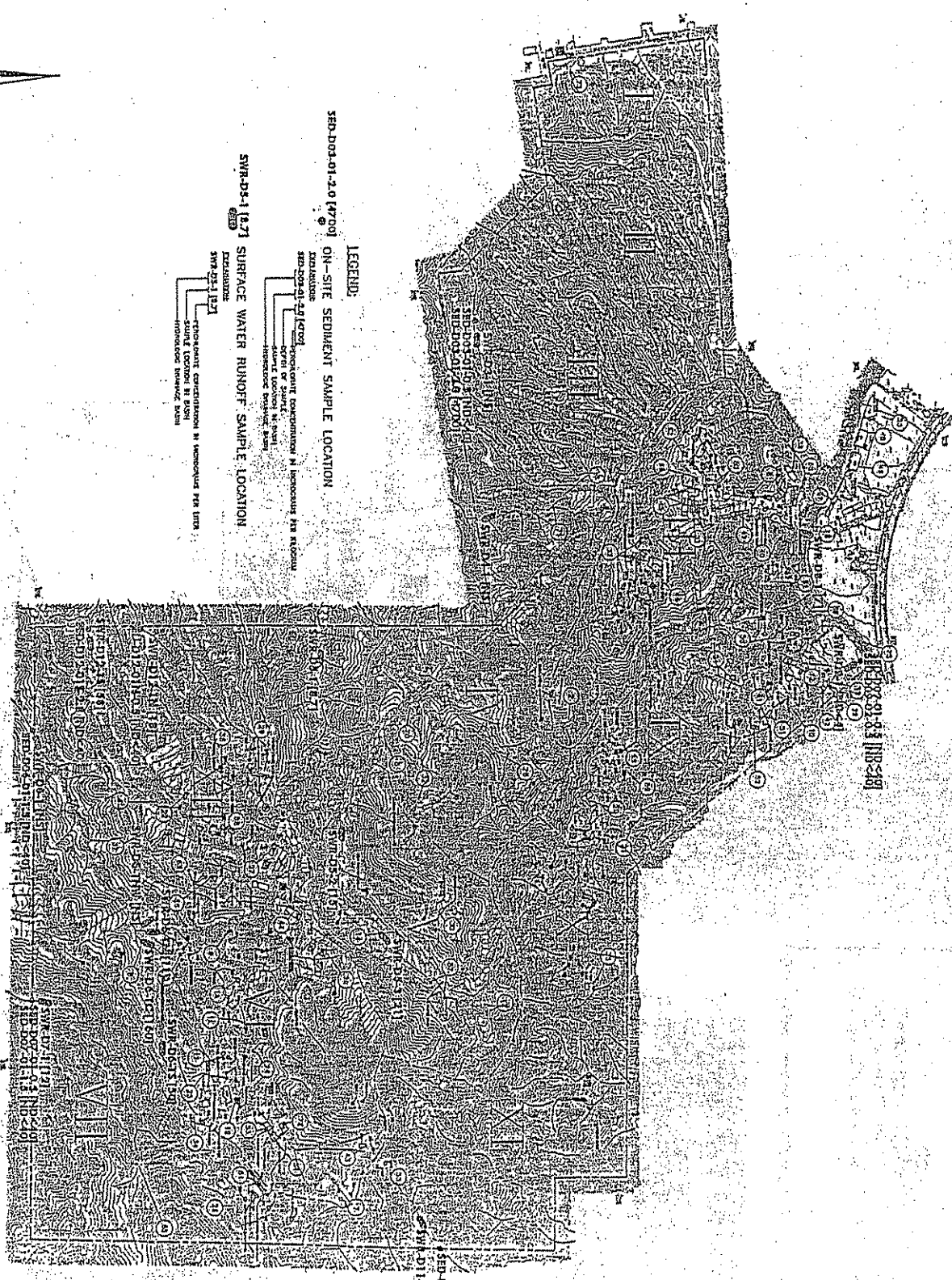
- 1 FORMER 317 IMPOUNDMENT
- 2 SOUTH OF BUILDING 317/MACHINE SHOP AND SPIN ROCKET (FORMER BUILDINGS 105 AND 330)
- 3 BELOW WATER TANK NO. 2
- 4 FOND FLAT
- 5 338 AREA
- 6 REFLECT RIDGE
- 7 RAYNE NEAR 342 AREA
- 8 FORMER BUILDING 308
- 9 FORMER BUILDING 110 SUMP
- 10 OLD LEAD AZIDE AREA
- 11 NEAR FORMER BUILDING P-28
- 12 PIPE OUTSIDE FORMER BUILDING 105
- 13 NEW LEAD AZIDE AREA (NEAR FORMER BUILDING 207)
- 14 BUSH AREA VALLEY
- 15 CHEMICAL RECOVERY FACILITY
- 16 HULA BOWL CANYONS 1-8
- 17 EAST FORK LANDFILL
- 18 NEAR FORMER BUILDING 73 (GARAGE)
- 19 SANDBLAST RESIDUE SITE (FORMER BUILDING 300)
- 20 FORMER BUILDING 211
- 21 FORMER BUILDING 219 AND RINSE WATER TANK
- 22 FORMER BUILDING 340/BP-1 SUMP
- 23 FORMER INDUSTRIAL CLAMPIER
- 24 FORMER BUILDING 202
- 25 FORMER BUILDING 314
- 26 HOG-OUT AREA (NEAR FORMER BUILDING 350)
- 27 FORMER BUILDING 373
- 28 NEAR FORMER BUILDING 376 AND 377
- 29 FORMER BUILDING 371
- 30 NEAR FORMER BUILDING 371
- 31 NEAR FORMER BUILDINGS 36 AND 42
- 32 RAYNE BELOW LOWER MAGAZINE ROAD
- 33 NEAR FORMER BUILDINGS 46, 48, 49, 50 AND 50
- 34 NEAR FORMER BUILDING 313
- 35 FORMER BUILDING 127 SUMP
- 36 MIV AREA
- 37 THE POINT

- 38 FORMER BUILDING 8
- 39 ABOVE GROUND FUEL TANK
- 40 UNDERGROUND DIESEL TANK
- 41 FORMER BUILDING 98 SUMP
- 42 NEAR FORMER BUILDING 228
- 43 NEAR FORMER BUILDING 324
- 44 NEAR FORMER BUILDING 37
- 45 NEAR FORMER BUILDING 37
- 46 NEAR FORMER BUILDINGS 58 AND 60
- 47 NEAR FORMER BUILDING 74
- 48 NEAR FORMER BUILDING 88
- 49 NEAR FORMER BUILDING 101
- 50 NEAR FORMER BUILDING 217
- 51 NEAR FORMER BUILDING 225
- 52 NEAR FORMER BUILDING 226
- 53 NEAR FORMER BUILDING 306
- 54 NEAR FORMER BUILDING 307
- 55 NEAR FORMER BUILDING 327
- 56 NEAR FORMER BUILDING 337
- 57 TEST RANGE
- 58 OLD FLARE PRODUCTION AREA
- 59 DRAINFIELD NEAR FORMER BUILDING 223
- 60 BEHIND THE CAFETERIA
- 61 FORMER BUILDING 41/LOWER LAB
- 62 OLD DYNAHITE BUILDING
- 63 BUILDING 347 TANK
- 64 FLARE TUNNEL/TEST STRUCTURE (FORMER BUILDING 350)
- 65 ORO FINO CANYON
- 66 BUILDING 33 (DUPON STORAGE)
- 67 BUILDING 45 SEPTIC SYSTEM
- 68 PACIFIC SOIL BORING B-6
- 69 PACIFIC SOIL BORING B-20
- 70 PACIFIC SOIL BORING B-43
- 71 PACIFIC SOIL BORINGS B-45 AND B-46
- 72 PACIFIC SOIL BORINGS B-49
- 73 PACIFIC SOIL BORINGS B-75
- 74 PACIFIC SOIL BORINGS B-81
- 75 ABANDONED HIGHWAY WELL
- 76 RAYNE BELOW FORMER BUILDING 234
- 77
- 78

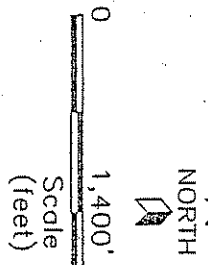


- FORMER RCRA UNITS**
- 1 FORMER BUILDING 223 (LEAD AZIDE AREA)
  - 2 FORMER BUILDING 502
  - 3 FORMER BUILDING 504
  - 4 FORMER BUILDING 508
  - 5 FORMER BUILDING 509
  - 6 PORTABLE MAGAZINE E-1
  - 7 PORTABLE MAGAZINE E-2
  - 8 PORTABLE MAGAZINE E-3
  - 9 BUSH AREA
  - 10 BUSH AREA (2)
  - 11 EAST FORK DETONATION RANICE
  - 12 342 AREA
  - 13 317 AREA

**AREAS OF CONCERN**

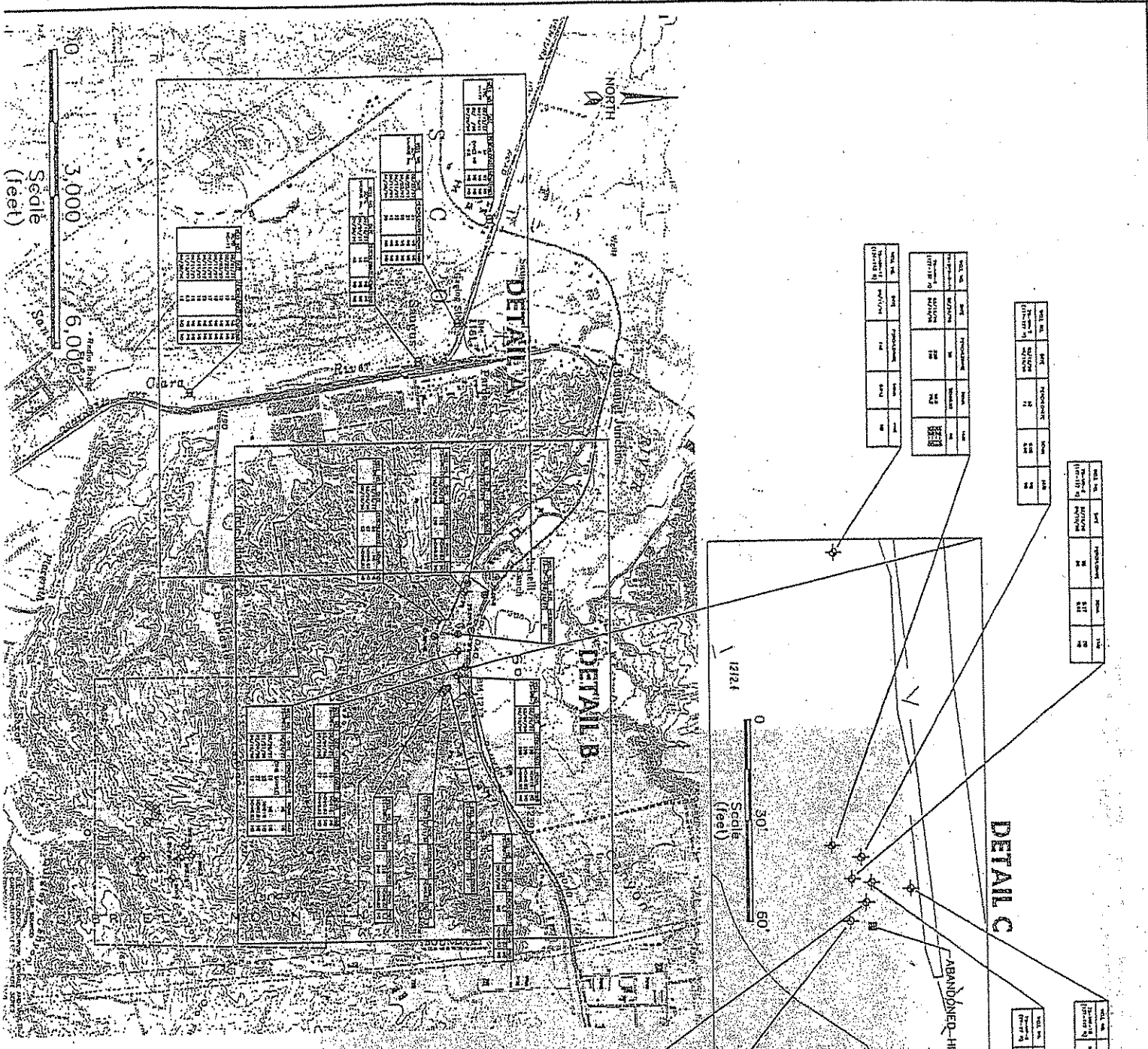


SRB-D03-01-20 (1770)  
SWR-D2-1 (27)



NOTE: ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

SEDIMENT AND SURFACE WATER  
RUNOFF SAMPLE LOCATIONS  
AND PERCHLORATE ANALYTICAL  
RESULTS



Well No.	Well	Monitoring	Depth	Notes
101	101	101	101	101
102	102	102	102	102
103	103	103	103	103
104	104	104	104	104
105	105	105	105	105
106	106	106	106	106
107	107	107	107	107
108	108	108	108	108
109	109	109	109	109
110	110	110	110	110

Well No.	Well	Monitoring	Depth	Notes
111	111	111	111	111
112	112	112	112	112
113	113	113	113	113
114	114	114	114	114
115	115	115	115	115
116	116	116	116	116
117	117	117	117	117
118	118	118	118	118
119	119	119	119	119
120	120	120	120	120

Well No.	Well	Monitoring	Depth	Notes
121	121	121	121	121
122	122	122	122	122
123	123	123	123	123
124	124	124	124	124
125	125	125	125	125
126	126	126	126	126
127	127	127	127	127
128	128	128	128	128
129	129	129	129	129
130	130	130	130	130

Well No.	Well	Monitoring	Depth	Notes
131	131	131	131	131
132	132	132	132	132
133	133	133	133	133
134	134	134	134	134
135	135	135	135	135
136	136	136	136	136
137	137	137	137	137
138	138	138	138	138
139	139	139	139	139
140	140	140	140	140

Well No.	Well	Monitoring	Depth	Notes
141	141	141	141	141
142	142	142	142	142
143	143	143	143	143
144	144	144	144	144
145	145	145	145	145
146	146	146	146	146
147	147	147	147	147
148	148	148	148	148
149	149	149	149	149
150	150	150	150	150

Well No.	Well	Monitoring	Depth	Notes
151	151	151	151	151
152	152	152	152	152
153	153	153	153	153
154	154	154	154	154
155	155	155	155	155
156	156	156	156	156
157	157	157	157	157
158	158	158	158	158
159	159	159	159	159
160	160	160	160	160

Well No.	Well	Monitoring	Depth	Notes
161	161	161	161	161
162	162	162	162	162
163	163	163	163	163
164	164	164	164	164
165	165	165	165	165
166	166	166	166	166
167	167	167	167	167
168	168	168	168	168
169	169	169	169	169
170	170	170	170	170

Well No.	Well	Monitoring	Depth	Notes
171	171	171	171	171
172	172	172	172	172
173	173	173	173	173
174	174	174	174	174
175	175	175	175	175
176	176	176	176	176
177	177	177	177	177
178	178	178	178	178
179	179	179	179	179
180	180	180	180	180

Well No.	Well	Monitoring	Depth	Notes
181	181	181	181	181
182	182	182	182	182
183	183	183	183	183
184	184	184	184	184
185	185	185	185	185
186	186	186	186	186
187	187	187	187	187
188	188	188	188	188
189	189	189	189	189
190	190	190	190	190

**LEGEND**

- ☒ WATER WELL SUPPLIED FOR PERCHLORATE
- ☒ ABANDONED MONITORING WELL
- ☒ EXISTING MONITORING WELL
- GEOPHONE (INJECT-TEST) LOCATION
- BERMITE FACILITY PROPERTY

**NOTES**

1. CONCENTRATIONS ARE IN MICROGRAMS PER LITER (ug/L).
2. ND = NOT DETECTED ABOVE LABORATORY REPORTING LIMIT.
3. NS = NOT SAMPLED AT 30 FOOT AND 60 FOOT INTERVALS.
4. WELLS LOCATIONS ARE APPROXIMATE.
5. HOLA = HYDROXYLAMINE.
6. HMA = HEXAMETHYLENEAMINE.
7. RDA = REDUCED DIAMINE.
8. RDA = REDUCED DIAMINE.
9. RDA = REDUCED DIAMINE.
10. WELLS WITH "C" IN NAME ARE CLOSED OR VALVE.
11. V-201/09-1, V-160, V-42, SIMONA V-12, V-14, V-43, AND V-44.
12. WATER WELLS NOT SAMPLED FOR PERCHLORATE NC-10.
13. ON SITE MONITORING WELLS WITH PERCHLORATE AT LESS THAN THE DETECTION LIMIT MW-1, MW-3, MW-5, MW-6, MW-10, 01-PW-1, 67-DP-DR, 75-DP-5, AND 75-DP-6.

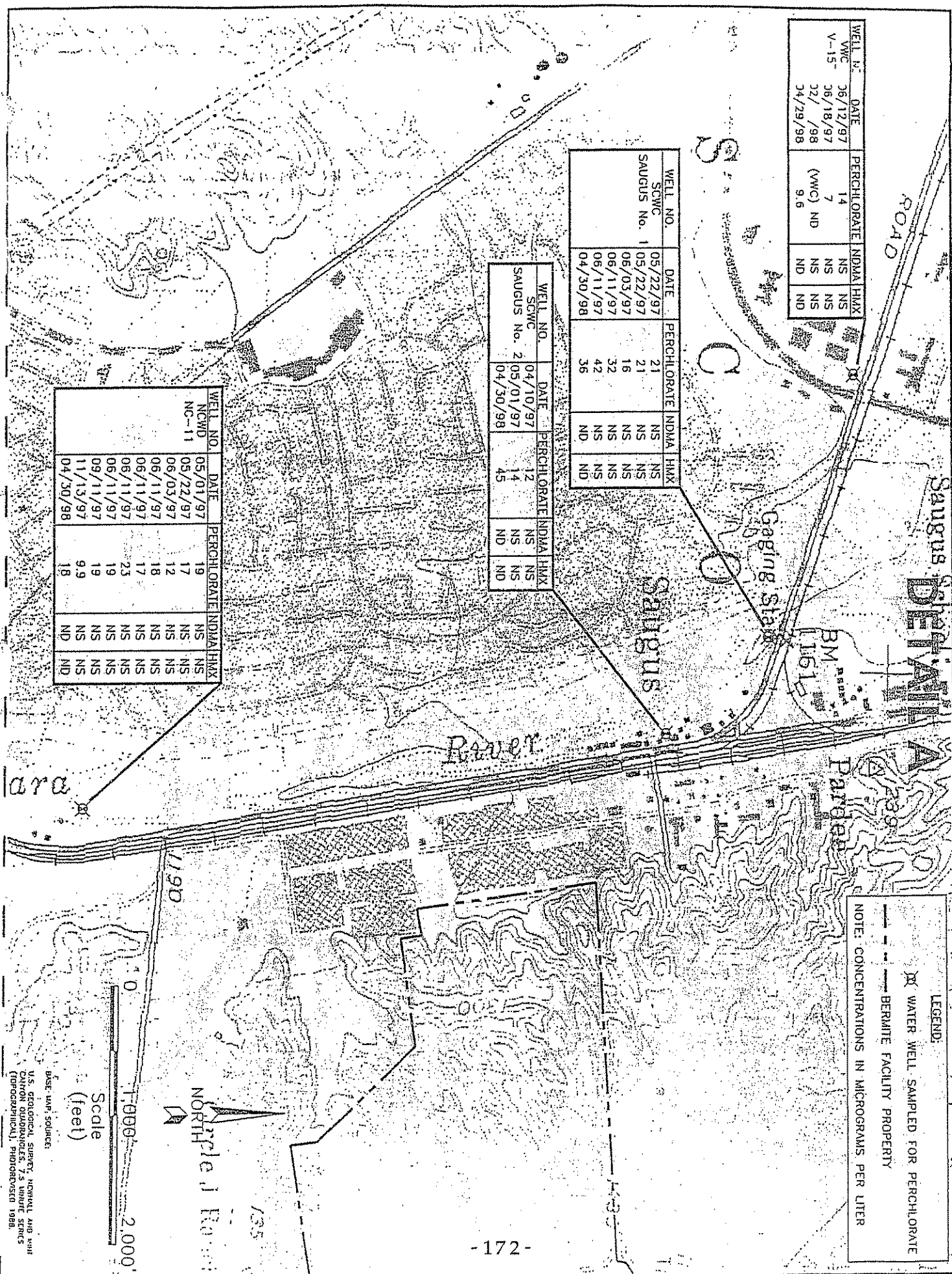
WATER SUPPLY WELL AND BERMITE SITE MONITORING WELL LOCATION MAP AND SAMPLING RESULTS FOR SELECTED ANALYTES

WELL No.	DATE	PERCHLORATE	NDMA	HMX
WVC	06/12/97	14	NS	NS
V-15	06/18/97	7	NS	NS
	02/ /98	(WVC) ND	NS	NS
	04/29/98	9.6	ND	ND

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
SCWC	05/22/97	21	NS	NS
SAUGUS No. 1	05/22/97	21	NS	NS
	06/03/97	16	NS	NS
	06/11/97	32	NS	NS
	06/11/97	42	NS	NS
	04/30/98	36	ND	ND

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
SCWC	04/10/97	12	NS	NS
SAUGUS No. 2	05/01/97	14	NS	NS
	04/30/98	45	ND	ND

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
NCWD	05/01/97	19	NS	NS
NC-11	05/22/97	17	NS	NS
	06/03/97	12	NS	NS
	06/11/97	18	NS	NS
	06/11/97	17	NS	NS
	06/11/97	23	NS	NS
	06/11/97	19	NS	NS
	09/11/97	19	NS	NS
	11/13/97	9.9	NS	NS
	04/30/98	18	ND	ND



LEGEND:  
 --- WATER WELL SAMPLED FOR PERCHLORATE  
 ——— BERRITE FACILITY PROPERTY

NOTE: CONCENTRATIONS IN MICROGRAMS PER LITER

Scale  
 (feet)  
 1:0000 2:0000

U.S. GEOLOGICAL SURVEY, ANDREWS AND WALKER  
 CHRON QUADRANGLES 7.5 MINUTE SERIES  
 (TERRACONTOURICAL, PHOTOGRAPHIC 1988)

# DETAIL B

LEGEND:  
 ⊕ EXISTING MONITORING WELL  
 ⊙ GEOPROBE (DIRECT-PUSH) LOCATION  
 --- BERMITE FACILITY PROPERTY  
 NOTE: CONCENTRATIONS IN MICROGRAMS PER LITER

WELL NO.	DATE	PERCHLORATE
75-DF-8	10/28/97	54

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-MW-2	08/26/97	180	ND@10	NS
	03/04/98	120	ND@0.03	ND
	06/10/98	290	ND@0.03	ND

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-MW-12	03/18/98	4.7	ND@0.03	ND
	06/10/98	ND	ND@0.03	ND

WELL NO.	DATE	PERCHLORATE
75-DF-7	10/28/97	200

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-MW-14	03/06/98	110	ND@0.03	ND
	06/10/98	120	ND@0.03	ND

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
11-DF-4SR	10/28/97	370		
11-MW-2	6/11/98	310	ND@0.03	HMX-3

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
11-MW-1	03/04/98	310	ND@0.03	1.2
	06/10/98	240	ND@0.03	ND

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
67-MW-1	10/28/97	84	NS	NS
	03/06/98	67	ND@0.03	ND
	06/10/98	63	ND@0.03	ND

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-MW-1	08/26/97	18	ND@10	NS
	03/04/98	13	ND@0.03	ND
	06/10/98	17	ND@0.03	ND

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-PW-1	06/26/97	27	NS	NS
	06/26/97	17	NS	NS
	01/21/98	23	ND@10	NS
	02/09/98	27	ND@0.01	NS
	06/10/98	19	ND@0.03	ND

Circle J Ranch

Bonelli Ranch

Waters Tank

BM 1217

CANYON

Scale  
 1:2,000  
 (feet)

1:5000  
 (feet)

1:2500  
 (feet)

1:1250  
 (feet)

1:625  
 (feet)

1:312.5  
 (feet)

1:156.25  
 (feet)

1:78.125  
 (feet)

1:39.0625  
 (feet)

1:19.53125  
 (feet)

1:9.765625  
 (feet)

1:4.8828125  
 (feet)

1:2.44140625  
 (feet)

1:1.220703125  
 (feet)

1:0.6103515625  
 (feet)

1:0.30517578125  
 (feet)

1:0.152587890625  
 (feet)

1:0.0762939453125  
 (feet)

1:0.03814697265625  
 (feet)

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 (feet)

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 (feet)

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 (feet)

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# DETAIL C

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-MW-6	03/18/98	95	0.17	ND
(107-117 (I))	06/10/98	86	0.44	ND

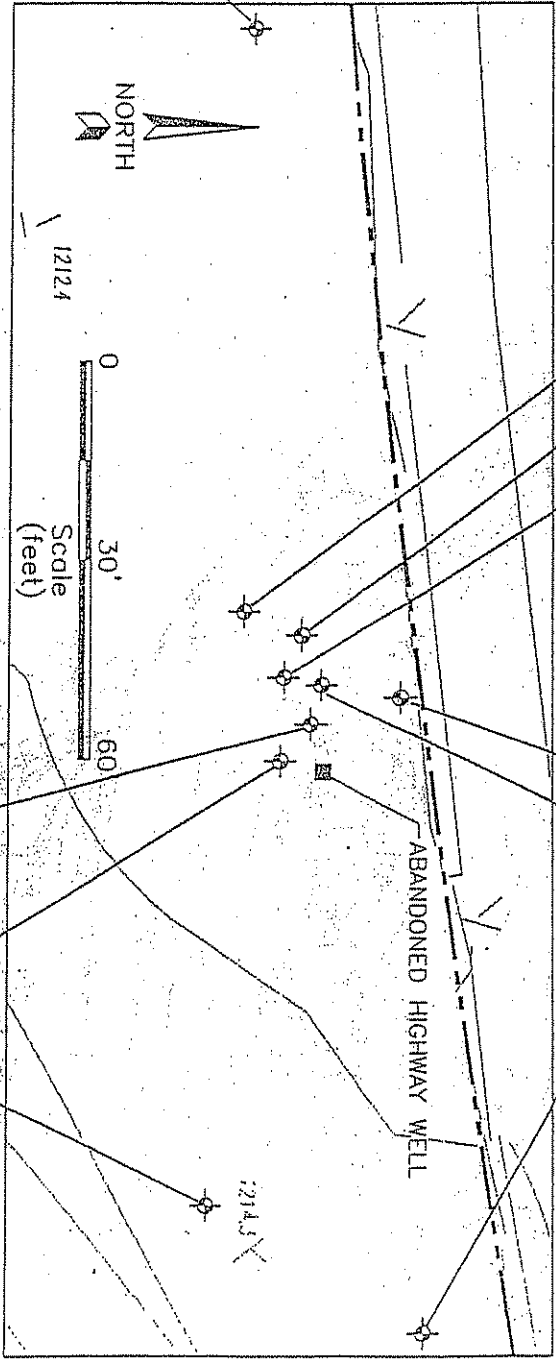
WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-MW-7	03/18/98	93	0.05	ND
(117-127 (I))	06/10/98	74	0.06	ND

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-SPB-9-44	02/24/98	98	ND@0.03	ND
75-MW-9	03/18/98	220	69.8	HMX-ND
(127-137 (I))	05/10/98	160	70.2	ROX-2.9 HMX-ND

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-MW-10	06/11/98	30	1.8	ND
(137-147 (I))				

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-MW-5	03/18/98	130	0.05	ND
(77-87 (I))	06/10/98	120	0.03	ND

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-MW-13	06/11/98	87	ND@0.03	ND
(122-132 (I))				



WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-MW-11	06/11/98	140	0.01	ND
(134-143 (I))				

**LEGEND:**

- EXISTING MONITORING WELL
- BERMITE FACILITY PROPERTY

NOTE: CONCENTRATIONS IN MICROGRAMS PER LITER

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-MW-3	08/26/97	93	ND@10	NS
	03/04/98	93	ND@0.03	ND
	06/10/98	100	ND@0.03	ND

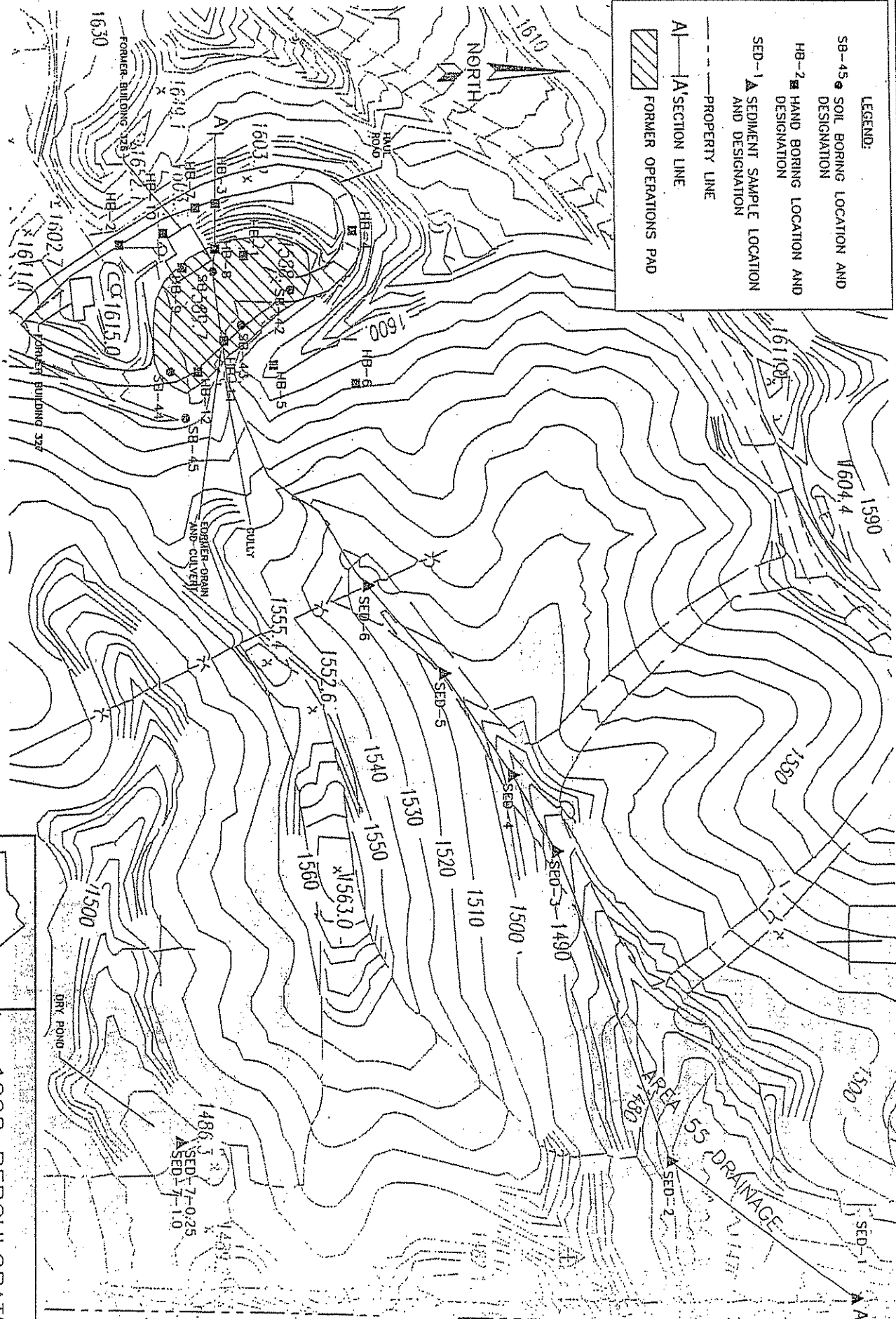
WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-MW-8	06/11/98	6.2	0.01	ND
(168-178 (I))				

WELL NO.	DATE	PERCHLORATE	NDMA	HMX
75-MW-4	12/18/97	220	20	7
	01/21/98	190	12	9.6
	03/04/98	190	54.2	6.1
	06/10/98	80	114.6	ND
(137-147 (I))				

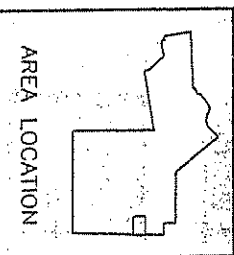


**LEGEND:**

- SB-45 ● SOIL BORING LOCATION AND DESIGNATION
- HB-2 ■ HAND BORING LOCATION AND DESIGNATION
- SED-1 ▲ SEDIMENT SAMPLE LOCATION AND DESIGNATION
- — — PROPERTY LINE
- — — A1-A SECTION LINE
- ▨ FORMER OPERATIONS PAD

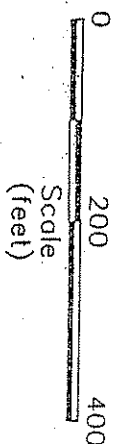
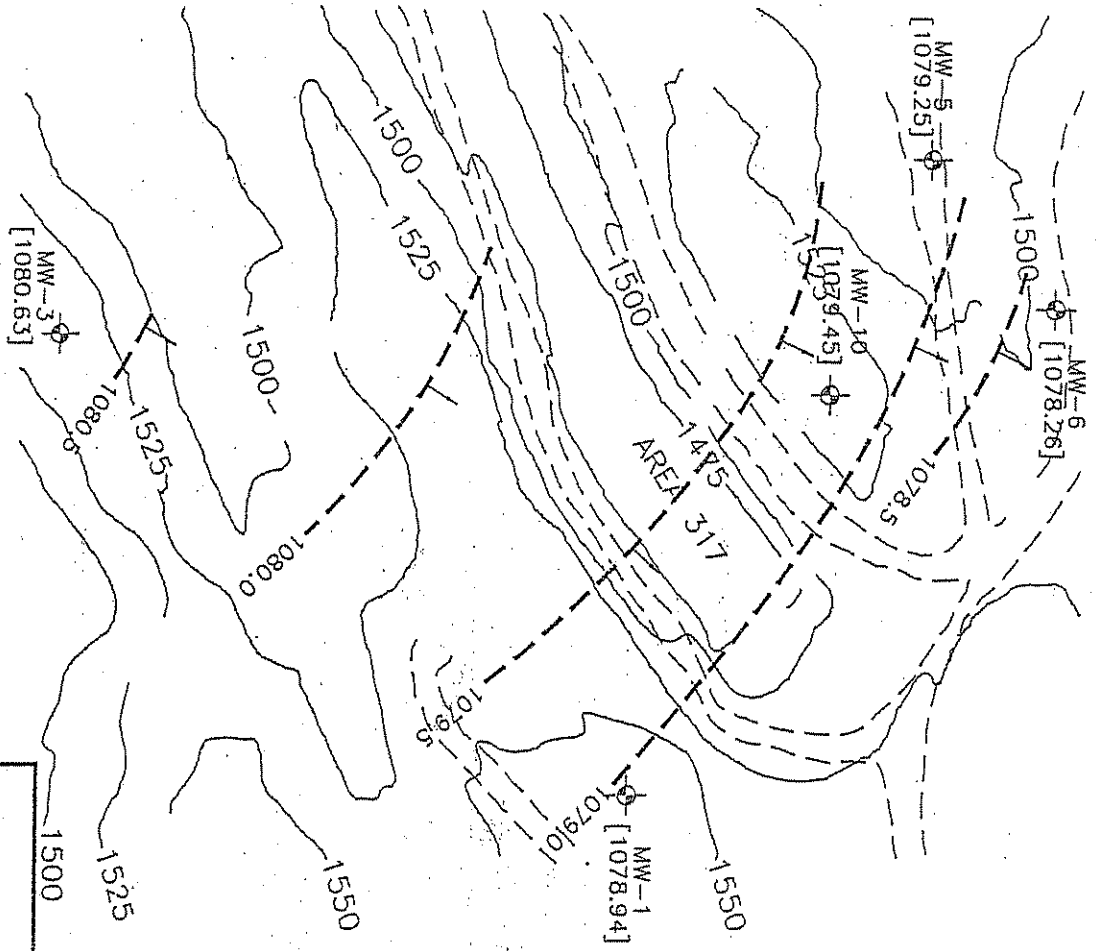


- NOTES:**
1. ALL LOCATIONS ARE APPROXIMATE.
  2. TEXT REFERENCES TO BORINGS AND SEDIMENT SAMPLES INCLUDE AREA PREFIX 55-






1998 PERCHLORATE INVESTIGATION SAMPLING LOCATIONS AREA 55





**LEGEND:**

- 
 MW-1 MONITORING WELL LOCATION
- 
 [1080.63] GROUND WATER ELEVATION  
(FEET ABOVE MEAN SEA LEVEL)
- 
 1080.5 ESTIMATED GROUND WATER CONTOUR (FEET  
ABOVE MEAN SEA LEVEL) WITH ARROW  
INDICATING INFERRED DIRECTION OF GROUND  
WATER FLOW

AREA 317 GROUND WATER MONITORING  
 WELL LOCATIONS AND ESTIMATED GROUND  
 WATER FLOW DIRECTION (09/08/98)

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

Application of Valencia Water Company )  
(U342-W) seeking approval of its updated )  
Water Management Program as ordered in )  
Commission Resolution W-4154 dated )  
August 5, 1999 )

Application No. A-99-12-025

COMMENTS OF THE DEPARTMENT OF TOXIC  
SUBSTANCES CONTROL ON PROPOSED DECISION  
OF ALJ PATRICK (Mailed 10/30/2001) RE OPINION  
APPROVING WATER MANAGEMENT PROGRAM  
AND AUTHORIZING SERVICE AREA EXPANSION

JOHN NAGINIS, Hazardous Substances  
Engineering Geologist  
Southern California Cleanup Operations  
Branch  
Department of Toxic Substances Control  
1011 N. Grandview Avenue  
Glendale, California 91201  
(818) 551-2800  
(818) 551-2832 FAX

Due: 11/19/01

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

Application of Valencia Water Company )  
(U342-W) seeking approval of its updated )  
Water Management Program as ordered in )  
Commission Resolution W-4154 dated )  
August 5, 1999 ) Application No. A-99-12-025

INTRODUCTION

The Department of Toxic Substances Control (the "Department") submits these comments to the Proposed Decision of ALJ Patrick (mailed October 30, 2001) concerning the Opinion Approving Water Management Program and Authorizing Service Area Expansion (the "Proposed Decision") to correct inaccurate or potentially misleading statements.

COMMENTS

The Department's interest in Valencia Water Company's proposed Water Management Plan (the "Plan") and related Advice Letters derives from the Plan's reliance on significant increases in groundwater pumping and the potential impact of that increased pumping on existing groundwater contamination in the area. The Department has been working with the former and current owners and operators of the Porta Bella property, suspected to be the source of the contamination, for some time. It notes the following concerns with the Proposed Decision.

The conclusion stated at page 30 that "remediation is substantially under way," is factually inaccurate. As of this date, work to delineate the extent of the contamination plume or to identify either the migration pathways or the source areas has not been completed. In addition, the various public and private entities working on this issue have not reached any agreement about how to clean up the aquifer. Consequently, the remediation has not yet begun.

Similarly, the statement in the Findings of Fact ("Findings") that "[e]ffective and

practical methods are available and in current use for high-volume treatment of water supplies contaminated by perchlorate" (Finding number 31) is also misleading. The La Puente treatment facility, referenced at page 29, requires infrastructure that is not currently available at the Porta Bella site and that may not be feasible there. In addition, it has not been established that simply treating contaminated water as it is pumped from wells is adequate, as it does not address the potential spread of the contamination in the aquifer.

In addition, the Proposed Decision and proposed Findings contain statements about the extent to which the contamination has spread that may create confusion. For example, Findings numbers 28 and 29 state that ammonium perchlorate has been detected "in four production wells in the Saugus Formation" and "has not been detected in any municipal Alluvial Aquifer production wells." While these statements are technically accurate, they could be misleading because they overlook the numerous monitoring wells and other samples in both the Saugus and Alluvial aquifers in which ammonium perchlorate has been detected.

The Department also believes that the Proposed Decision overlooks the most significant issue regarding the groundwater contamination: the fact that there is currently insufficient information from which to draw reliable conclusions regarding the spread of the contamination, the pathways by which it is or may spread, the sources of the contamination, and appropriate ways to remedy it. These questions are directly raised by the Public Utilities Commission's ("Commission") approval of the Plan, which, once approved, establishes the available water supply for the area. None of the environmental documents on which the Commission relies has fully analyzed the potential impacts on the groundwater contamination of achieving that supply and, therefore, they do not constitute adequate compliance with the California Environmental Quality Act ("CEQA") Public Resources Code sections 21000, et seq.) Evidentiary hearings, which

do not provide the same public comment process, cannot substitute for the CEQA process.

The Department urges the Commission to amend its Proposed Decision consistent with these comments and joins with the Protestants in urging the Commission to perform an environmental review that analyzes all of the impacts of the Plan.

Respectfully submitted,

JOHN NAGINIS, Hazardous Substances  
Engineering Geologist  
Southern California Cleanup Operations  
Branch  
Department of Toxic Substances Control

Dated: \_\_\_\_\_ By \_\_\_\_\_

JOHN NAGINIS

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Glendale, California 91201  
(818) 551-2800  
(818) 551-2832 FAX

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

Application of Valencia Water Company )  
(U342-W) seeking approval of its updated )  
Water Management Program as ordered in )  
Commission Resolution W-4154 dated )  
August 5, 1999 ) Application No. A-99-12-025

DIRECT TESTIMONY OF

RICHARD D. McJUNKIN

SUBMITTED BY VENTURA COUNTY IN SUPPORT  
OF ITS PROTEST TO APPLICATION OF VALENCIA  
WATER COMPANY FOR APPROVAL OF ITS  
UPDATED WATER MANAGEMENT PROGRAM

DUE: April 10, 2000



## TESTIMONY OF RICHARD D. McJUNKIN

Q.: PLEASE STATE YOUR NAME.

A.: I am Richard D. McJunkin.

Q.: MR. McJUNKIN, WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A.: I have worked in engineering geology for 30 years. I am a Registered Geologist, a Certified Engineering Geologist and a Certified Hydrogeologist, licensed and certified by the state of California. I hold bachelor of science and master of science degrees in geology from California State University at Los Angeles. I have taught geology at California State University at Sacramento, California State University at Los Angeles, the University of California at Davis, and Compton Community College. In the field of geology and hydrogeology, I have published at least 40 publications, reports and geologic mapping.

I have worked for the California Department of Toxic Substances Control ("Department") for more than 15 years and am currently a Senior Hydrogeologist. I supervised the Geological Services Unit for the Site Mitigation Program for nine years. As a geologist/hydrogeologist with the Department, I have extensive experience in doing environmental investigation and characterization of hazardous waste sites. I have worked on more than 100 sites where there have been releases of hazardous waste into the environment, the vast majority of which have involved groundwater contamination, primarily from solvents and perchlorate.

Q.: DO YOU HAVE ANY FAMILIARITY WITH GROUNDWATER CONTAMINATION IN THE SANTA CLARITA VALLEY?

A.: Yes. For about two and one-half years I was the staff geologist assigned by the Department to the Porta Bella property (former Whittaker-Bermite facility) in Santa Clarita, California. The Porta Bella property has been identified as a source of perchlorate contamination to groundwater in both the Santa Clara River Bed Alluvium and Saugus Formation.

Q.: WHEN WAS THIS CONTAMINATION DISCOVERED?

A.: In 1997. Until then, the technology did not exist to detect perchlorate at relevant levels. The California Department of Health Services has set the provisional action level for drinking water at 18 micrograms per liter ("mg/l"), or the

equivalent of 18 parts per billion (ppb). Prior technology could only measure perchlorate in the "parts per million" range.

Q.: WHAT DO YOU KNOW ABOUT THE PERCHLORATE CONTAMINATION IN THE UPPER SANTA CLARA RIVER BASIN?

A.: Perchlorate is wide-spread in soils underlying the Porta Bella property at concentrations up to thousands of parts per billion. Perchlorate has been detected at concentrations up to 22,000 ppb in soils underlying Porta Bella property at a depth of approximately 118 feet below ground surface. Perchlorate is present in most drainages on the property that transmit storm related water; the highest detected concentration of perchlorate in surface water flow on the property is approximately 1,000 ppb. Perchlorate is being discharged off the Porta Bella property in surface water after storm events significant enough to generate surface water flow conditions.

Perchlorate is flowing into groundwater of the Santa Clara River (a potential source for Saugus Formation groundwater) at the mouths of two major canyons that drain the northern part of the Porta Bella property; the highest 'detected' concentration of perchlorate in groundwater in these areas is approximately 390 parts per billion (ppb) at the mouth of the East Entrance Valley of the Porta Bella property.

A perchlorate groundwater plume from the Porta Bella property trends westerly along the south side of the Santa Clara River beneath the Metro Link parking lot and extends to at least the eastern boundary of the adjoining race track property (now used as a Flea Market). Perchlorate in groundwater at the western end of Metro Link parking lot is approximately 190 ppb. We have not yet located the edge of this plume.

Several production wells located along San Fernando Road (west of the Porta Bella property) capable of pumping groundwater at capacities greater than one million gallons per day are contaminated with perchlorate. All of these wells have been idled by their owners rather than pump contaminated groundwater. Two of these perchlorate-contaminated production wells located near the intersection of San Fernando and Soledad Canyon Roads are constructed with cement well seals to depths of at least 500 feet below ground surface; therefore, perchlorate in groundwater from Saugus Formation water-bearing zones is entering these production wells at depths at least as great as the cement seals (e.g., 500 feet

below ground surface). This indicates the present widespread and deep nature of perchlorate contamination in this area.

Q.: ARE BOTH THE ALLUVIAL AND THE SAUGUS AQUIFERS AFFECTED?

A.: It appears that perchlorate contamination is probably widespread in the South Fork of the Santa Clara River, west of the Porta Bella property along San Fernando Road, due to mobilization and transport of contamination in soils underlying parts of the Porta Bella property. The number of contaminated production wells also indicates that perchlorate contamination is likely widespread in near-surface portions of the alluvium and Saugus Formation underlying the Santa Clara River Valley near the confluence with the South Fork of the Santa Clara River. The near-surface alluvium along the Santa Clara River probably serves as a major source of recharge for water-bearing zones in the Saugus Formation and this recharge is likely a pathway for the perchlorate to infiltrate the Saugus Formation.

It is likely that perchlorate contamination in near-surface alluvial groundwater and the Saugus Formation continues west of the confluence of the Santa Clara River and South Fork of the Santa Clara River; however, it has not yet been detected because of the absence of adequate monitoring in the area. In addition, perchlorate in soils underlying the Porta Bella property will be a long-term source of contamination that will impact off-site soil, surface water, and groundwater.

Q.: WHAT IS BEING DONE TO ADDRESS THIS PROBLEM?

A.: The Department and the property owners are really in the beginning stages of site characterization, which is the first step in the clean-up process. The site owners submitted the Porta Bella characterization report, a regional groundwater report, about a year ago, but it was inadequate and has not been approved. A limited amount of soil and surface water sampling has been done, but characterization of the extent of contamination needs to be performed on-site and off-site. Complete characterization has yet to be done at the site for perchlorate and virtually none has been done on the Saugus Formation. In addition, all of the areas on the site that are the source of the contamination have not yet even been identified. This is very important because one of the first things that must be done is to locate these source areas and remediate them to stop additional contamination from entering the pathways that may transport contamination off-site.

Q.: WHAT DOES "CHARACTERIZATION" MEAN?

A.: It means to study the locations of contamination with an emphasis on identifying the contamination pathways through the earth. It is important because before the contamination can be cleaned up, we must know where it is and in what concentrations. Only then can a decision be made as to what cleanup options to utilize.

Q.: HOW LONG WILL IT TAKE TO CLEAN UP THIS CONTAMINATION?

A.: Contaminant source areas and pathways through the vadose zone to groundwater need to be identified and characterized before remedial technologies are implemented and this effort will undoubtedly take several years to complete. I believe remediation of on-site source areas could be completed in two years. While this is being done, characterization of both the soil and groundwater contamination could also be going on. I believe that an optimistic estimate is that it would take about three or four years to characterize the groundwater. Both the source area remediation and characterization of the extent of contamination must be completed before cleanup can even begin. This cleanup could take decades.

Q.: IS THERE CURRENTLY AN AVAILABLE TREATMENT METHODOLOGY FOR PERCHLORATE?

A.: An experimental treatment technology utilizing bacteria to remedy perchlorate contaminated groundwater is being researched by the Aerojet facility in Rancho Cordova, California; however, this technology is not perfected and, in this experimental stage of development, is only able to treat a few hundred gallons of water per minute. The Calgon company has also developed a filtration system to treat perchlorate-contaminated water. This method is also experimental and also can treat only small quantities at a time.

At the rate of even 400 gallons a minute, which is about the current treatment capacity, it would take several decades to clean up the basin. Also, the U.S. Environmental Protection Agency and the Air Force are currently conducting animal studies on the health effects of perchlorate. It is possible that this will result in the action level for perchlorate being lowered. If that happens, it may not be possible to clean up the basin and even if it were possible, it would certainly take considerably longer.

Q.: IF THE PUMPING OF GROUNDWATER IN THE BASIN WERE GREATLY INCREASED, WOULD THAT HAVE AN IMPACT ON THE SPREAD OF THE CONTAMINATION?

A.: Yes. Increased pumping of groundwater by production wells in proximity to the Porta Bella property will accelerate the flow of contaminants, especially perchlorate, through the groundwater basin to production wells; increased contaminant transport velocities due to production well pumping may also result in the more widespread occurrence of contamination in groundwater which in effect will reduce the overall resource of available potable groundwater in the upper Santa Clara River basin. Without effective treatment technologies, perchlorate contamination to groundwater in areas down-gradient from the Porta Bella property could severely impact the availability of potable groundwater such that local shortages could occur, especially during drought conditions.

To some extent, remediation of the site will have to involve all water companies in the area because the whole water basin is interconnected. Installation of new production wells or increased pumping of existing production wells could accelerate or alter the spread of the plume. The closer this pumping occurs to the Porta Bella site, the greater the effect will be, but even wells miles away could be affected; it would simply take longer for the contamination to show up in those wells.

In addition, if the basin is overdrafted for even one or two years, that could significantly increase the vertical downward flow direction of groundwater. Instead of spreading horizontally, the contaminants would flow deeper into the subsurface toward production wells. Any near surface contaminants, not just perchlorate, could be spread very rapidly deeper into the subsurface. In most areas such as this, the likely contaminants would be pesticides, nitrates, methyl tertiary butyl-ether (MTBE), perchlorethylene and other agricultural and industrial pollutants.

CERTIFICATE OF SERVICE

STATE OF CALIFORNIA, COUNTY OF VENTURA

I hereby certify that I have this day served a copy of the DIRECT TESTIMONY OF RICHARD McJUNKIN SUBMITTED BY VENTURA COUNTY IN SUPPORT OF ITS PROTEST TO APPLICATION OF VALENCIA WATER COMPANY FOR APPROVAL OF ITS UPDATED WATER MANAGEMENT PROGRAM on all known parties to Application No. A-99-12-025 by mailing a properly addressed copy by first-class mail, with postage prepaid, to each party named below in the service list.

Executed on April 7, 2000, at Ventura, California.

  
SHEILA L. DELEO

SERVICE LIST

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California Public Utilities Commission  
Division of Administrative Law Judges  
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San Francisco, California 94102-3214  
(Two copies)

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Robert J. DiPrimio, President  
Valencia Water Company  
24631 Avenue Rockefeller  
Valencia, CA 91355

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA

Application of Valencia Water Company )  
(U342-W) seeking approval of its updated )  
Water Management Program as ordered in )  
Commission Resolution W-4154 dated )  
August 5, 1999 )

Application No. A-99-12-025

DIRECT TESTIMONY OF

SAYAREH AMIR

SUBMITTED BY VENTURA COUNTY IN SUPPORT  
OF ITS PROTEST TO APPLICATION OF VALENCIA  
WATER COMPANY FOR APPROVAL OF ITS  
UPDATED WATER MANAGEMENT PROGRAM

DUE: April 10, 2000

## TESTIMONY OF SAYAREH AMIR

Q.: PLEASE STATE YOUR NAME.

A.: I am Sayareh Amir.

Q.: MS. AMIR, WHAT IS YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND?

A.: I have a bachelor's degree in Biology and a master's degree in Environmental Engineering from the University of Southern California. I have worked for the California Environmental Protection Agency for more than 15 years. I started my work with the Department of Toxic Substances Control ("Department") in May of 1990 in the Hazardous Waste Management Program. I am currently a supervisor with the Site Mitigation Program in the Glendale regional office. I supervise and direct the work of a unit comprised of eight project managers who plan, direct and oversee characterization and remediation of hazardous substance disposal sites. My work includes, but is not limited to, supervising the following activities: site investigations, feasibility studies, removal actions, enforcement orders, preliminary endangerment assessments, remedial action plans, remedial design, operation and maintenance, cost recovery and case development and site screening. I represent the Department in meetings with federal and local agencies, the public and the news media. I also participate in statewide workgroups for guidance, policy development and statewide coordination.

Q.: DO YOU HAVE ANY FAMILIARITY WITH GROUNDWATER CONTAMINATION IN THE SANTA CLARITA VALLEY?

A.: Yes. My unit is working with the current and former owners of the Porta Bella property (former Whittaker-Bermite facility) in Santa Clarita, California, which has been identified as a source of perchlorate contamination in both the Santa Clara River Bed Alluvium and Saugus Formation.

Q.: CAN YOU DESCRIBE THE PORTA BELLA PROPERTY?

A.: Yes. The property consists of approximately 996 acres and extends to Soledad Canyon Road to the north and to an industrial park to the west. Residential housing is located next to the southern and southwestern portions of the site. The Placerita Oil Field and other industrial uses are located directly east of the facility. Previously, there were approximately 350 buildings scattered throughout the property that were used for the manufacturing, storage and testing of explosives,



and for administrative purposes. Few buildings currently remain on the site. An approximately 10-acre area near the northern border of the property along Soledad Canyon Road has been converted into a commuter rail station.

Q.: HOW DID THE DEPARTMENT BECOME AWARE OF THE PERCHLORATE CONTAMINATION?

A.: Since 1934, the property had been used to manufacture a variety of explosives, including dynamite, ammunition rounds, practice bombs, flares, signal cartridges, fireworks, igniters, detonators, fuzes, boosters, gas generators, explosive bolts, tracer pellets, and oil field explosives, until the operations were ceased in 1987. Explosives were also tested on the site. Materials, or mixture of materials, that were used in these activities include, but are not limited to: lead azide, red phosphorus, ammonium perchlorate, potassium perchlorate, polyvinyl acetate, cyclotrimethylene trinitramine (RDX), cyclotetramethylene tetranitramine (HMX), methyl ethyl ketone (MEK), hexane, lead, silver, barium, zinc, copper, chromium, and chlorinated solvents such as perchloroethylene (PCE) and trichloroethylene (TCE).

Because of these activities, the facility had treatment and storage units that were regulated under the federal Resource Conservation and Recovery Act ("RCRA," 42 U.S.C., § 6901 et seq.) and the California Hazardous Waste Control Law (Health & Saf. Code, § 25100 et seq.). In 1987, the facility submitted self-certifications, certifying that 13 of the 14 RCRA-regulated units had been "clean-closed" according to RCRA regulations. In the process of verifying the closure of those units, the Department discovered that there were more than 70 other contaminated areas on the site. As part of the clean-up of those areas, the facility operators were required to monitor and test the groundwater. In mid-1997, perchlorate was detected in four local drinking water wells located outside the Property boundaries. In April 1998, additional sampling confirmed that perchlorate was detected in the Santa Clarita Water Company's Saugus 1 and 2 wells at concentrations of 36 micrograms per liter ( $\mu\text{g/l}$ ) and 45  $\mu\text{g/l}$ , respectively, the Valencia Water Company's V-157 well at 9.6  $\mu\text{g/l}$ , and the Newhall County Water District's NC-11 well at 18  $\mu\text{g/l}$ . Subsequent investigations in 1997 and 1998 detected perchlorate in the soil and groundwater beneath the site.

Q.: WHAT IS PERCHLORATE?

A.: Perchlorate is a highly soluble compound that in an aqueous state when dissolved in water readily percolates through the soil along pathways that eventually lead to

the groundwater. Perchlorate does not readily degrade naturally and is not easily removed from groundwater by conventional engineered treatment technologies.

Q.: ARE THERE KNOWN HEALTH EFFECTS FROM PERCHLORATE?

A.: Perchlorate interferes with the thyroid gland, and the ability of this gland to utilize iodine to produce thyroid hormones, which can result in hypothyroidism. No federal or state drinking water standard exists, because perchlorate has not been known to be a common contaminant. The California Department of Health Services has established a drinking water provisional action level of 18 µg/l. Benign tumors have been reported in the thyroids of laboratory animals treated with high dose exposures of potassium perchlorate in drinking water.

Q.: AT THIS TIME DOES THE DEPARTMENT HAVE AN ESTIMATE AS TO WHEN THE CONTAMINATION WILL BE CLEANED UP?

A.: No. Before we can even begin to look at cleaning up the groundwater, we need to complete our characterization of both the soil and groundwater contamination. At this time, we have not yet identified the extent of the contamination in the soil or groundwater, the pathways or routes that the contaminants are following, or even all of the source areas of the contamination. Although we know that the contaminants are moving down gradient, we do not yet know how far or how deep the contamination has spread in either of the aquifers. We need much, if not all, of this information before a site investigation plan could even be written. The site characterization will likely take a few years; the clean-up will take much longer. In addition, the areas of contaminated soil that are the source of the contamination must be cleaned up first.

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CERTIFICATE OF SERVICE

STATE OF CALIFORNIA, COUNTY OF VENTURA

I hereby certify that I have this day served a copy of the DIRECT TESTIMONY OF SAYAREH AMIR SUBMITTED BY VENTURA COUNTY IN SUPPORT OF ITS PROTEST TO APPLICATION OF VALENCIA WATER COMPANY FOR APPROVAL OF ITS UPDATED WATER MANAGEMENT PROGRAM on all known parties to Application No. A-99-12-025 by mailing a properly addressed copy by first-class mail, with postage prepaid, to each party named below in the service list.

Executed on April 7, 2000, at Ventura, California.



SHEILA L. DELEO

SERVICE LIST

Bertram D. Patrick  
California Public Utilities Commission  
Division of Administrative Law Judges  
505 Van Ness Avenue, Room 5110  
San Francisco, California 94102-3214  
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Barbara Ortega  
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5 Attorneys for Plaintiffs and Counter-Defendants  
6 Castaic Lake Water Agency; Newhall County Water  
District; Santa Clarita Water Company; and Valencia  
7 Water Company

8  
9 UNITED STATES DISTRICT COURT  
10 CENTRAL DISTRICT OF CALIFORNIA

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12 CASTAIC LAKE WATER AGENCY;  
NEWHALL COUNTY WATER DISTRICT;  
13 SANTA CLARITA WATER COMPANY;  
and VALENCIA WATER COMPANY,

14 Plaintiffs,

15 vs.

16 WHITTAKER CORPORATION; SANTA  
17 CLARITA LLC; REMEDIATION  
FINANCIAL, INC.; and DOES 1-10,  
18 Inclusive,

19 Defendants.

20  
21 SANTA CLARITA, L.L.C.,

22 Counter-Claimant,

23 vs.

24  
25 CASTAIC LAKE WATER AGENCY;  
NEWHALL COUNTY WATER DISTRICT;  
26 SANTA CLARITA WATER COMPANY;  
and VALENCIA WATER COMPANY

27 Counter-Defendants.  
28

Case No.: 00-12613AHM(RZx)

PLAINTIFFS' AND COUNTER-  
DEFENDANTS' CASE MANAGEMENT  
PROPOSAL; DECLARATION OF  
PROFESSOR E. JOHN LIST IN  
SUPPORT OF PLAINTIFFS' AND  
COUNTER-DEFENDANTS' CASE  
MANAGEMENT PROPOSAL; and  
DECLARATION OF ANDREW J.  
YAMAMOTO IN SUPPORT OF  
PLAINTIFFS' AND COUNTER-  
DEFENDANTS' CASE MANAGEMENT  
PROPOSAL ATTACHED

1 WHITTAKER CORPORATION,

2 Counter-Claimant,

3 vs.

4  
5 CASTAIC LAKE WATER AGENCY;  
6 NEWHALL COUNTY WATER DISTRICT;  
7 SANTA CLARITA WATER COMPANY;  
8 and VALENCIA WATER COMPANY

9 Counter-Defendants.

10 I. E. John List, Ph.D., P.E., declare as follows:

11 1. I received a Masters in Engineering from the University of Auckland, New Zealand. I  
12 received a Ph.D. in Applied Mechanics and Mathematics from of the California Institute of Technology.

13 2. After completing my doctorate, I spent three years on the faculty of the University of  
14 Auckland. In 1969, I moved to Caltech, serving as Professor of Environmental Engineering Science  
15 from 1978 to 1997 and as Executive Officer for Environmental Engineering Science from 1980 to 1985.  
16 Presently, I am Professor Emeritus of Environmental Engineering Science at Caltech. I am also  
17 President of Flow Science Incorporated and Principal Consultant of Environmental Defense Sciences.

18 3. I have consulted with more than 400 industrial organizations, consulting engineers,  
19 and government agencies. I have co-authored three books, including the award winning Handbook of  
20 Groundwater Development, and published over forty articles on fluid dynamics and environmental  
21 sciences. I have provided written, verbal or deposition testimony as an expert witness in over 10 cases.  
22 I am currently serving as a jointly designated independent peer review expert in the case entitled U.S.  
23 Environmental Protection Agency v. General Electric. A true and correct copy of my resume is attached  
24 as Exhibit "A" hereto.

25 4. I have reviewed many scientific reports and other documents related to the Whittaker  
26 Bermite Facility and the perchlorate problem in the groundwater found in the Saugus Formation in the  
27 Santa Clarita Valley. The documents that I reviewed include public documents on the former Whittaker  
28 Bermite Facility from the Department of Toxic Substances Control's Glendale Office and technical  
reports prepared by consultants hired by Santa Clarita LLC and/or the Whittaker Corporation. This

1 Bermite Facility from the Department of Toxic Substances Control's Glendale Office and technical  
2 reports prepared by consultants hired by Santa Clarita LLC and/or the Whittaker Corporation. This  
3 declaration is based on my review of the scientific evidence regarding the Whittaker Bermite Facility,  
4 and if called to testify as an expert witness in this action, I would and could competently testify to the  
5 following.

6 5. Reports on the Whittaker Bermite Facility prepared by consultants hired by Santa  
7 Clarita LLC and/or the Whittaker Corporation indicate that explosive products and rocket fuels were  
8 blended or used at the facility from 1934 to 1987. The explosive products and/or rocket fuels contained  
9 ammonium perchlorate and potassium perchlorate.

10 6. The available data show that the groundwater elevation in Saugus Formation at the  
11 former Whittaker Bermite Facility is higher than at the locations of Plaintiffs' impacted Saugus  
12 Formation groundwater wells: NC-11, Saugus 1 and 2, and VWC-157 (collectively, "Impacted Wells").  
13 The Impacted Wells are located about one mile from the Whittaker Bermite Property.

14 7. Various reports, the majority prepared by consultants hired by Santa Clarita LLC or  
15 Whittaker Corporation, confirm that perchlorate is present in the soil, groundwater, and surface-water  
16 runoff at the former Whittaker Bermite Facility.

17 8. Subsurface water generally flows from regions of higher groundwater elevation to  
18 regions of lower groundwater elevation. The groundwater elevation at the former Whittaker Bermite  
19 Facility is higher than at the Impacted Wells making the Impacted Wells down gradient of the former  
20 Whittaker Bermite Facility. Water quality tests have also found perchlorate in the Impacted Wells west  
21 of the facility.

22 9. Large-scale use of perchlorate is generally associated with the manufacture or use of  
23 explosives and solid fuel propellants. I am aware of no evidence suggesting that the property between  
24 the former Whittaker Bermite Facility and the Plaintiffs' impacted wells was used to manufacture or use  
25 explosive or solid propulsion fuels.

26 10. Perchlorate is not a naturally occurring chemical in California. Perchlorate is very  
27 mobile in aqueous systems and can persist for many decades under typical groundwater and surface  
28 water conditions because it does not react in low concentrations with other available constituents.

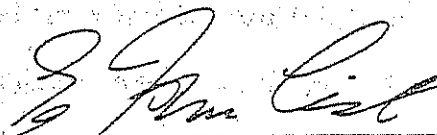
1 11. Based on my review of the reports prepared by consultants hired by Santa Clarita  
2 LLC or Whittaker Corporation, it appears clear that perchlorate from the former Whittaker Bermite  
3 Facility is the source of the perchlorate found at the Plaintiffs' groundwater wells. Although I am aware  
4 that one might hypothesize that there are alternate sources of the perchlorate reaching the Impacted  
5 Wells, I am aware of no plausible source of the perchlorate in the Impacted Wells besides the Whittaker  
6 Bermite Facility.

7 12. Perchlorate naturally will continue its down-gradient migration and may spread to  
8 other groundwater wells until response actions are implemented to abate the spread of perchlorate.

9 13. It is my professional judgment that the pumping of groundwater from the Impacted  
10 Wells, and treatment of the water to remove perchlorate, should be implemented promptly to help retard  
11 the spread of the perchlorate plume(s) emanating from the Whittaker Bermite Facility. Delaying such a  
12 groundwater treatment program will likely allow the plume(s) to spread.

13 I declare under penalty of perjury that the foregoing is true and correct.

14  
15 Executed within the United States on June 1, 2001

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18 

19 E. John List, Ph.D., P.E.  
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ERICSON JOHN LIST  
President, Flow Science Incorporated  
Professor *Emeritus* of Environmental Engineering Science  
California Institute of Technology  
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TEL: (626) 304-1134 FAX: (626) 304-9427  
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## PERSONAL

Citizenship: U.S.A. Passport No. 031734111  
Birthdate: March 27, 1939  
Place of Birth: Whakatane, New Zealand  
Home Address: 251 South Orange Grove Blvd., Pasadena, CA

## EDUCATION

1965 Ph.D. California Institute of Technology  
(Applied Mechanics and Mathematics)  
1962 M.E. (Civil Eng.) University of Auckland, N.Z.  
1962 B.Sc. (Mathematics) University of Auckland, N.Z.  
1961 B.E. (First Class) University of Auckland, N.Z.

## POSITIONS HELD

Dr. List is currently President of Flow Science Incorporated and Principal Consultant at Environmental Defense Sciences. He was Professor of Environmental Engineering Science at the California Institute of Technology from 1978-1997. He joined the faculty at Caltech in 1969 as an Assistant Professor, after spending three years as a lecturer and senior lecturer at the University of Auckland. For the period 1980-1985, he was Executive Officer for Environmental Engineering Science at Caltech.

## TEACHING EXPERIENCE

Fluid mechanics, turbulent diffusion, density-stratified flow, flow in porous media, introductory oceanography and meteorology, classical applied mathematics, singular perturbations, non-linear waves, mathematical programming and simulation, probability and statistics, solid mechanics, hydrologic transport processes, environmental fluid mechanics.

## RESEARCH INTERESTS

Turbulent diffusion, buoyancy-modified flows, particle coagulation, coastal ocean and estuarine processes, transient flows, flow in porous media.



## INSTITUTE AFFAIRS

Professor List has served on sixteen different administrative and faculty committees, including a term as Vice-Chair of the Faculty (1979-81), and chair of the following Faculty Committees: Athletics and Physical Education (1975-79), Curriculum (1981-84), Membership and Bylaws (1979-81), and Nominating (1978-79). He served on the JPL Classified Research Oversight Committee for a period of six years.

## EDITOR

Journal of Hydraulic Engineering, American Society of Civil Engineers, 1984-1989

## MEMBERSHIP

Fellow of American Society of Civil Engineers  
Chair, Hydrologic Transport and Dispersion Committee, 1983-84  
Chair, Awards Committee, Hydraulics Division, 1994  
Co-Chair, Third International Symposium on Stratified Flows, 1987  
Consulting Engineers Association of California  
Chair, Engineering Excellence Committee, 1989

## AWARDS AND RECOGNITION

Fulbright Scholar, 1962  
National Science Foundation Award for Special Creativity, 1982  
Who's Who in America  
Who's Who in Engineering  
Who's Who in the West

## REGISTRATION

Professional Civil Engineer No. 36791, State of California  
Professional Engineer No. 20646, State of South Carolina

## VISITING COMMITTEES

University of California, Irvine, School of Engineering, 1983, 1989  
Stanford University, Palo Alto, Department of Civil Engineering, 1984  
University of British Columbia, School of Engineering, 1990

## BOARDS

Flow Science Incorporated, Pasadena, California (Chair) 1982-Present  
City of Pasadena, Blue Ribbon Commission 1976-1978  
Environmental Defense Sciences, Pasadena, California 1997-Present

## CONSULTING

Professor List has consulted with more than 400 industrial organizations, consulting engineers and governmental agencies, including PetroBras, Southern California Edison, Chevron, IBM Corporation, Exxon, Cargill Corporation, City and County of San Francisco, City of Seattle, City of San Diego, City of Los Angeles, Los Angeles County, Sacramento County, U.S. Corps of Engineers, U.S. Navy, Metropolitan Water District of Southern California, City and County of Honolulu, Southern Nevada Water Agency. He has authored reports in the following areas of work: geothermal flows, river control modeling, power plant cooling systems, brine and wastewater diffusers, dredge spoil disposal, river dispersion, solar heat storage systems, reservoir destratification and mixing, well testing and failure, pulsation control and water hammer, pipeline failure, groundwater mass balance, ocean current and temperature analysis, acoustic resonance in piping systems, gas transfer, ocean dispersion, and biodegradation of organo-chlorines.

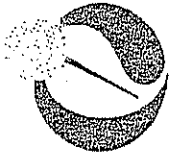
## PUBLICATIONS

Professor List is co-author of the texts *Mixing in Inland and Coastal Waters* (Academic Press, 1979), *Turbulent Buoyant Jets and Plumes* (Pergamon Press, 1983), and *Handbook of Groundwater Development* (Wiley, 1990). In addition, he is the author or co-author of the following refereed publications:

- [1] "Steady flow of precipitation to an infinite series of tile drains above an impervious layer," *J. Geophys. Res.*, 29: 3371-3381, 1964.
- [2] "A quasi-stable density-stratified flow in a saturated porous medium," *Proc. 2nd Aus. Conf. Fluid Mech.*, Auckland, N.Z., December 1965.
- [3] "Lateral dispersion in saturated porous media," *J. Geophys. Res.*, 72: 2531-2541, 1967 (with N.H. Brooks).
- [4] "A two-dimensional sink in a density-stratified porous medium," *J. Fluid Mech.*, 33: 529-543, 1968.
- [5] "An exact solution for a diffusive flow in a porous medium," *J. Fluid Mech.*, 36: 17-19, 1969.
- [6] "Laminar momentum jets in a stratified fluid," *J. Fluid Mech.*, 45: 461-574, 1971.
- [7] "A technique for smoothing river flows during hydro-electric power production," *Water Resources Research*, 7(6): 1437-1447, 1971 (with R.B. Tattle).
- [8] "Energy and the environment in Southern California," *Engineering and Science*, 35(2): 14-17, 1971.

- [9] "A study on disposal of brine in an estuary," *J. Water Polln. Cont. Fed.*, 45(11): 2335-2344, 1973 (with A.B. Pincince).
- [10] "Turbulent entrainment in buoyant jets and plumes," *J. Hyd. Div.*, ASCE, 99(HY9):1461-1474, September 1973 (with J. Imberger).
- [11] "Turbulence measurements in a two-dimensional buoyant jet using laser-Doppler velocimetry," *Proc. LDA Symposium*, Tech. Univ. of Denmark, Copenhagen, August 1975 (with N.E. Kotsovinos).
- [12] "Hydraulic modeling of thermal outfall diffusers - Interpretation of results," *Proc. XVI IAHR Congress*, Sao Paulo, Brazil, July 1975 (with R.C.Y. Koh).
- [13] "Variations in coastal temperatures on the Southern and Central California coast," *J. Geophys. Res.*, 81(12):1971-1979, April 1976 (with R.C.Y. Koh).
- [14] "Spreading of buoyant discharges," *Proc. 9th Intern. Conf. Heat and Mass Transfer*, Int. Centre for Heat and Mass Transfer, Dubrovnik, Yugoslavia, 171-182, September 4, 1976 (with J.-C. Chen).
- [15] "Plane turbulent buoyant jets - Part 1: Integral properties," *J. Fluid Mech.*, 81(1): 25-44, June 9, 1977 (with N.E. Kotsovinos).
- [16] "Turbulent jets and plumes," *Ann. Rev. of Fluid Mech.*, 14:189-212, 1982.
- [17] "Formation of frontal waves in density-induced fluid spreading," *Symposium on Flows in Stratified Fluids*, ASME Winter Annual Meeting, Boston, MA, 1983.
- [18] "Monte Carlo simulation of particle coagulation in continuous size distributions, I: Brownian motion and fluid shearing," *J. Fluid Mech.*, 143: 367-385, 1984 (with H.J. Pearson and I.A. Valioulis).
- [19] "Monte Carlo simulation of particle coagulation in continuous size distributions, II: Interparticle forces and the quasi-equilibrium hypothesis," *J. Fluid Mech.*, 143: 387-411, 1984 (with I.A. Valioulis and H.J. Pearson).
- [20] "Numerical simulation of a sedimentation basin, I: Model development," *Env. Sci. Tech.*, 18: 242-247, 1984 (with I.A. Valioulis).
- [21] "Numerical simulation of a sedimentation basin, II: Design application," *Env. Sci. Tech.*, 18:248-253, 1984 (with I.A. Valioulis).

- [22] "Collision efficiencies of diffusing spherical particles accounting for hydrodynamic, van der Waal's and electrostatic forces," *Adv. Colloid and Interf. Sci.*, 20:1-20, 1984 (with I.A. Valioulis).
- [23] "A numerical evaluation of the stochastic completeness of the kinetic coagulation equation," *J. Atmos. Sci.*, 41(16):2516-2529, 1984 (with I.A. Valioulis).
- [24] "Statistical and spectral properties of tracer concentration in round buoyant jets," *Int. J. Heat and Mass Trans.*, 30(10):2059-2071, 1987 (with P.N. Papanicolaou).
- [25] "Turbulence structure near a sharp density interface," *J. Fluid Mech.*, 189:189-209, 1988 (with I.A. Hannoun and H.J.S. Fernando).
- [26] "Turbulent mixing at a shear-free density interface," *J. Fluid Mech.*, 189:211-234, 1988 (with I.A. Hannoun).
- [27] "Investigations of round vertical turbulent buoyant jets," *J. Fluid Mech.*, 195:341-391, 1988 (with P.N. Papanicolaou).
- [28] "The Third International Symposium on Density-Stratified Flows," *J. Hydr. Eng., Proc. ASCE*, 114(2):125-133, 1988 (with G. Jirka).
- [29] "Large-scale structure in the far field of buoyant jets," *J. Fluid Mech.*, 209:151-190, 1989 (with D. Papantoniou).
- [30] "Diffusion and dispersion in coastal waters," *J. Hydr. Eng.*, 116(10):1158-1179, 1990 (with G. Gartrell and C.D. Winant).
- [31] "Kinetic analysis of virus adsorption and inactivation in batch experiments", *Water Resources Research*, 29(7):2067-2085, 1993 (with S. Grant and M. Lidstrom).
- [32] "An experimental investigation of vertical mixing in two-layer density- stratified shear flows," *Oceans and Atmospheres*, 19:147-174, 1993 (with G. Sullivan).
- [33] "Transition from jet plume dilution to ambient turbulent mixing," *Recent Res. Advances in the Fluid Mechanics of Turbulent Jets and Plumes*, 1-11, 1994 Kluwer Publishers (with Regina Dugan).
- [34] "On mixing and transport at a sheared density interface ", *J. Fluid Mech.* 273:213-239, 1994 (with G. Sullivan).
- [35] "Sudden pressure drop and pipeline failure - Case studies," *Hydraulics of Pipelines*; ASCE, pp.339-355, 1994



## Department of Toxic Substances Control



Winston H. Hickox  
Agency Secretary  
California Environmental  
Protection Agency

Edwin F. Lowry, Director  
1011 N. Grandview Avenue  
Glendale, California 91201

Gray Davis  
Governor

### MEMORANDUM

TO : Ken Baez  
Hazardous Substances Scientist  
Site Mitigation Cleanup Operations Branch

FROM : John A. Naginis, RG *John Naginis*  
Senior Hazardous Substances Engineering Geologist  
Geological Services Unit

CONCUR : Craig Christmann, RG *CC*  
Supervising Hazardous Substances Engineering Geologist I  
Geological Services Unit

DATE : June 13, 2001

SUBJECT: Summary of Implementation of the Field Sampling Plan Technical Memorandum, Groundwater Monitoring and Reconnaissance Groundwater Investigation (Operable Unit 7) Areas 11, 67, and 75, (FSPTM) dated April 21, 2000.

PCA 11050

Site Code 300245-00

As requested, Geological Services Unit (GSU) staff collected sample splits during implementation of the FSPTM. The samples were collected in January, and April, 2001. The scope of the FSPTM was designed to provide baseline groundwater data in the area north of the San Gabriel Fault, and to assist in evaluating groundwater flow through alluvium, at the northern portion of the site, as a potential pathway for perchlorate migration.

This memo presents results of DTSC sample splits collected when the wells were sampled by consultants working for Santa Clarita, LLC, a discussion of the sampling results, and conclusions. Maps and tables summarizing the analytical results are attached to this memo.

Questions regarding this memo should be directed to John Naginis at (818) 551-2194.

## Background

In April, 2000, DTSC staff approved the Field Sampling Plan Technical Memorandum, Groundwater Monitoring and Reconnaissance Groundwater Investigation (operable Unit 7) Areas 11, 67, and 75, prepared for Santa Clarita LLC, by Hargis + Associates, dated April 21, 2000. The purpose of the proposed field work was to evaluate baseline groundwater elevation and contaminant concentrations, and to evaluate groundwater flow through alluvium as a potential pathway for perchlorate migration. The approved scope of work for this FSPTM included:

- ▶ Collecting off-site groundwater samples from the Bonelli Ranch area, referred to as a reconnaissance investigation,
- ▶ Prepare a technical memorandum describing data collected during the reconnaissance investigation,
- ▶ Measuring groundwater elevations within existing wells,
- ▶ Sampling the 17 existing monitoring wells twice on a quarterly basis,
- ▶ Prepare two groundwater data submittals based on the two monitoring well sampling rounds,
- ▶ Establishing a groundwater monitoring plan based on key monitoring wells identified using data generated from the two monitoring well sampling rounds.

Santa Clarita, LLC, has implemented the groundwater sampling with one round being performed in January, 2001 and the second round in April, 2001. However, the DTSC has not received any groundwater data submittal reports summarizing results of the sampling events, or laboratory analytical results from samples. Santa Clarita, LLC has provided a summary table listing compounds detected during the January, 2001 sampling event.

## Summary of Groundwater Sampling

The first round of groundwater sampling was performed in January, 2001 (1st quarter) and the second round was performed in April, 2001 (2nd quarter). During the 1st quarterly sampling event, groundwater samples were also collected off-site at the Bonelli Ranch area. During the 1st quarter sampling event, GSU staff collected nine sample splits, four from the off-site sampling locations and five from on-site monitoring wells. During the 2nd quarterly sampling event GSU staff collected groundwater sample splits, from 11 on-site groundwater monitoring wells. Analytical results for perchlorate analyses from off-site sample splits and sample splits from monitoring wells are presented in Tables 1 and 2, respectively. All groundwater sample splits were analyzed for perchlorate and volatile organic compounds (VOCs), with selected samples being analyzed for hexavalent chromium ( $Cr^{+6}$ ), and nitroaromatics. Due to the more complete nature of the DTSC data set with regards to perchlorate results, and

Mr. Ken Baez  
June 13, 2001  
Page 3

the objective of evaluating off-site migration of perchlorate, the discussion in this memo is limited to perchlorate concentrations in groundwater.

### Groundwater Flow

The wells screened within the Saugus Formation are all located close together within a fairly small area. Consequently, data collected for these wells is not very useful in evaluating general groundwater flow within the Saugus Formation. Wells screened within the alluvium are spread out over a wider area, and are more useful for evaluating groundwater flow. Based on water level measurements made during the 1st quarter and 2nd quarter sampling events, groundwater flow within the alluvium was relatively consistent during the two sampling events and appears to flow westward from the site entrance area. Maps showing the interpreted groundwater flow directions are attached to this memo.

### 1st Quarter Sample Results for Perchlorate

During the 1st quarter sampling event, GSU staff collected groundwater sampling splits from the four temporary off-site groundwater sampling locations, using a cone penetrometer test rig, and from five on-site groundwater monitoring wells. Samples collected from the off-site locations were analyzed for perchlorate and VOCs, while samples collected from the on-site wells were analyzed for  $\text{Cr}^{6+}$ , in addition to perchlorate and VOCs.

Analytical data from sample splits collected from the off-site locations were intended to be used to evaluate whether perchlorate or VOCs had migrated off-site. Data from the sample splits collected from the on-site monitoring wells were only intended to provide a comparison to data generated by Santa Clarita, LLC. This comparison would serve to evaluate the normal variability between sample analytical results.

With the exception of one off-site sample, all of the sample splits contained detectable concentrations of perchlorate. Off-site concentrations of perchlorate ranged from less than the method detection limit of  $3 \mu\text{g/L}$  to  $120 \mu\text{g/L}$ . Perchlorate concentrations for samples collected from on-site monitoring wells, ranged from  $41.4 \mu\text{g/L}$  in well 75-MW-1 to  $327 \mu\text{g/L}$  in 75-MW-14.

In general, perchlorate concentrations measured in the DTSC sample splits corresponded closely with concentrations measured in the Santa Clarita, LLC. samples. One exception was the data set from well 75-MW-14. Perchlorate was measured at a concentration of  $327 \mu\text{g/L}$  in the DTSC sample, while the Santa Clarita, LLC. sample had a concentration of  $590 \mu\text{g/L}$ . Based on previous analytical results from this well, and DTSC sample splits collected during the 2nd quarter, it appears that the  $327 \mu\text{g/L}$

concentration is more representative groundwater conditions.

A summary of perchlorate concentrations from off-site samples is presented in Table 1. A summary of the sample split analytical results from on-site monitoring wells, including results for the 1st quarter Santa Clarita, LLC. samples, is presented in Table 2. Annotated maps showing sampling locations and perchlorate concentrations are attached to this memo.

Table 1  
Summary of Perchlorate Concentrations in DTSC Sample Splits  
Off-Site Sampling Locations  
January, 2001

Perchlorate concentration in µg/l	Sample Location			
	RGWA01-47	RWA02-35	RWA03-35	RWA04-35
	<3.00	52	120	67.5

### 2nd Quarter Sample Results for Perchlorate

During the 2nd quarter sampling event, GSU staff collected sample splits for perchlorate and VOC analysis from 11 on-site groundwater monitoring wells. Off-site sampling was not performed during the 2nd quarter sampling event. Sample splits were collected from certain wells to help evaluate perchlorate distribution within the groundwater. Table 2 lists the wells that DTSC collected sample splits from, and the rationale for selecting each well.

Sample splits were collected from wells screened in both the Saugus Formation (Saugus wells) and in Alluvium (alluvium wells). Alluvium wells cover a broader area than the Saugus wells, consequently, to evaluate the lateral distribution of perchlorate, more sample splits were collected from alluvium wells.



Table 2  
 Listing of Wells Summary of Perchlorate Concentrations from Monitoring Wells  
 January and April, 2001

Well ID	Sampling Event		
	Jan-01sc	Jan-01DT	APR-01DT
67-MW-1	NA	NA	125
11-MW-1	280	NA	313
11-MW-2	260	NA	313
75-MW-1	37	41.4	23
75-MW-2	290	264	230
75-MW-3	NA	NA	NA
75-MW-4	160	189	***
75-MW-5	140	NA	NA
75-MW-6	190	NA	***
75-MW-7	NA	NA	NA
75-MW-8	16	NA	NA
75-MW-9	66	NA	NA
75-MW-10	45	NA	NA
75-MW-11	140	164	148
75-MW-12	8.8	NA	10
75-MW-13	58	NA	82
75-MW-14	590	327	238
75-pw	34	NA	NA

Notes: Concentrations shown are µg/L  
 NA indicates that the sample was not analyzed  
 DT indicates sample consists of a DTSC sample split  
 SC indicates sample consists of a Santa Clarita LLC sample split  
 \*\*\* indicates analytical results not yet received from lab

Perchlorate was detected in all of the sample splits collected during the 2nd quarter sampling event. Santa Clarita, LLC has not submitted analytical results for samples they collected, so it is not possible to compare the two data sets. Perchlorate concentrations ranged from 10 µg/L in 75-MW-12 to 313 µg/L in wells 11-MW-1 and 11-MW-2. Both the high and the low concentration were collected from wells screened within the alluvium. The wells with the highest perchlorate concentrations, 11-MW-1 and 11-MW-2, are located adjacent to area 11, which has been identified as a possible perchlorate source area.

Table 3  
 Summary of Sample Split and Rationale for Sample Collection  
 2nd Quarter Sampling, April, 2001

Well I.D.	Formation	Perchlorate Concentration $\mu\text{g/L}$	Rationale for Sample Selection
11-MW-1	Alluvium	313	Evaluate perchlorate distribution between shallow and deep alluvium, well is screened across the water table
11-MW-2	Alluvium	313	Evaluate perchlorate distribution between shallow and deep alluvium, well is screened in deeper alluvium
67-MW-1	Alluvium	125	Evaluate perchlorate along south side of study area
75-MW-1	Alluvium	23	Evaluate perchlorate along north side of study area
75-MW-2	Alluvium	230	Verify previous high perchlorate concentrations
75-MW-12	Alluvium	10	Evaluate perchlorate along eastern side of study area
75-MW-14	Alluvium	238	Verify previous high perchlorate concentrations along western end of study area
75-MW-4	Saugus		Evaluate perchlorate concentrations in "deeper" Saugus Form.
75-MW-6	Saugus		Evaluate perchlorate concentrations in "shallow" Saugus Form.
75-MW-11	Saugus	148	Evaluate perchlorate along western side of study area, within Saugus Form.
75-MW-13	Saugus	82	Evaluate perchlorate along eastern side of study area, within Saugus Form.

### Conclusions

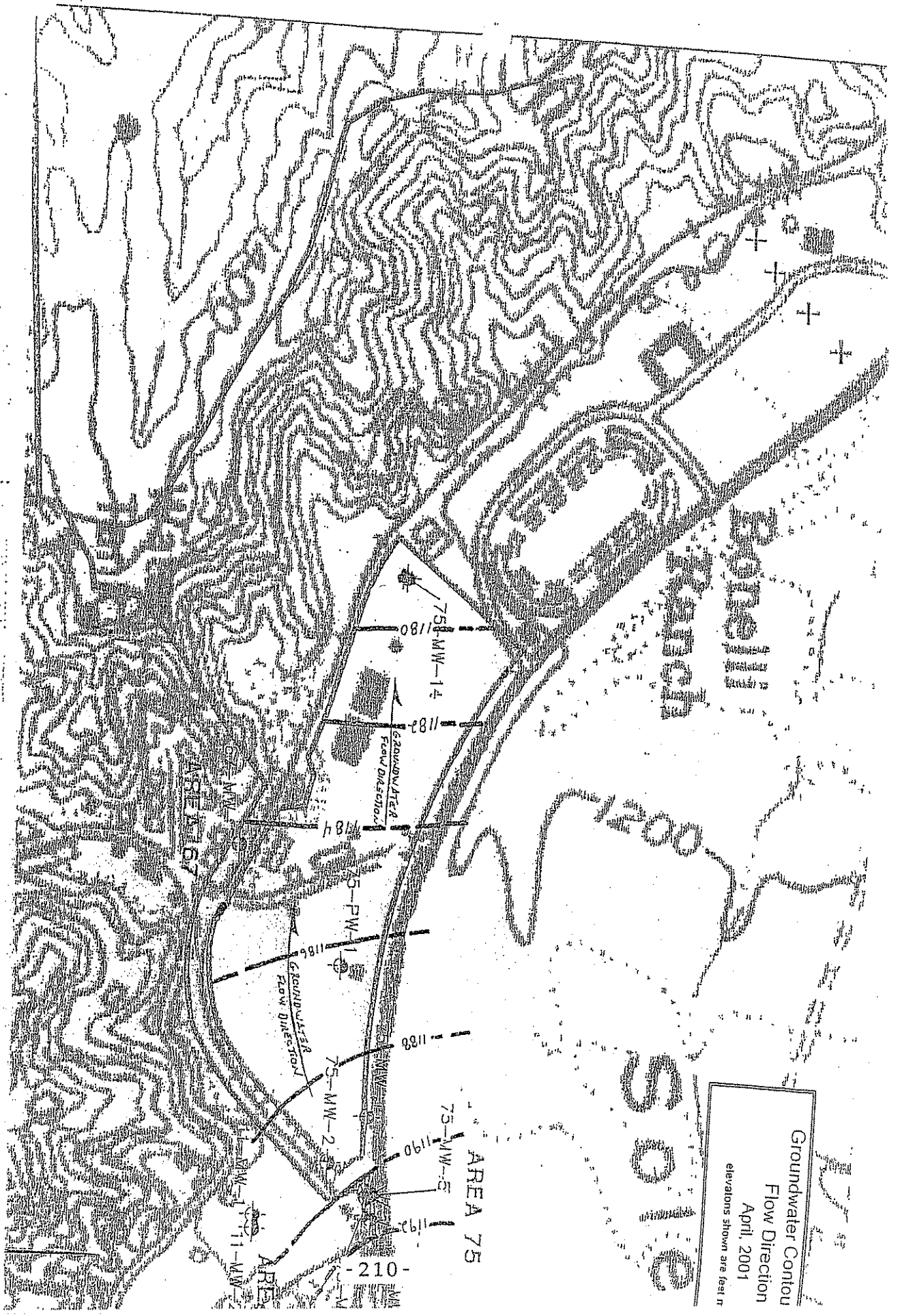
Based on analytical data collected, it appears that the vertical distribution of groundwater concentrations of perchlorate within the alluvial aquifer fairly uniform. Samples collected from wells 11-MW-1 and 11-MW-2, had the same concentration of perchlorate, 313  $\mu\text{g/L}$ . This compares well with data generated during the 1st quarter sampling event when perchlorate concentrations in samples from 11-MW-1 and 11-MW-2 were 280  $\mu\text{g/L}$  and 260  $\mu\text{g/L}$ , respectively.

Three of the four groundwater samples collected offsite, and down gradient from the site, with respect to groundwater flow within alluvium, contained detectable concentrations of perchlorate. Consequently, it appears that offsite migration of

Mr. Ken Baez  
June 13, 2001  
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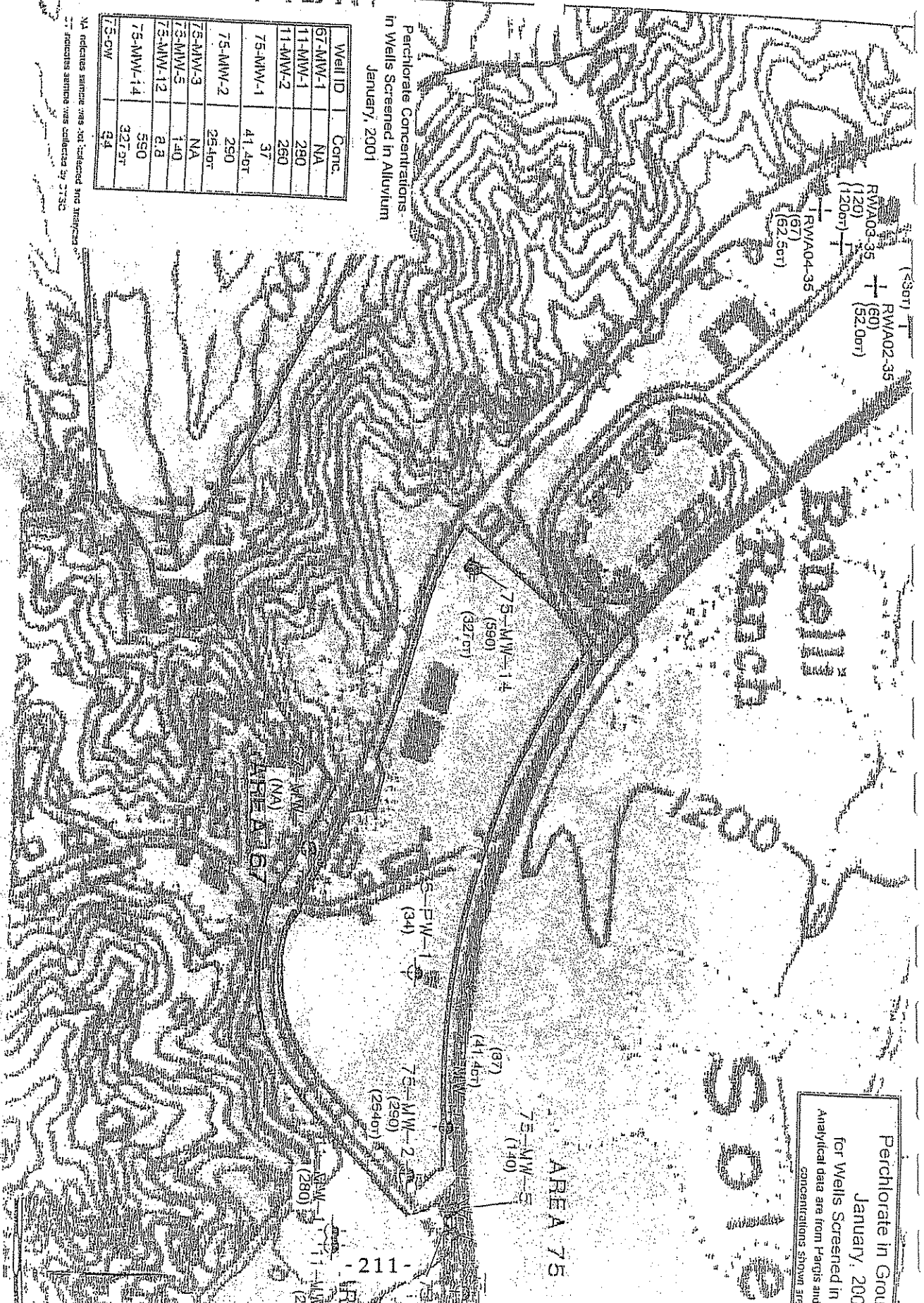
perchlorate within alluvial groundwater has occurred.

It appears that the eastern extent of perchlorate concentrations within alluvial groundwater is less than the California Department of Health Services preliminary action level (action level) for perchlorate of 18  $\mu\text{g}/\text{L}$ , however the full extent of perchlorate in groundwater has not been delineated. Well 11-MW-12, is the well screened in alluvium located the farthest to the east. Groundwater collected from this well had a perchlorate concentration of 10  $\mu\text{g}/\text{L}$ , below the 18  $\mu\text{g}/\text{L}$  action level.



Groundwater Contour  
 Flow Direction  
 April, 2001  
 elevations shown are feet

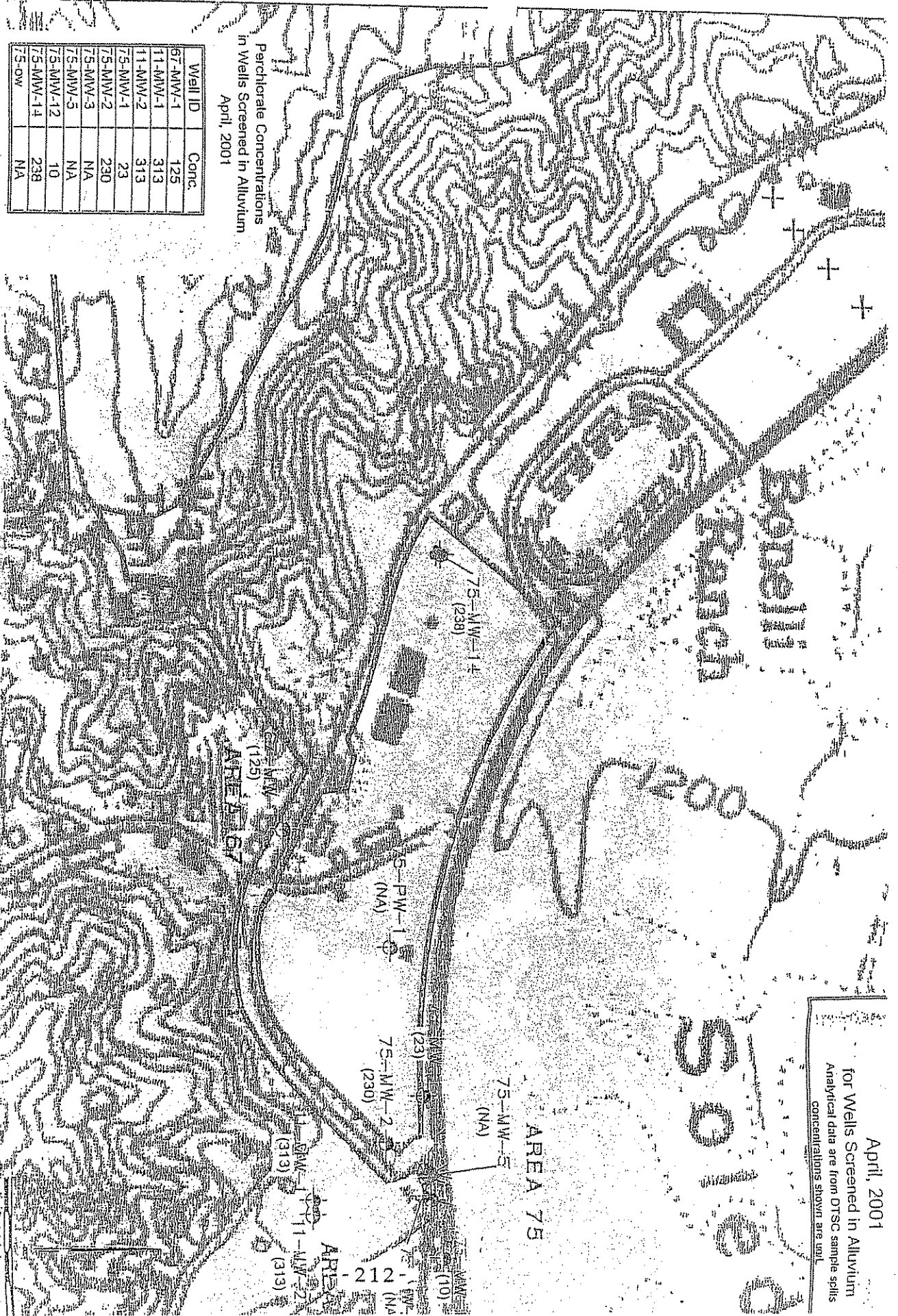
Perchlorate in Groundwater  
 January, 2001  
 for Wells Screened in  
 Analytical data are from Perchlorate  
 concentrations shown are



Well ID	Conc.
67-MW-1	NA
11-MW-1	280
11-MW-2	260
75-MW-1	37
75-MW-2	41.40T
75-MW-3	290
75-MW-5	25.40T
75-MW-12	NA
75-MW-14	1.40
75-MW-14	8.8
75-MW-14	590
75-MW-14	327.0T
75-MW-14	94

Perchlorate Concentrations  
 in Wells Screened in Alluvium  
 January, 2001

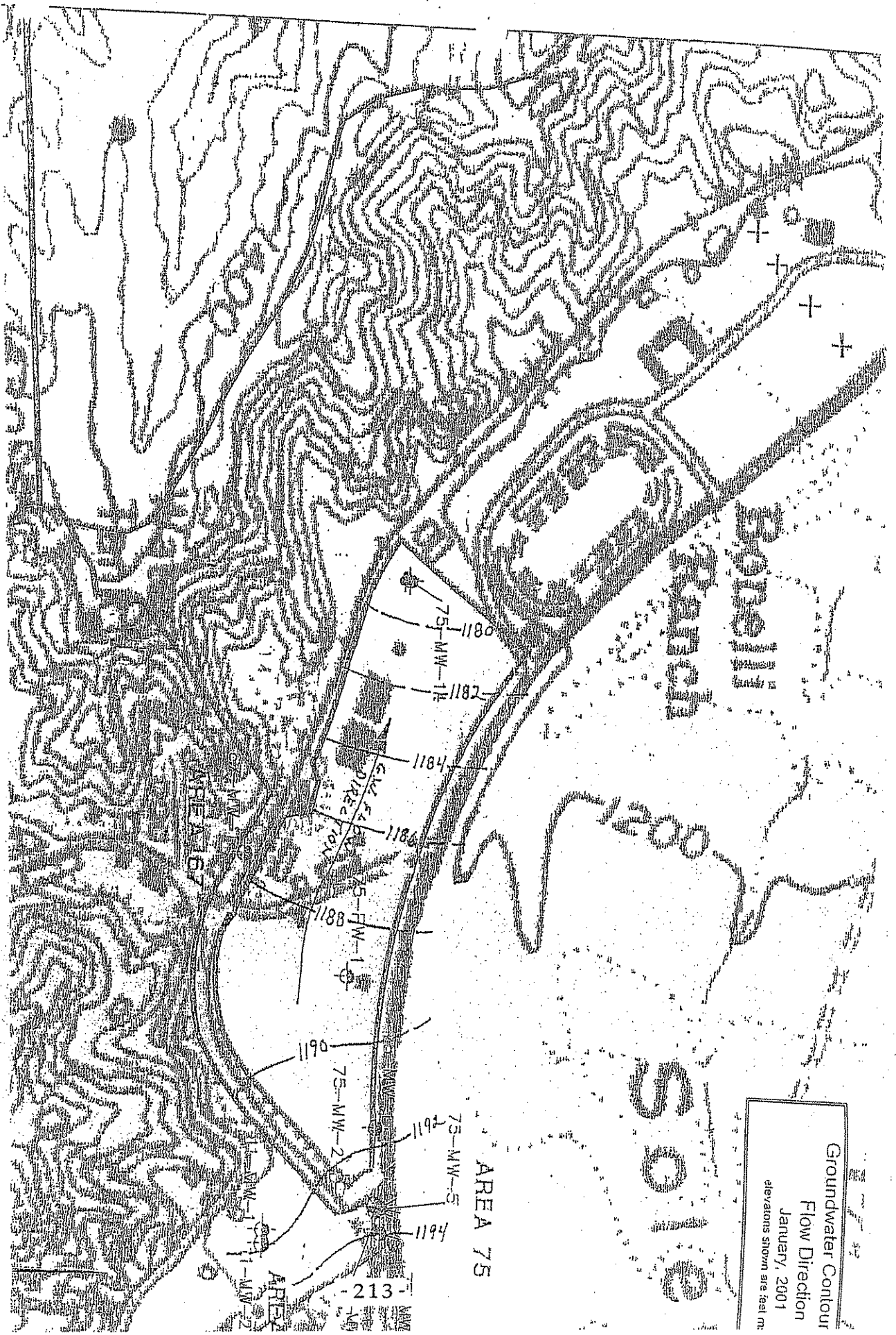
NA indicates sample was not analyzed and detected  
 T indicates sample was collected by TSCC



Perchlorate Concentrations  
in Wells Screened in Alluvium  
April, 2001

Well ID	Conc.
67-MW-1	125
11-MW-1	313
11-MW-2	313
75-MW-1	23
75-MW-2	230
75-MW-3	NA
75-MW-5	NA
75-MW-12	10
75-MW-14	238
75-OW	NA

April, 2001  
for Wells Screened in Alluvium  
Analytical data are from DTSC sample splits  
concentrations shown are unit



Groundwater Contour  
 Flow Direction  
 January, 2001  
 elevations shown are feet m.

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7 February 2002

ITEM NO.

5.5

**Memorandum**

To: Robert C. Sagehorn, General Manager  
Castaic Lake Water Agency

From: Lynn M. Takaichi

Subject: Recommended Modifications to Water Entity Strategy Regarding Perchlorate Contamination of the Saugus Formation Caused by Whittaker-Bermite Site  
K/J 014643.00

This memorandum summarizes the current water entity strategy to address contamination of the Saugus Formation caused by the Whittaker-Bermite Site and presents recommended modifications to accelerate the achievement of the objectives.

**Background**

Prior industrial activities of Whittaker-Bermite has caused perchlorate pollution at and emanating from the Site in the Santa Clarita Valley. In particular, perchlorate contamination was discovered in 1997 at four wells perforated in the Saugus Formation. Two of these wells are owned by the Santa Clarita Water Company, one by the Valencia Water Company, and one by the Newhall County Water District. To date, perchlorate pollution has not been discovered in any alluvial wells owned by the water entities.

As documented in the Integrated Water Resources Plan and Urban Water Management Plan, the Saugus Formation plays a critical role in producing water supply reliability for the Santa Clarita Valley. Not only does it provide a reliable source of annual water supply but also provides a large reservoir that can be used for drought protection when State water deliveries are curtailed. Accordingly, it is imperative that the full capabilities of the Saugus Formation be restored as quickly as possible.

The water utilities have monitored the site characterization activities being conducted by Remediation Financial, Inc. (RFI) who obtained the development rights and remediation responsibilities from Whittaker Corporation through Santa Clarita, LLC (SCLLC). By mid-2000, the Water Entities initiated direct discussions with RFI regarding mitigation of lost production capacity. After several meetings and separate technical discussions, by fall 2000, the water entities determined that RFI and SCLLC would not voluntarily clean up the groundwater and, in late November 2000, filed a lawsuit against Whittaker Corporation, SCLLC, and RFI (Federal Lawsuit).

To initiate characterization and interim remediation efforts by the Water Entities, Castaic Lake Water Agency (CLWA) authorized Kennedy/Jenks Consultants in April 2001 to prepare the documents necessary for the Water Entity efforts to achieve consistency with the requirements of the National Contingency Plan (NCP). Such consistency will facilitate cost recovery efforts under CERCLA. The primary objectives of the water utility efforts are:

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- Restore lost groundwater production from the Saugus Formation as quickly as possible
- Obtain cost recovery of the funds expended by the affected water utilities.

Since mid-2001, efforts have been directed towards (i) preparing the necessary documents to achieve consistency with the NCP, (ii) coordination with the Army Corps of Engineers (ACOE) who has received Congressional appropriations to conduct groundwater investigations related to the perchlorate contamination, and (iii) coordination with the applicable regulatory agencies including DTSC, Department of Health Services (DHS), and Regional Water Quality Control Board (RWQCB).

On 18 January 2002, EPA released its revised toxicological review and risk characterization for perchlorate. This report recommended a reference dose of 0.00003 mg/kg/day which is used to establish a drinking water equivalent level of 1 µg/L for adults and 0.03 µg/L for children. Based on this report, DHS immediately lowered the action level to 4 µg/L which is the current detection level for purposes of reporting (DLR).

**Current Strategy**

There are four elements of the current strategy to accomplish the Water Entity objectives.

- Legal. The legal strategy is confidential but has been discussed in closed session with the CLWA Board.
- Corps of Engineers. ACOE has received a Congressional authorization of \$7 million of which, \$4 million has been appropriated to conduct groundwater investigations related to perchlorate contamination in the Santa Clarita Valley. Under the authorization, Federal funds must be matched with local funds on a 50-50 basis for studies and 65 Federal/35 local for design and construction. The local share can be in-kind services. Because these Federal funds represent a significant source of potential funding to address the perchlorate contamination, the Water Entities have worked with both RFI and ACOE since mid-2001 to develop a mutually agreed upon scope, budget, and agreement. Briefings and background information regarding the hydrogeology and water supply issues have been provided and numerous meetings to discuss technical issues have been held. Significant progress has been made and the scope and budget are in the final stages of review.
- Department of Toxic Substance Control. DTSC acts as lead agency for oversight of the characterization and remediation activities. In February 2001, RFI entered into an enforceable agreement with DTSC to conduct the required characterization and remediation activities. Due to RFI's financial condition, the pace of these activities has been extremely slow and, in December 2001, DTSC referred RFI's non-compliance to the Attorney General for action. However, it should be noted that DTSC has provided

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conceptual approval for the program for testing of the existing wells and the location, depth and design of monitoring wells in the Alluvium and Saugus Formation agreed to by RFI, the ACOE, and the Water Entities.

- Department of Health Services. Because the impacted wells are utilized for water supply purposes, they are regulated by the Department of Health Services (DHS) who must approve system modifications and water quality. The containment and treatment concept proposed by the Water Entities is likely to involve modification of the existing wells, new production wells, and treatment, all of which would require DHS approval. In addition, DHS could impose the requirements of Policy Memorandum 97-005 Policy Guidance for Direct Domestic Use of Extremely Impaired Sources (Policy Memo 97-005). Policy Memo 97-005 would impose a significant burden on the Water Entity to demonstrate public health protection. Among the requirements are:

- Source water assessment
- Water quality characterization
- Source protection program
- Treatment technology and monitoring evaluation
- Risk evaluation
- Alternative source evaluation
- CEQA review
- DHS permit application

DHS has not determined whether to impose the requirements of Policy Memo 97-005. Existing water quality data have been submitted to DHS.

Activities related to each of these elements are continuing; however, the complexity of the issues has created numerous delays.

### Containment and Treatment Concept

The Water Entities have proposed a containment and treatment concept to restore lost production capacity in the Saugus Formation as a result of contamination from the Whittaker-Bermite Site. The approach developed to implement this concept has three steps:

1. Depth-specific sampling of the existing wells
2. Installation of monitoring wells in the Saugus Formation
3. Contaminant containment and treatment.

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The issues associated with each step are discussed below.

- Depth-Specific Sampling of Existing Wells. The main objective of this activity is to assist in the development of data that will facilitate the design of a more optimal treatment system. Specifically, the activity will be to further assess the current levels of perchlorate contamination; evaluate the presence of other contaminants, determine whether the contamination is stratified in the aquifers comprising the Saugus Formation, and evaluate the flow from each of the aquifers. The documents necessary to achieve consistency with NCP requirements have been prepared and are being reviewed by the Water Entities prior to their release to regulatory agencies. Specifically, these documents include:

- Project management plan
- Study area evaluation
- Sampling and analysis plan
- Quality assurance plan
- Health and safety plan

One of the issues which has delayed this activity is the need for an NPDES permit to discharge pumped water to the South Fork and the Santa Clara River. Prior to DHS' recent reduction of the action level for perchlorate to 4 µg/L, it was anticipated that pumped water would be blended with other water to reduce the perchlorate levels to below the action level. With the reduced action level, the dilution requirements would be excessively large and temporary treatment alternatives are being evaluated. Because of the large expected quantity of pumped water, discharge to sewers would be costly. However, discussions with the County Sanitation Districts of Los Angeles County have been initiated to evaluate this alternative. The RWQCB has indicated that because perchlorate is not listed in its general permit, a specific permit which may take six months to obtain may be necessary. To assist its evaluation, RWQCB has requested additional water quality analyses from the wells which, of course, was the primary reason a NPDES permit was required in the first place. Because the situation should be resolved shortly, this activity should be able to proceed when authorization is received from CLWA. The majority of this work will be performed by Richard Slade & Associates, well contractors if the pumps must be removed, and contract laboratories.

- Installation of Monitoring Wells in the Saugus Formation. The primary objective this activity will also be to help design a more optimal treatment system. Specific benefits of these monitoring wells will be further characterization of the local hydrogeology, further characterization of the contamination, further evaluation of contaminant pathways, and service as future sentry wells (i.e., early warning of future contamination). In a December 2001 meeting, representatives of the Water Entities, RFI, ACOE, and DTSC

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developed a consensus regarding the location, depth, and design of new monitoring wells in the Alluvium and Saugus Formation. The objectives, cost, and priorities of these monitoring wells were also discussed. To achieve consistency with the NCP requirements, the following documents must be prepared:

- Workplan
- Sampling and analysis plan
- Quality assurance plan
- Health and safety plan

Each of these can be adapted from the documents prepared for the depth-specific sampling of the existing wells. The installation of monitoring wells is currently included in the ACOE scope; however, ongoing delays related to the RFI financial condition may make this valuable information unavailable for 6 to 12 months.

- Contaminant Containment and Treatment. The primary objectives of this activity are to arrest downgradient migration of perchlorate contamination from the Whittaker-Bermite Site, contain the contamination to the area already affected, and restore groundwater production for drinking water purposes. The arrangement of the existing wells along the South Fork of the Santa Clara River provide the opportunity to create a hydraulic barrier to contaminant migration. However, to create an effective barrier and remain within the yield of the Saugus Formation, it may be necessary to reduce the capacities of the existing wells and construct new production wells between the existing wells. The groundwater model to be developed in the ACOE investigation would be used to determine the optimum arrangement of new and existing wells. The groundwater pumped from these wells would be treated, blended with unaffected water to provide water quality reliability, and distributed. To help achieve consistency with NCP requirements, the following documents are currently being prepared and draft reports will be available within 1 to 2 months:

- Applicable or relevant and appropriate requirements
- Preliminary human health risk assessment
- Interim remedial action plan

Other evaluations which should be performed are groundwater modeling, evaluation of specific treatment technologies, site selection for treatment facilities, NEPA/CEQA compliance, and evaluation of residuals disposal. Visits to other perchlorate treatment sites (La Puente County Water District, Aerojet, and Henderson, NV) have been conducted. Groundwater modeling is included in the ACOE scope but is dependent on the data to be collected from the monitoring wells. The other activities are generally beyond the scope of the current ACOE authorization because they are related to design

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and construction activities. The evaluation of specific treatment technologies must be approved by DHS and pilot studies may be necessary. In recent discussions, DHS has indicated that pilot studies would not be required for the Calgon ISEP process; however, to encourage cost competitiveness pilot studies of at least one alternative technology be performed are being considered. Based on the pilot studies, a technology selection evaluation including an evaluation of residual disposal issues can be completed. To evaluate the most feasible site for the treatment facilities, issues such as land availability, economy-of-scale of one versus multiple treatment plants, blending requirements, and capacity of existing infrastructure must be considered. When the technology and site selection evaluations are completed, a NEPA/CEQA environmental analysis can be completed and the recommended project can be implemented. Accelerated implementation of this strategy, including cooperation of the regulatory agencies, could result in restoration of the lost production capacity by mid-2003.

**Recommended Strategy Modifications**

Continuing concern regarding ongoing implementation delays create a need to consider accelerating implementation of project elements that provide valuable information and reduce the risk of future delays. Accordingly, it is recommended that the water utilities authorize the following work in order to expedite implementation of the strategy described above as a necessary step to protect the water supply and public health of the Santa Clarita Valley.

1. Depth-Specific Sampling of Existing Wells. This work involves depth-discrete sampling and spinner logging at the existing production wells. The work would be primarily be performed by Richard Slade & Associates, well contractors, and contract laboratories. The cost of treatment during testing is currently being evaluated and is not included in the estimated cost.

Estimated Cost: \$400,000.

2. Installation of Monitoring Wells in the Saugus Formation. Of the Saugus monitoring wells for which consensus has been developed it is recommended that the Water Entities install four of the five highest priority monitoring wells (MP-1, MP-2, DS-1, and DS-2), one of the two medium priority monitoring wells (DS-3), and one of the two lowest priority wells (PBH-1).

Estimated Cost:	NCP Requirements	\$50,000
	Pre-Field Activities	63,000
	Well Installation	2,900,000
	Laboratory Analyses	250,000
		<u>\$3,263,000</u>

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3. Pilot Study of Alternative Treatment Technology. Because the ISEP and ISEP<sup>+</sup> (brine regeneration) processes are proprietary and because of issues relating to brine disposal limited treatability studies will be performed. Bench-scale tests will be performed to screen anionic resins on the basis of their separation factors for perchlorate, nitrate, sulfate, uranium (if present), and other constituents of interest. One of two resins will be selected for chlorination studies to see if NDMA is formed. The most promising resin(s) will be tested in mini-columns to determine projected run lengths, regeneration requirements, and the characteristics of the spent brine. Modeling will be performed to scale up the results to full-scale facilities. Cost analyses will be performed to determine if offsite regeneration (by outside contractor) or throwaway resin (no regeneration) options are cost competitive with the ISEP<sup>+</sup> system.

Estimated Cost: \$200,000

4. Continued Project Management. This work will include ongoing project management activities; participation in meetings; coordination with ACOE, DTSC, DHS, RFI, and water utilities; and participation in CAG meetings during the activities described above.

Estimated Cost: \$100,000

The cost of these activities should conform to the cost accounting system prepared for the Water Entities to facilitate cost recovery under CERCLA. In addition, because of the magnitude of these costs, it is recommended that the Water Entities discuss the cost sharing framework for this work.

Please contact us if you have any questions or need additional information.

Enclosures

**Comparison of Cost Estimates  
Eastern Santa Clara Basin Groundwater Study  
Santa Clara, California**

WBS	Task/Sub-Task	Cost <sup>a/</sup>		
		Presented in Pre-Draft PMP	Based on 12/6/01 Meeting	
L0000	PMP & FCSA		\$14,300	\$14,300
JAC00.01	Planning Documents (Work Plan, SAP, QAPP, HSP, and CRP)		\$52,000	\$52,000
JAC00.04	Pre-Field Activities		\$63,000	\$63,000
	Procure Subcontractors	\$28,000		\$28,000
	Site Access/Permission	\$10,000		\$10,000
	Other Pre-Field Activities (mark boring locations, utility clearance, etc.)	\$25,000		\$25,000
JAC00.04	Production Well Testing/Drilling/Well Construction		\$3,633,000	\$4,614,685
	Spinner-Logging/Depth-Specific Sampling	\$216,000		\$216,000
	Alluvium/Terrace Deposits	\$315,000		\$332,285
	Saugus	\$3,102,000		\$4,066,400 <sup>b/</sup>
JAC00.04	Aquifer Testing		\$38,000	\$38,000
JAC00.04	Groundwater Monitoring		\$80,000	\$80,000
JAC00.05	Laboratory Analysis		\$284,000	\$355,080
JAB00	Groundwater Modeling		\$184,000	\$108,000
	Groundwater Flow Modeling	\$108,000		\$108,000
	Fate & Transport Modeling	\$76,000		\$0
JAC00.02	Compilation of Groundwater Studies		\$150,000	\$150,000
	Updated Assessment of Study Area Hydrogeology (Alluvium & Saugus)	\$100,000		\$100,000
	Updated Evaluation of Study Area and Site Historical Groundwater Data	\$50,000		\$50,000
JAC00.06	Site Characterization Data Evaluation/Reporting		\$288,000	\$288,000
JAC00.06	Data Quality Assessment and Groundwater Database	\$114,000		\$114,000
JAC00.07	Site Characterization Phase Technical Memoranda (4 separate TMs)	\$44,000		\$44,000
JAC00.07	Site Characterization Phase Report (2 Drafts)	\$130,000		\$130,000
JAC00.08	M_(F3)_Feasibility Study Conference #1		\$10,000	\$10,000
	Interim Action Evaluation		\$37,000	\$37,000
JF000	Public Involvement		\$80,000	\$80,000
	Information Repository	\$21,000		\$21,000
	Meetings (3)	\$33,000		\$33,000
	Fact Sheets (2)	\$26,000		\$26,000
Various	U.S. Army Corps - Various Mgmt and Technical Review (All Branches)		\$408,000	\$408,000
<b>TOTAL PROJECT =</b>			<b>\$5,321,300</b>	<b>\$6,298,065</b>
		Total Studies <sup>c/</sup> =	<b>\$815,300</b>	<b>\$739,300</b>
		Contingencies (20%) =	<b>\$1,064,260</b>	<b>\$1,259,613</b>

**Notes:**  
<sup>a/</sup> Line item costs include 8% markup for overall Project Management activities. Changes are highlighted with *italics*.  
<sup>b/</sup> The revised drilling cost for the Saugus is based on the average of the "low end" and "high end" cost estimates presented in the "Drilling-Saugus" worksheet, and assumes all wells are drilled to the depths provided by Richard C. Slade & Associates.  
<sup>c/</sup> Excludes JAC00.04, JAC00.05, and various U.S. Army Corps Mgmt and Tech Review



Eastern Santa Clara Basin Groundwater Study  
Santa Clara, California

Priority	Monitoring Well/Boring	Depth (LF)	Objective <sup>a</sup>	Cost Presented in Pre-Draft PMP	Difference in Cost Based on 12/6/01 Mtg.	Comment
JAC00.04	Alluvium - Recon Borings and Monitoring Wells					
Recon Borings (30)		3,000	Satisfy Objectives (1) and (2)	\$222,000	\$0	PMP - Provide recon data in the Alluvium, using temporary well points, prior to installation of permanent MWs Proposed at 12/6 Meeting - Changes to locations, not purpose or number of borings Installation of permanent MWs will depend on results of Recon borings
<b>Monitoring Wells</b>						
Highest to Lowest (AL-1 to AL-8)	AL-1	100	Satisfy Objectives (1), (2), and (4)	\$13,286	\$0	PMP - Address "Northern Alluvium Pathway," proposed location at Bouquet Junction, downgradient of Recon borings showing contamination is present in the Stadium area; 4 Recon borings associated with the MW Proposed at 12/6 Meeting - No change
	AL-2	100	Satisfy Objectives (1) and (4)	\$13,286	\$0	PMP - Address "Surface Water Runoff Pathway;" downstream of Burn Valley Area, a known source area; 5 Recon borings associated with the MW Proposed at 12/6 Meeting - Slight change in location; moved further upstream to mouth of drainage
	AL-3	100	Satisfy Objectives (1) and (4)	\$13,286	\$0	PMP - Address "Surface Water Runoff Pathway;" downstream of Area 1/Bldg. 317/OJ-6, a known source area; 3 Recon borings associated with the MW Proposed at 12/6 Meeting - Slight change in location; moved further upstream to mouth of drainage
	AL-4	100	Satisfy Objectives (2) and (4)	\$13,286	\$0	PMP - Placed at location downstream of AL-1; 4 Recon borings associated with the MW Proposed at 12/6 Meeting - Final location dependent on results of AL-1 (at Bouquet Junction); may not be necessary since existing Alluvium wells are located downstream of
	AL-5	100	Satisfy Objectives (1), (2), and (4)	\$13,286	\$0	PMP - Placed between AL-1 and impacted Saugus-1 and Saugus-2 Proposed at 12/6 Meeting - Need for MW dependent on results of AL-1 (at Bouquet Junction); 3 Recon borings associated with the MW
	AL-6	100	Satisfy Objective (4)	\$13,285	\$0	PMP - Original intent to locate at mouth of drainage; on closer inspection, not needed Proposed 12/6 Meeting - Reposition slightly to fill data gap; groundwater elevation in Alluvium, pair with Saugus-2; 4 Recon borings associated with the MW
	AL-7	100	Satisfy Objective (4)	\$0	\$13,285	PMP - Not specified Proposed at 12/6 Meeting - Fill data gap; groundwater elevation in Alluvium, pair with NC-11
	AL-8	100	Satisfy Objectives (1) and (4)	\$13,285	\$0	PMP - Address "Surface Water Runoff Pathway;" downstream of Area 55, a known source area; 7 Recon borings associated with the MW Proposed at 12/6 Meeting - No change
	<b>Subtotal =</b>	<b>800</b>		<b>\$93,000</b>	<b>\$13,285</b>	

Eastern Santa Clara Basin Groundwater Study  
Santa Clara, California

Priority	Monitoring Well/Boring	Depth (LF)	Objective <sup>a)</sup>	Cost Presented In Pre-Draft PMP	Difference In Cost Based on 12/6/01 Mtg.	Comment
<b>JAC00.04 - Alluvium/Terrace Deposits - Shallow Soil Borings</b>						
	SB-1	10	Provide a means to relate any contamination found at the mouth of drainages back to known source areas (e.g., Burn Valley, Area 1/Bldg. 317/OU-6)	\$0	\$1,000	PMP - Not specified. Proposed at 12/6 Meeting - Located at major drainages near the Property boundary, to be drilled depending on the results of AL-2 and AL-3 and their associated Recon borings (assume sampling at 5 and 10 ft) Oro Fino Canyon drainage, generally downstream of Area 1/Bldg. 317/OU-6, a known source area. Unnamed drainage downstream of Area 1/Bldg. 317/OU-6, a known source area; sample as part of DS-2 Unnamed drainage, generally downstream of Area 1/Bldg. 317/OU-6, a known source area Oakdale Canyon drainage, downstream of Burn Valley Area, a known source area; sample as part of MP-2
	SB-2	10		\$0	\$1,000	
	SB-3	10		\$0	\$1,000	
	SB-4	10		\$0	\$1,000	
	Subtotal =	40		\$0	\$4,000	
	<b>Total =</b>			<b>\$315,000</b>	<b>\$17,285</b>	

Notes:  
AL = Alluvium MW  
SB = Soil Boring  
a) Objectives of the drilling program are:  
(1) To characterize the nature of groundwater contamination (assessment of the various possible pathways)  
(2) To delineate the extent of groundwater contamination  
(3) To serve as an "early warning system" for the production wells  
(4) To obtain groundwater elevations/potentiometric surface data

Eastern Santa Clara Basin Groundwater Study  
Santa Clara, California

Priority	Monitoring Well/Boring	Depth (LF)	Objective <sup>a</sup>	Cost Presented in Pre-Draft PMP	Difference in Cost <sup>b,c,d</sup> Based on 12/6/01 Mtg.		Comment
					Low End	High End	
JAC00 04 - Highest	MP-1	1,000	Satisfy Objectives (1), (2), and (4)	\$460,000	(\$90,000)	(\$25,000)	Directly upgradient of 3 of 4 impacted production wells PMP - Assumed air, switch to mud; drill pilot hole, set temporary wells, zone-test, take core samples; ream to construct; cost estimate includes \$3,000 of analytical for zone-testing Proposed at 12/6 Meeting - Drill/construct MP well; select 10 zones from E-logs
	MP-1 Extra Drilling	650	Address the possibility of contamination at greater depths than currently anticipated	\$0	\$240,500	\$282,750	PMP - Not specified beyond 1,000 ft Proposed at 12/6 Meeting - Additional drilling may be warranted; depth data provided by RCS, based on correlation work
Highest	MP-2	750	Satisfy Objectives (1), (2), (3), and (4)	\$345,000	(\$67,500)	(\$18,750)	Downgradient of Elum Valley Area, a known source area PMP - Assumed air, switch to mud; drill pilot hole, set temporary wells, zone-test, take core samples; ream to construct; cost estimate includes \$3,000 of analytical for zone-testing Proposed at 12/6 Meeting - Drill/construct MP well; select 10 zones from E-logs
Highest	MP-2 Extra Drilling	530	Address the possibility of contamination at greater depths than currently anticipated	\$0	\$196,100	\$230,550	PMP - Not specified beyond 750 ft Proposed at 12/6 Meeting - Additional drilling may be warranted; depth data provided by RCS, based on correlation work
	SS-1	800	Satisfy Objectives (1), (2), and (4)	\$528,000	(\$38,000)	\$20,000	PMP - Fill data gap to the north of the Set Z Proposed at 12/6 Meeting - No change in depth Additional Proposed Change - Drill/construct as 4-port MP well
Highest	SS-1	700	Satisfy Objectives (1), (2), and (4)	\$238,000	\$0	\$0	PMP - Drill MW at Area 55, a source area with known soil contamination at 200-ft depth Proposed at 12/6 Meeting - No change in depth No change in drilling method
Highest <sup>e</sup>	DS-2	900	Satisfy Objectives (1), (2), (3), and (4)	\$369,000	(\$63,000)	(\$4,500)	PMP - Downgradient of Area 1/Bldg. 317/OU-6, a known source area Proposed at 12/6 Meeting - Moved well location to drainage within Property boundary Additional Proposed Change - Drill/construct as 4-port MP well
	DS-2 Extra Drilling	220		\$0	\$74,800	\$89,100	PMP - Not specified beyond 900 ft Proposed at 12/6 Meeting - Additional drilling may be warranted; depth data provided by RCS, based on correlation work
	Subtotal (Highest) <sup>f</sup>	5,550		\$1,740,000	\$259,900	\$574,150	

Eastern Santa Clara Basin Groundwater Study  
Santa Clara, California

Priority	Monitoring Well/ Boring	Depth (LF)	Objective <sup>d</sup>	Cost Presented in Pre-Draft PMP	Difference in Cost <sup>b,c,d</sup> Based on 12/6/01 Mtg.		Comment
					Low End	High End	
Medium	DS-3	700	Satisfy Objectives (1), (2), and (4)	\$287,000	(\$49,000)	(\$3,500)	PMP - MW located to address, in part, the "Through Fault Zone Conceptual Pathway" Proposed at 12/6 Meeting - Moved well location to more accessible location (within drainage) Additional Proposed Change - Drill/construct as 4-port MP well
	DS-3 Extra Drilling	850		\$0	\$289,000	\$344,250	PMP - Not specified beyond 700 ft Proposed at 12/6 Meeting - Additional drilling may be warranted; depth data provided by RCS, based on correlation work
Medium	DS-4	500	Satisfy Objectives (2) and (4)	\$205,000	(\$20,000)	\$12,500	PMP - Downgradient of Area 55, a known source area; location and final design dependent on results of SS-1 and DS-1 Proposed at 12/6 Meeting - No change in depth Additional Proposed Change - Drill/construct as 4-port MP well
	Subtotal (Medium) =	2,050		\$492,000	\$220,000	\$353,250	
Lowest	PBH-1	1,000	Satisfy Objectives (2) and (4)	\$460,000	(\$185,000)	(\$130,000)	PMP - Complete MP well at western edge of plume Proposed at 12/6 Meeting - Drill pilot hole, set temporary wells/zone- test, but NOT ream and construct MP well
	PBH-1 Extra Drilling	400		\$0	\$110,000	\$132,000	PMP - Not specified beyond 1,000 ft Proposed at 12/6 Meeting - Additional drilling may be warranted; depth data provided by RCS, based on correlation work
Lowest	DS-5	1,000	Satisfy Objective (2)	\$410,000	(\$70,000)	(\$5,000)	PMP - Complete MP well at northern edge of plume Proposed at 12/6 Meeting - Drill pilot hole, set temporary wells/zone- test; for logging purposes, assume will ream and construct MW Proposed Change - Drill/construct as 4-port MP well instead
	DS-5 Extra Drilling	900		\$0	\$306,000	\$364,500	PMP - Not specified beyond 1,000 ft Proposed at 12/6 Meeting - Additional drilling may be warranted; depth data provided by RCS, based on correlation work
	Subtotal (Lowest) =	3,300		\$870,000	\$161,000	\$361,500	
	Total =	10,900		\$3,702,000	\$639,900	\$1,288,900	
	Overall Change =	48%			21%	42%	

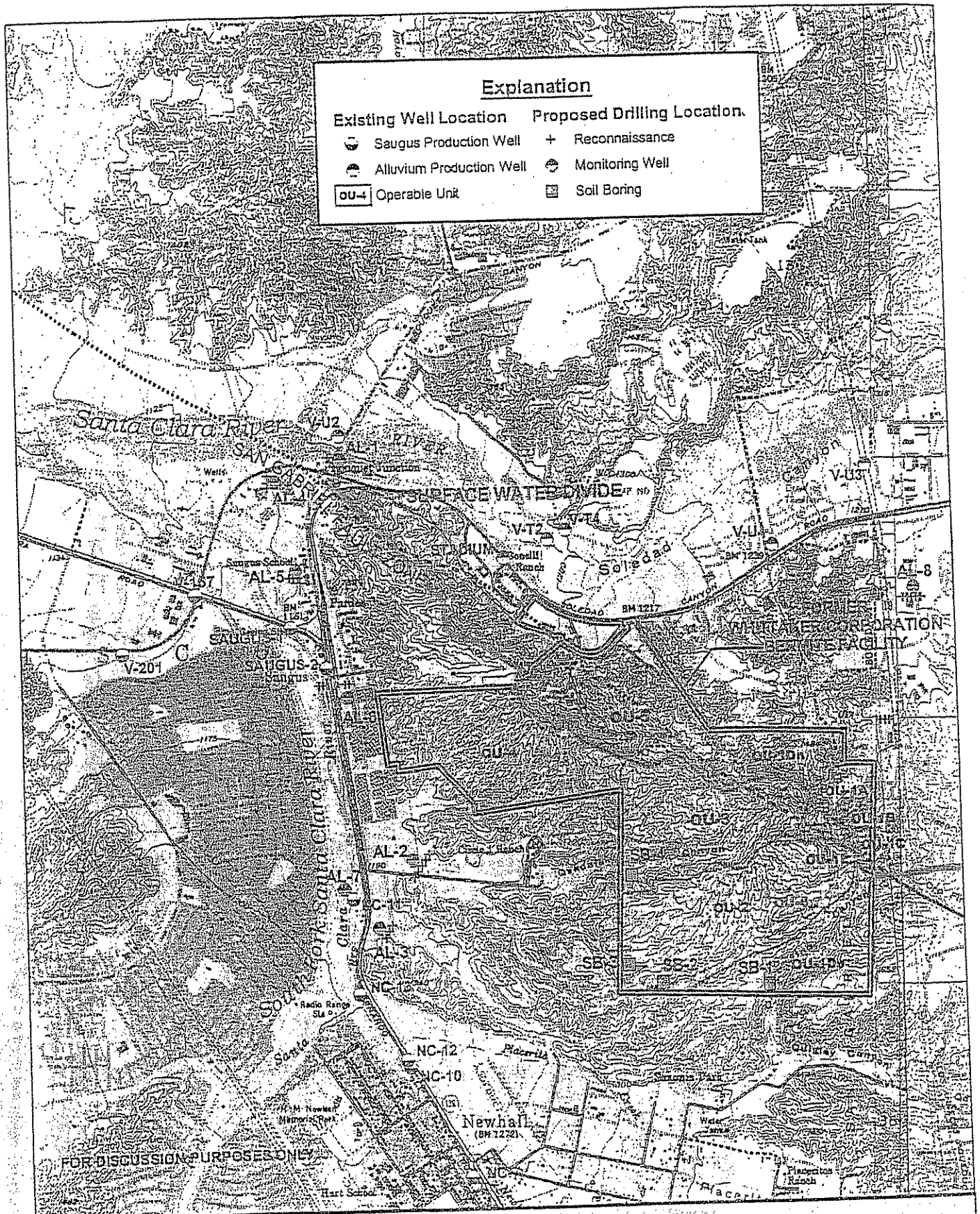
PBH = Pilot Borehole in Saugus  
SS = Single Screen Saugus MW

- Notes:
- DS = Dual Screen Saugus MW (now proposed as 4-port MP well)
  - MP = Multiple Port Saugus MW (now proposed as 10-port MP well)
  - <sup>a</sup> Objectives of the drilling program are:
    - (1) To characterize the nature of groundwater contamination (assessment of the various possible pathways)
    - (2) To delineate the extent of groundwater contamination
    - (3) To serve as an "early warning system" for the production wells
    - (4) To obtain groundwater elevation/potentiometric surface data
  - <sup>b</sup> The "low end" and "high end" cost estimates represent a range of costs that reflect factors including: drilling technique (direct mud vs. flooded reverse-circulation) and prospective drillers. The cost estimates are NOT based on actual bids received from drillers; they are based on previous costs compiled for similar projects, supplemented by discussions with prospective drillers.
  - <sup>c</sup> The cost estimates are NOT based on actual bids received from drillers; they are based on previous costs compiled for similar projects, supplemented by discussions with prospective drillers.
  - <sup>d</sup> DTSC requested making DS-2 the next highest priority during the initial stage of drilling, pending funding availability.

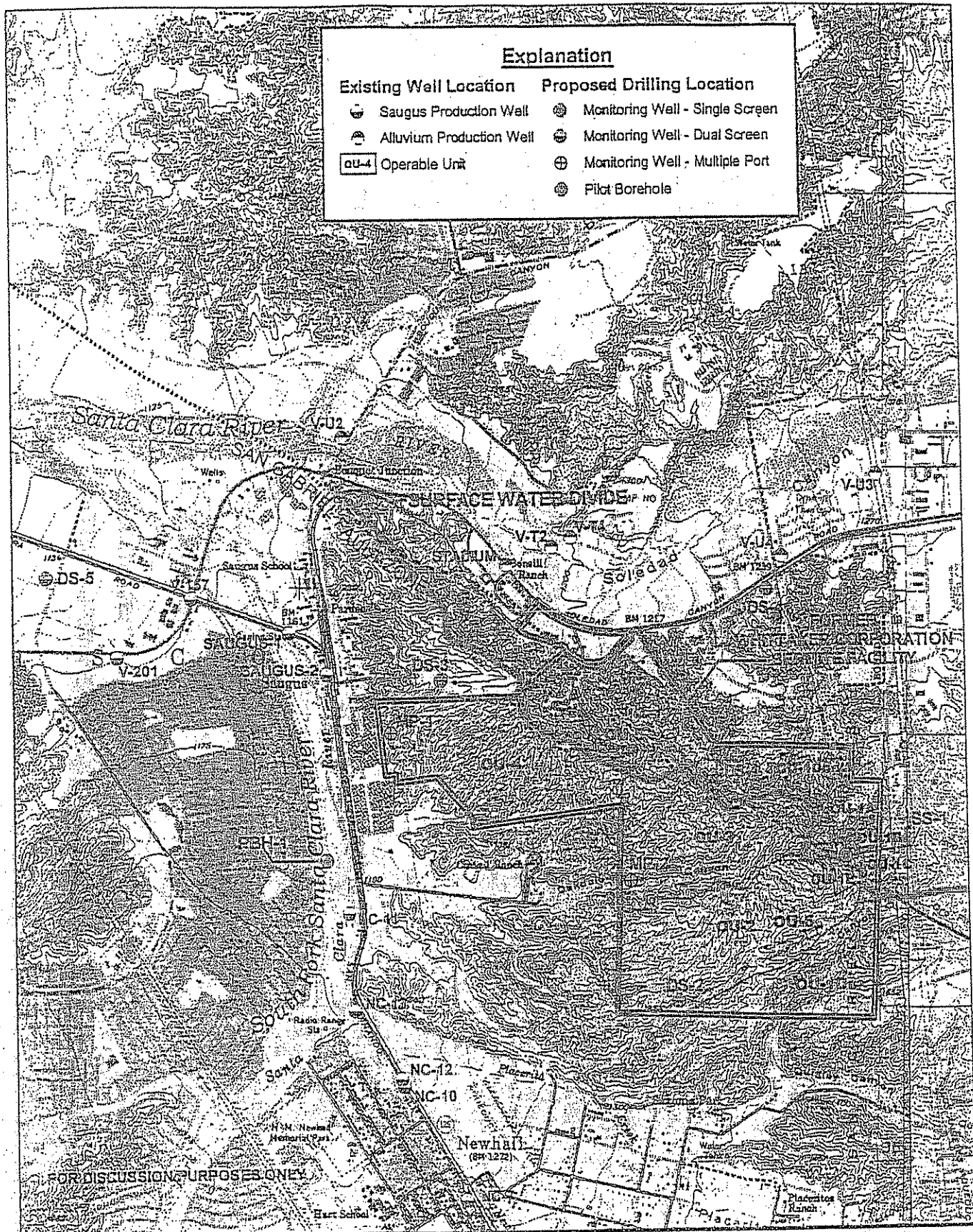
Eastern Santa Clara Basin Groundwater Study  
 Santa Clarita, California

Scope Item	Difference in Cost <sup>a/</sup> Based on 12/6/01 Mtg.	Comment
<b>JAC00.05 - Laboratory Analysis</b>		
SB-1 to SB-4: Soil Samples	\$1,800	Proposed at 12/6 Meeting - Assume one-time analysis of soil samples for perchlorate and VOCs only; standard 30-day TAT; 2 samples per boring (at 5- and 10-ft); 25% QA/QC samples
MP-1: Extra 6 Ports	\$27,000	Proposed at 12/6 Meeting - Extra analytical costs to account for increase in number of screened intervals/ports sampled (= 6, increase from 4 to 10); assume for total = 2 sampling events (i.e., initial baseline and subsequent routine sampling events)
MP-1: Less Zone-Testing	(\$3,000)	PMP - \$3,000 analytical cost included as part of drilling MP-1 (8 zones, 24-hr/quickest TAT, for perchlorate and VOCs only)
MP-2: Extra 6 Ports	\$27,000	Proposed at 12/6 Meeting - Eliminate need for zone-testing; less associated analytical costs to account for increase in number of screened intervals/ports sampled (= 6, from 4 to 10); assume for total of 2 sampling events (i.e., initial baseline and subsequent routine sampling events)
MP-2: Less Zone-Testing	(\$3,000)	PMP - \$3,000 analytical cost included as part of drilling MP-2 (8 zones, 24-hr/quickest TAT, for perchlorate and VOCs only)
PBH-1: Less 4 Ports	(\$18,000)	Proposed at 12/6 Meeting - Eliminate need for zone-testing; less associated analytical costs
DS-1 to DS-5: Each Extra 2 Ports	\$45,000	PMP - Construct as 4-port MP Well Proposed at 12/6 Meeting - Drill and sample pilot hole only; eliminate analytical costs associated with 4 screened intervals/ports; 2 sampling events
DS-1 to DS-5: Each Less Zone-Testing	(\$15,000)	Additional Proposed Change to 4-Port MP Well - Extra analytical costs to account for increase in number of screened intervals/ports sampled (= 2, from 2 to 4); assume for total of 2 sampling events (i.e., initial baseline and subsequent routine sampling events)
All MWs: Uranium	\$9,280	PMP - \$3,000 analytical cost included as part of drilling DS-1 to DS-5 (8 zones, 24-hr/quickest TAT, for perchlorate and VOCs only) Additional Proposed Change to 4-Port MP Well - Eliminate need for zone-testing; less associated analytical costs
<b>Total =</b>	<b>\$71,080</b>	Proposed at 11/19 and 12/6 Meeting - Additional analysis requested by Lynn Takaichi, on behalf of CLWA; assume for baseline sampling event only at 58 wells/intervals (48 new [30 proposed in PMP+18 extra] and 10 existing); standard 30-day TAT; 25% QA/QC samples

Notes:  
<sup>a/</sup> Cost in parentheses denotes a negative number.



CH2MHILL



CH2MHILL

0 0.25 0.5 0.75 1 Miles

**FIGURE 4-1b**

STUDY AREA AND PROPOSED SAUGUS FORMATION DRILLING LOCATIONS Santa Clarita, California

TABLE 1 - ESTIMATED DRILLING PARAMETERS  
Saugus Formation Groundwater Monitoring Wells, Santa Clarita Valley

Drill Site	Approximate Ground Surface Elevation (ft asl)	Recommended Drilling Depth (ft bgs)	Elevation of Total Borehole Depth (ft asl)	Remarks
DS-1	1414			All zones perforated in VWC-157, Saugus 1 and 2, and NCWD-11 have been eroded off north of the San Gabriel Fault.
DS-2	1348	1120	228	Zone of interest from near ground surface to 1090 ft bgs. Uppermost zones of interest eroded off at this site.
DS-3	1371	N/A	N/A	Original location is likely to intersect San Gabriel fault at ~1000 ft bgs. Recommend moving drill site approx. 300 ft SSW.
DS-3 Revised	1370 (estimated)	1550	-160	Interval from approximately 250 to 1600 ft bgs at this site is stratigraphically equivalent to zones perforated in VWC-157, Saugus 1 and 2, and NCWD-11.
DS-4	1243			All zones perforated in VWC-157, Saugus 1 and 2, and NCWD-11 have been eroded off north of the San Gabriel fault.
DS-5	1132	N/A	N/A	Original location likely to intersect Holser fault plane at ~200 ft bgs. To help permit DS-5 to monitor same zones as perforated in VWC-157, Saugus 1 and 2, and NCWD-11, recommend moving drill site approx. 800 ft SSW.
DS-5 Revised	1130 (estimated)	1900	-770	Interval from 500 to 1850 ft bgs at this site is stratigraphically equivalent to zones perforated in VWC-157, Saugus 1 and 2, and NCWD-11.
MP-1	1178	1650	-472	Interval from 300 to 1600 ft bgs at this site is stratigraphically equivalent to zones perforated in VWC-157, Saugus 1 and 2, and NCWD-11.
MP-2	1342	1280	62	Zone of interest from near ground surface to 1250 ft bgs. Uppermost zones of interest eroded off at this site.
PBH-1	1188	1400	-212	Interval from 70 to 1350 ft bgs at this site is stratigraphically equivalent to zones perforated in VWC-157, Saugus 1 and 2, and NCWD-11.
SS-1	1617			All zones perforated in VWC-157, Saugus 1 and 2, and NCWD-11 have been eroded off north of the San Gabriel fault.

Note: Original well locations provided by GH2M Hill. Ground surface elevations taken from USGS DEM for Newhall Quad. bgs = below ground surface; asl = above sea level. See attached map, adapted from CH<sub>2</sub>M-Hill, for monitoring well locations/designations.



# SANTA CLARITA VALLEY WATER REPORT 2000

PREPARED BY:



Castaic Lake Water Agency



Los Angeles County of Waterworks District #36



Newhall County Water Districts



Valencia Water Company

March 2001

Total Water Production  
All Sources  
Acre-Feet Per Year

Year	Sources of Supply									Total Per Year
	Water Retailors			Agriculture, Irrigation, & Miscellaneous Uses			Total Per Source			
	Alluvial Aquifer	Saugus Form.	SWP	Alluvial Aquifer	Saugus Form.	SWP	Alluvial Aquifer	Saugus Form.	SWP	
1980	16,625	4,569	1,125	14,831	20	0	31,456	4,589	1,125	37,170
1981	14,056	4,950	5,816	16,737	20	0	30,793	4,970	5,816	41,579
1982	8,684	3,569	9,659	13,184	521	0	21,868	4,090	9,659	35,617
1983	8,803	3,398	9,185	11,483	454	0	20,286	3,852	9,185	33,323
1984	12,581	3,809	10,996	14,737	640	0	27,318	4,449	10,996	42,763
1985	12,519	4,140	11,823	12,828	575	0	25,347	4,715	11,823	41,885
1986	12,418	4,975	13,759	11,787	510	0	24,205	5,485	13,759	43,449
1987	12,630	4,962	16,285	10,012	599	0	22,642	5,561	16,285	44,488
1988	12,197	6,404	19,033	9,451	524	0	21,648	6,928	19,033	47,609
1989	13,978	7,217	21,618	9,743	542	0	23,721	7,759	21,618	53,098
1990	13,151	8,302	21,613	10,725	559	0	23,876	8,861	21,613	54,350
1991	17,408	14,417	7,968	9,779	500	0	27,187	14,917	7,968	50,072
1992	16,897	10,458	13,911	10,694	466	987	27,591	10,924	14,898	53,413
1993	19,808	10,151	13,393	10,318	459	443	30,126	10,610	13,836	54,572
1994	20,068	11,531	14,389	13,065	494	311	33,133	12,025	14,700	59,858
1995	20,590	8,087	16,996	13,874	473	6	34,464	8,560	17,002	60,026
1996	24,681	7,373	18,093	13,757	813	780	38,438	8,186	18,873	65,497
1997	25,273	6,752	22,148	14,326	993	1,067	39,599	7,745	23,215	70,559
1998	23,898	4,706	20,254	12,750	849	12	36,648	5,555	20,266	62,469
1999	27,240	2,728	27,282	16,166	988	20	43,406	3,716	27,302	74,424
2000	25,216	3,193	32,579	14,433	887	3	39,649	4,080	32,582	76,311

Table III - 7

Letter 12

COMMENTOR: Pat Saletore, Santa Clarita Organization for Planning and the Environment

DATE: March 12, 2002

RESPONSE:

Response 12A

The commentor states an opinion that there are areas of public controversy associated with the project and also states opinions that the project would violate the City's hillside ordinance and would remove more oaks than any project ever approved in the City, and that development approvals should be delayed until ammonium perchlorate contamination in the Saugus Aquifer is remediated. The opinion about delaying development approvals is noted. Although it is not known whether the current proposal would remove more oaks than any other project in the City's history, the project as proposed would remove up to an estimated 1,100 live oak trees and 709 dead or strong fire damaged oaks (see Impact BIO-4 in EIR Section 4.6).

At the time of publication of the Draft EIR, community members had not raised any significant concerns over the project as only one individual attended the public EIR scoping meeting held at the outset of the environmental review process. Nevertheless, it is true that several agencies have expressed concern about aspects of the project and City staff were aware that issues relative to ridgeline grading and loss of oak trees were likely to become controversial. In response to this comment, Section 1.5 is revised as follows:

*There is no known Public controversy surrounding the proposed project, as noted. However, in the comments on the Notice of Preparation and the Draft EIR, included concerns by several public agencies and community groups expressed concern about possible impacts to on-site oak trees, wildlife movement corridors, ridgelines, and cultural resources.*

City decisionmakers will make a final determination of consistency or inconsistency with the Hillside Development Ordinance. Section 6.0 of the EIR analyzes alternatives that would reduce the impact to the Primary ridgeline onsite.

Response 12B

The commentor states an opinion that there are inaccuracies in the oak tree report for the project. She also states opinions that the term "bank" should not be used for possible future oak tree removals, that removed oaks should be replaced with oaks of a native variety, and that the 64 oak trees previously removed should be addressed.

The concern about possible inaccuracies in the oak tree report for the project are addressed in Responses 3A through 3L. It should be noted, however, that any minor discrepancies in the oak tree report do not affect the overall findings of the Draft EIR. Impacts to oak woodland habitat were determined to be unavoidably significant. The City would need to adopt a Statement of Overriding Considerations setting forth the reasons the project's benefits outweigh this impact if it elects to approve the project. Finally, it should be noted that the



applicant would need to obtain an oak tree permit from the City prior to any removals. In conjunction with review of that permit application, the City arborist would review the determinations of the applicant's final oak tree survey to verify its accuracy and develop appropriate specific mitigation, including replacement of all oak trees to be removed.

The term "bank" is one that the applicant has used to describe his proposal to allow for the removal of 100 additional oaks beyond those specifically within the current grading envelope. The purpose of the bank is to recognize that additional oaks outside the grading envelope could be affected by site development and to provide a "worst-case" assessment of oak tree impacts in the EIR that avoids the need to conduct additional future review under CEQA in the event that additional removals occur. For lack of a better term to describe this program, the City has used the applicant's terminology.

The 64 oak trees that were previously removed from the site without permits in April 1997 are discussed in Section 2.0, *Project Description*. The applicant and City have negotiated a Memorandum of Understanding (MOU) for the project site that includes the dedication by the applicant of at least 150 acres of natural open space as mitigation for past and future oak tree removals. Under this MOU, the applicant would be given a 15-year term on the development agreement for the project. It should be recognized, however, that the purpose of the EIR is to address the impacts of the proposed project as compared to existing conditions onsite. Because the 64 oak trees were cut down prior to submittal of the development application, their removal is not an impact of the current proposal.

#### Response 12C

The commenter states an opinion that the proposed configuration for the wildlife corridor on the project site is not sufficient. She also states an opinion that the City, developer, and Santa Monica Mountains Conservancy should discuss purchase of the southern portions of the site and eliminate the 'C' Street connector.

The Draft EIR identifies impacts to wildlife movement onsite as unavoidably significant because of the placement of industrial commercial development adjacent to the Los Piñetos corridor. Mitigation measures are provided to reduce impacts resulting from project development to wildlife corridors to the degree feasible [refer to Mitigation Measures BIO-6 (a-d)]. However, without redesigning the project to eliminate lots 27, 28, and 42, impacts to the Los Piñetos corridor cannot be avoided.

As noted in the Draft EIR, approximately 221 acres of high quality oak woodland would be preserved onsite in the southern portion of the property, as part of the proposed project. Alternatives 3,4 and 5, as discussed in Section 6.0, *Alternatives*, consider elimination of or revision to 'C' Street and associated industrial commercial development. These alternative site plans, in combination with recommended mitigation, would reduce the impact to Los Piñetos corridor to a less than significant level.

#### Response 12D

The commenter states an opinion that the Draft EIR's discussion of water supply is inadequate because it does not incorporate the findings of a recent appellate court decision regarding water



supply, because the Santa Clara River is overdrafted, and because the discussion does not address ammonium perchlorate contamination in the Saugus Aquifer.

As required by SB 610, which was approved by the California Legislature in late 2001, the City requested a water supply assessment for the proposed project from the Newhall County Water District (NCWD) in January 2002. On May 30, 2002, the NCWD Board approved the required assessment, concluding that the projected water demand for the proposed industrial park was included in the most recently adopted NCWD Urban Water Management Plan. The water supply assessment also indicates that there is currently no overdraft of the groundwater supplies upon which the NCWD relies (see page 3 of the attached assessment).

The NCWD assessment indicates that water supplies available to the District could potentially be limited by three ongoing legal challenges. These are described on page 3 of the assessment.

With respect to perchlorate contamination, it is true that perchlorate has been a concern associated with groundwater quality since it was detected in four wells in the eastern part of the Saugus Formation in 1997. Operation of the four wells has been suspended and purveyors are continuing to test for perchlorate in all active Alluvial and Saugus wells. However, as noted on page 4 of the NCWD's water supply assessment, several treatment technologies for the removal of perchlorate from water are currently available. It should also be noted that in 2000, local water purveyors filed a lawsuit against the Whittaker Corporation (the former owner of the contaminated property) and Santa Clarita LLA and Remediation Financial, Inc. (the current owners). The lawsuit seeks to have the defendants pay all necessary costs of response, removal of perchlorate, remedial action costs, and any liabilities associated with the contamination.



## NEWHALL COUNTY WATER DISTRICT

23780 North Pine Street • P.O. Box 220970 • Santa Clarita, CA 91322-0970  
(661) 259-3610 Phone • (661) 259-9673 Fax • email: mail@ncwd.org

Directors: BARBARA DORE, *President*    LYNNE A. PLAMBECK, *Vice President*    JOAN DUNN    RANDALL D. PFIESTER    DICK A. UNGER

May 30, 2002

Mr. Jeff Hogan  
City of Santa Clarita  
23920 Valencia Boulevard  
Suite 300  
Valencia, CA 91355

Re: Gate-King Industrial Park EIR

Dear Mr. Hogan,

Pursuant to your request of January 30, 2002, the Newhall County Water District (NCWD) at its meeting on May 23, 2002, determined that the projected water demand for the subject proposed industrial park was included in the most recently adopted NCWD Urban Water Management Plan.

Please find attached the Assessment of Water Supply with supporting information. Please feel free to call if further information is necessary.

Sincerely,

Kenneth J. Petersen  
General Manger

KJP/nlj  
Our file #02-7272

Attachment(s)

cc: Gate-King Properties, LLC  
Jess Senecal, Esq.  
Ann. K. Mudge, Esq.  
Joe Power, Rincon Consultants, Inc.





## NEWHALL COUNTY WATER DISTRICT

23780 North Pine Street • P.O. Box 220970 • Santa Clarita, CA 91322-0970  
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Directors: BARBARA DORE, *President*    LYNNE A. PLAMBECK, *Vice President*    JOAN DUNN    RANDALL D. PFIESTER    DICK A. UNGER

### MEMORANDUM

To:            City of Santa Clarita  
                 23920 Valencia Blvd., Suite 300  
                 Santa Clarita, CA 91355

From:          Newhall County Water District (the "District")

Date:          May 30, 2002

Re:            **Water Supply and Demand Assessment for  
                 Gate-King Industrial Park (the "Project")**

---

Pursuant to Water Code § 10910, you have identified the District as the public water system which may supply water to the above-referenced Project. In connection with your environmental assessment of the Project, you have requested that we prepare a water supply assessment to determine whether the projected water demand associated with the Project was included as part of our most recently adopted Urban Water Management Plan.

It is our understanding that the proposed Gate-King Industrial Park Project is located on 584 acres within the community of Newhall in the City of Santa Clarita. The Project involves the development of 170.1 acres with industrial commercial uses. Based upon the current proposal, the acreage would accommodate up to 4.45 million square feet of industrial commercial development. About 64.3 acres would be rights-of-way. The remaining 349.6 acres would include a combination of slopes, trails, parks and open space. The Project site currently is undeveloped with no water supply infrastructure in place for most of the site. It is our understanding that the proposed project is within the prescribed density for the site under the City of Santa Clarita's General Plan," but the Project site is not currently within District boundaries.

Based on this understanding of the scope of the Project, we have reviewed the most recent Urban Water Management Plan of the District and determined that the projected water demand associated with the Project was included as part of the Newhall County Water District Urban Water Management Plan (December 2000). The 2000 Urban Water Management Plan considered build-out of the City of Santa Clarita General Plan in its water demand projections.



To assist you in your preparation of any environmental documentation to be prepared for the Project, we provide the following additional information with respect to availability of supplies to meet projected demand of the proposed Project:

1. An identification of existing water supply entitlements, water rights and water service contracts relevant to the identified water supply for the proposed Project.
2. Information identifying permits and approvals for construction of necessary infrastructure associated with delivering the water supply.
3. Relevant information from the Urban Water Management Plan regarding the nature and extent of groundwater supplies together with a description of the hydrogeologic information related to the groundwater basins from which the groundwater is extracted.

**An identification of existing water supply entitlements, water rights and water service contracts of the District.**

The water supplies relevant to the Project are set forth in the "Master Plan for Newhall Division of Newhall County Water District" ("Master Plan") dated October 5, 2001, a copy of which is attached, and a description of the quantities of water received in prior years by the District is found in the document entitled "Santa Clarita Valley Water Report 2001," a copy of which is also attached.

The two primary sources of water supply for the District are groundwater production and delivery of imported water from Castaic Lake Water Agency. The groundwater production occurs from a two aquifer system which is comprised of the Shallow Alluvial Aquifer and the deeper underlying Saugus formation. According to the Urban Water Management Plan, the total supply of groundwater available during average/normal years would be 37,500 to 55,000 acre feet per year and during dry years a total supply of 51,000 to 70,000 acre feet per year. With respect to State Water Project water imported by Castaic Lake Water Agency, the Urban Water Management Plan states that the Agency has a current annual contracted entitlement of 95,200 acre-feet.<sup>1/</sup>

There is an additional minor source of water supply available to the District. Periodically there is a release of stored water from Castaic Lake. The District has the right to obtain 2.662% of the released stored water upon the payment of the storage costs. The amount of the entitlement depends upon the nature and extent of the flows that otherwise would be wasted to the ocean which are available for storage and subsequent diversion. These rights are set forth in the Downstream Water Users Agreement dated October 24, 1978, among the District, Los Angeles County, Newhall Land and Farming Company and United Water Conservation District.

The entitlement to the imported water available through Castaic Lake Water Agency is a function of the application of the policy of the Board of Directors of the Agency and the statutory provisions for allocation set forth in Water Code Appendix 103-29.5. Once a threshold

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<sup>1</sup> Cf. page 4

amount of reliable supply in the amount of 25,000 acre-feet of potable water is available, each of the four water purveyors who are members of the Castaic Lake Water Agency are entitled to a proportionate share of the available supplies based upon the ratio that capital improvement fees paid from development within the service area of each bears to the total capital improvement fees paid in all water service areas.

There is no contract or written proof of entitlement to the groundwater supplies. The District, as an appropriator of groundwater, has a right which is correlative to the rights of all other appropriators of groundwater. This is the right to extract as much water as may be necessary for reasonable beneficial uses within the District. There is currently no overdraft of the groundwater supplies relied upon by the District and therefore no limitation on the amounts other than the limitation imposed by the forces of nature.

The sources of supply to the District are subject to possible limitation as a result of the following pending litigation:

As noted above, the District relies in part for its supplies upon imported water deliveries from Castaic Lake Water Agency. Also as indicated above, Castaic Lake Water Agency has contract entitlements of State Water Project water totaling 95,200 acre-feet annually. Projections of water supply availability under the Department of Water Resources State Water Projects are estimated to be the delivery of 50% of the entitlement 80% of the time.

A portion of the Agency's rights are derived from contracts entered into by the Agency under the authority of an amendment to the State Water Project Contracts referred to as the "Monterey Amendment." This Amendment has been challenged by the Planning and Conservation League and as a result of that litigation further environmental assessment is going to be undertaken by the Department of Water Resources. The Friends of the Santa Clara River, another environmental group, has further challenged the recent EIR of Castaic Lake Water Agency which was tiered upon the Monterey Amendment EIR. This challenge is now under appellate court review. Finally, the Friends of the Santa Clara River and the County of Ventura have filed challenges to the adequacy of the District's Urban Water Management Plan which challenges are currently before the trial court.

### Information Identifying Permits and Approvals

Water system facilities necessary to provide water service to the Project have been installed pursuant to a capital improvement program of the District. Accordingly, no additional federal, state or local permits for the construction of District infrastructure are contemplated. To finance the construction of the backbone system the District has adopted a policy for the establishment of a connection fee, a copy of which is set forth in the Master Plan.

### Relevant information from the Urban Water Management Plan regarding the nature and extent of groundwater supplies together with a description of the hydrogeologic information related to the groundwater basins from which the groundwater is extracted.

The Santa Clarita Valley has historically depended for its water supply on an underground water basin or aquifer divided into upper and lower levels. This basin covers about 84 square miles. The shallow upper basin, called the Alluvial Aquifer, generally underlies the Santa Clara River and its tributary creeks. Water seeps down into the sands and gravels beneath the water where it is pumped from relatively shallow wells. The Aquifer is estimated to store over 200,000 acre-feet. It has supplied 30,000 to 40,000 acre feet a year in normal weather years and 30,000 to 35,000 acre-feet in dry years. Previous reports have indicated a yield of 31,600 to 32,600 acre feet. The amount extracted in 2001 was 37,273 acre feet.

Underlying the Alluvial Aquifer is another deeper layer of groundwater called the Saugus Formation which receives some of its water from seepage from the Alluvial Aquifer as well as from parts of the Aquifer exposed to the surface. While information about the Saugus Formation is more limited, it is estimated to store about 1,000,000 acre-feet of water. It has supplied 7,500 to 15,000 acre-feet per year in normal years and 11,000 to 15,000 acre-feet per year in dry years. Because of perchlorate contamination the amount produced in 2001 was 3,267 acre feet. Although the Alluvial Aquifer is the smaller of the two systems, as measured by storage capacity, most wells within the service area are in the Alluvial Aquifer. Recharge to the Alluvial Aquifer is primarily from percolation of stream flow in the Santa Clara River and its tributaries. The principal source of recharge to the Saugus Formation is precipitation on exposed outcrops and direct infiltration from the overlying saturated alluvium of the Santa Clara River Channel.

A summary of the past 21 years of production of groundwater from the basins is set forth as Table 3 in the Santa Clarita Valley Water Report 2001.

Groundwater produced by the District consistently meets drinking water standards set by EPA and the California Department of Health Services. However, perchlorate has been a concern with respect to the groundwater quality since it was detected in four wells in the eastern part of the Saugus formation in 1997. Operation of four wells has been suspended and purveyors are continuing to test for perchlorate in all active Alluvial and Saugus wells.

Several treatment technologies for the removal of perchlorate from water are currently available. In 2000, local water purveyors filed a lawsuit against the former owners of the contaminated property. The lawsuit seeks to have the defendants pay all costs of response, removal of perchlorate, remedial action costs and any liabilities associated with the

contamination. Under federal and state law the District believes the owners of the property are responsible for the groundwater clean-up.

To assist you in the preparation of any environment documentation prepared for the Project, we provide the following information with respect to the demand on the available water supplies. The District's service connections are spread over a 34 square mile area. The number of water connections within the District's system is approximately 8,000. The current water demand within the entire District was in the range of 9559 acre-feet during the calendar year 2001. The total water use and its derivation from available sources of supply is set forth on Table III-2 of the Santa Clarita Valley Water Report.

It should be noted that the developer of the Project contemplates annexation to Newhall County Water District. The foregoing discussion of water supply availability is conditioned expressly upon the effective completion of the annexation to the District.

C:\My Documents\NCWD\gate\_king\As\_ment\_529.rtf

13

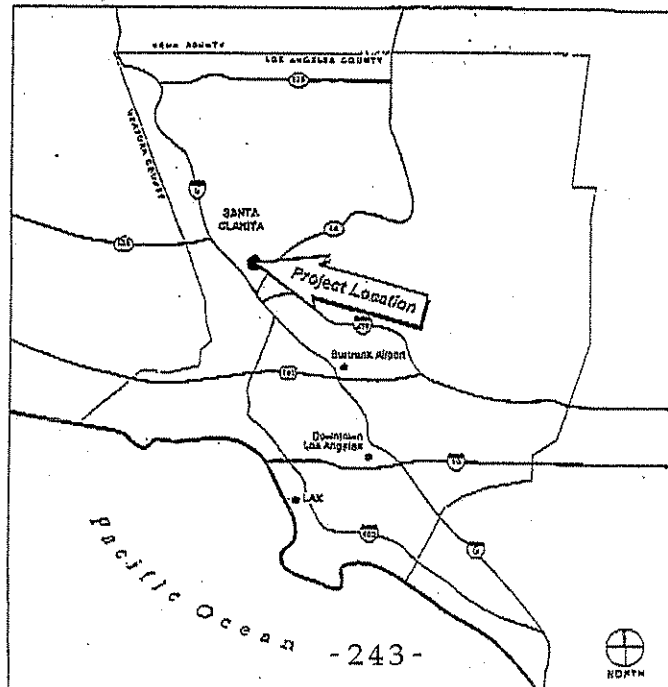
### The Needham Ranch at Santa Clarita

As a resident of the City of Santa Clarita, I enthusiastically support the development of the Needham Ranch at Santa Clarita and the benefits that it will bring to our community:

- ✓ Economic benefits to the Town of Newhall and surrounding area: development of 171 acres for light industrial park projected to bring 6,000 new jobs, \$5 million plus in retail sales and services to the community.
- ✓ A new gateway to Newhall with the construction of safe, well-lighted streets.
- ✓ Easy access to the Jan Heidt Metrolink Station; encourages use of public transportation through expanded bike lanes and bus links.
- ✓ A new four-lane road connecting San Fernando Road and Sierra Highway to relieve traffic congestion.
- ✓ 339 wooded acres to be set aside as park/open space will increase the City's recreational areas by 50%; expanded trail system connecting to area landmarks, and wildlife corridor.
- ✓ Preservation and replenishment of over 10,000 oak trees.

Signed: Tiffany Paulson Print name: Tiffany Paulson  
 Address: 2330 Cinema Dr Valencia

Address letters to the City of Santa Clarita, Planning & Building Services,  
 23920 Valencia Boulevard, Santa Clarita, CA 91355



Letter 13

COMMENTOR: Tiffany Paulson

DATE: No Date

**RESPONSE:**

The commentor expresses support for the project. The comments in support of the project are noted.



14

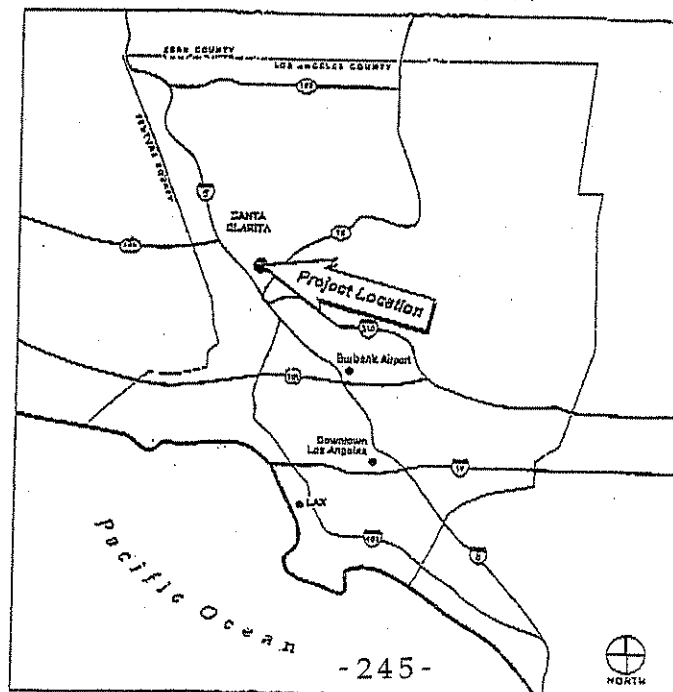
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Signed: Jeremy Alexander Print name: Jeremy Alexander  
 Address: 27635 Kristin Lane Saugus CA 91350

Address letters to the City of Santa Clarita, Planning & Building Services,  
 23920 Valencia Boulevard, Santa Clarita, CA 91355



Letter 14

COMMENTOR: Jeremy Alexander

DATE: No Date

**RESPONSE:**

The commentor expresses support for the project. The support is noted and will be considered by City decisionmakers as they review the project.





15

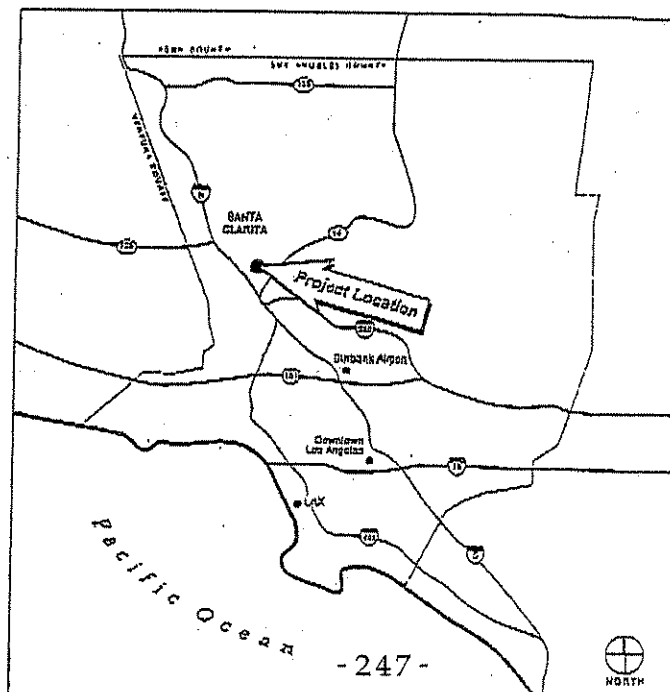
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Signed: C Alexander Print name: CHRISTINE ALEXANDER  
 Address: 27659 Kristin Lane Saugus 91358

Address letters to the City of Santa Clarita, Planning & Building Services,  
 23920 Valencia Boulevard, Santa Clarita, CA 91355



Letter 15

COMMENTOR: Christine Alexander

DATE: No Date

RESPONSE:

The commentor expresses support for the project. The support is noted and will be considered by City decisionmakers as they review the project.



# 16

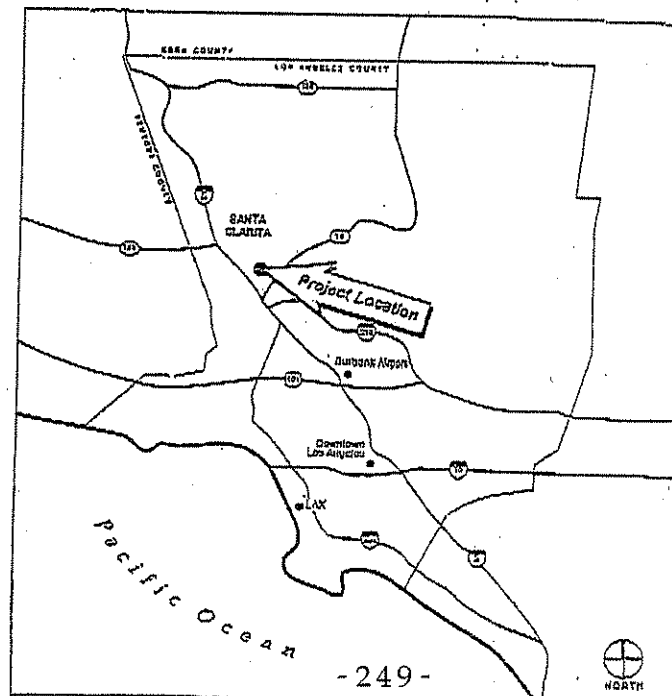
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Signed: Christina Papi Print name: CHRISTINA PAPI  
 Address: 27800 SOLAMIM RD #427 Canyon Country

Address letters to the City of Santa Clarita, Planning & Building Services,  
 23920 Valencia Boulevard, Santa Clarita, CA 91355



*Letter 16*

COMMENTOR: Christina Papio

DATE: No Date

**RESPONSE:**

The commentor expresses support for the project. The support is noted and will be considered by City decisionmakers as they review the project.



17

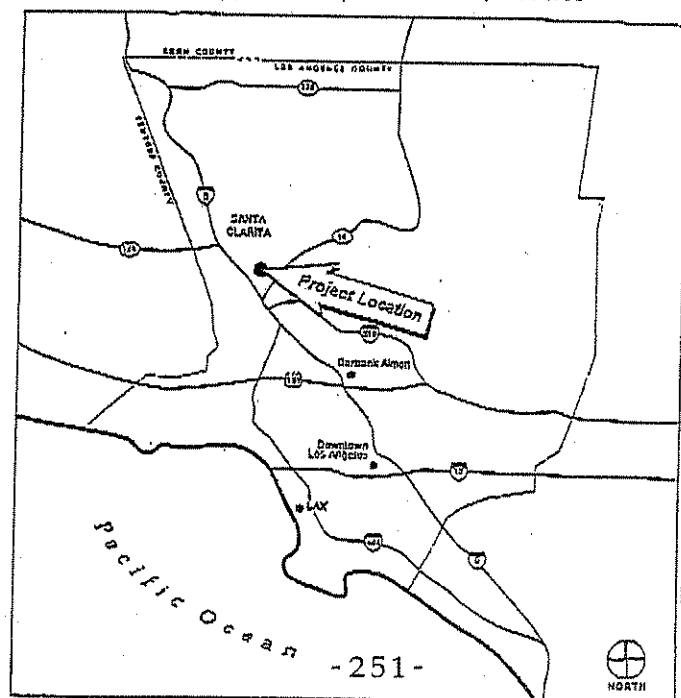
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Signed: Annie Kelley Print name: ANNIE KELLEY  
 Address: 27850 Solvang Rd, 426, Canyon Country Ca 91337

Address letters to the City of Santa Clarita, Planning & Building Services,  
 23920 Valencia Boulevard, Santa Clarita, CA 91355



*Letter 17*

**COMMENTOR:** Annie Kelley

**DATE:** No Date

**RESPONSE:**

The commentor expresses support for the project. The support is noted and will be considered by City decisionmakers as they review the project.



18

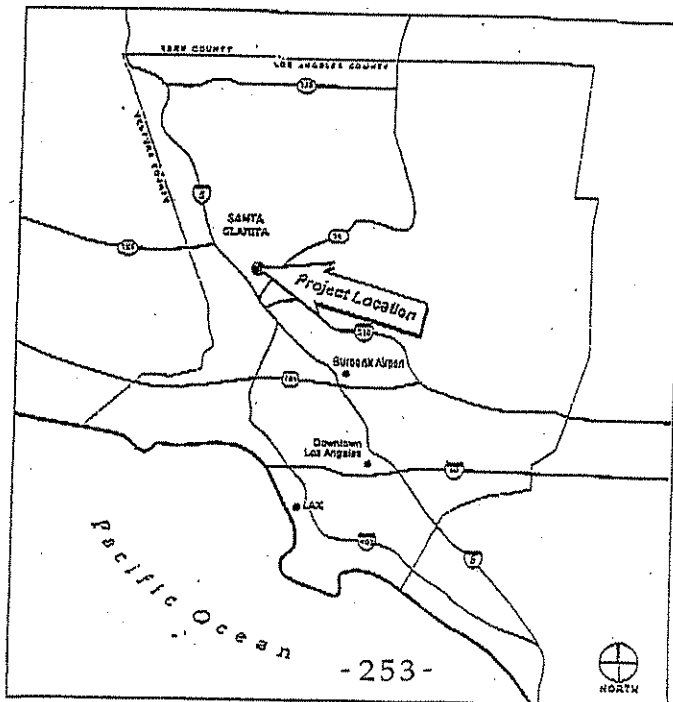
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Signed: *[Signature]* Print name: Robert Mollet  
 Address: 25845 San Fernando Road #6

Address letters to the City of Santa Clarita, Planning & Building Services,  
 23920 Valencia Boulevard, Santa Clarita, CA 91355



Letter 18

COMMENTOR: Robert Mollet

DATE: No Date

**RESPONSE:**

The commentor expresses support for the project. The support is noted and will be considered by City decisionmakers as they review the project.





19

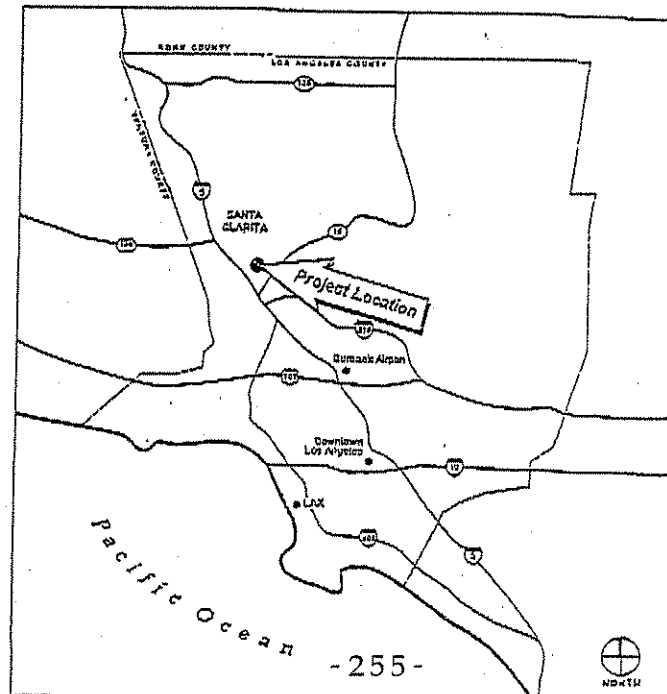
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Signed: Nancy Royce Print name: HARRY ROYCE  
 Address: 25819 SLOTTING BROOK, SAUGUS, CA, 91350

Address letters to the City of Santa Clarita, Planning & Building Services,  
 23920 Valencia Boulevard, Santa Clarita, CA 91355



Letter 19

COMMENTOR: Harry Rogers

DATE: No Date

**RESPONSE:**

The commentor expresses support for the project. The support is noted and will be considered by City decisionmakers as they review the project.



Letter 20

COMMENTOR: Jose Reyna

DATE: No Date

**RESPONSE:**

The commentor expresses support for the project. The support is noted and will be considered by City decisionmakers as they review the project.



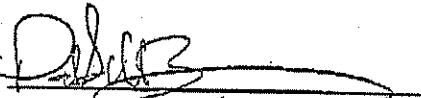
21

## The Needham Ranch at Santa Clarita

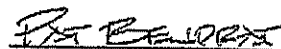
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Signed:



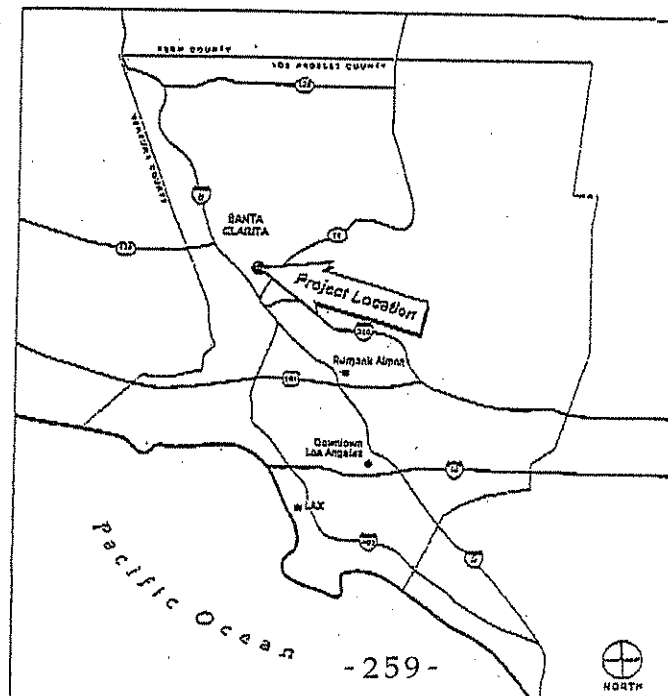
Print name:



Address:



Address letters to the City of Santa Clarita, Planning & Building Services,  
23920 Valencia Boulevard, Santa Clarita, CA 91355



*Letter 21*

**COMMENTOR:** Pat Bendrat

**DATE:** No Date

**RESPONSE:**

The commentor expresses support for the project. The support is noted and will be considered by City decisionmakers as they review the project.



22

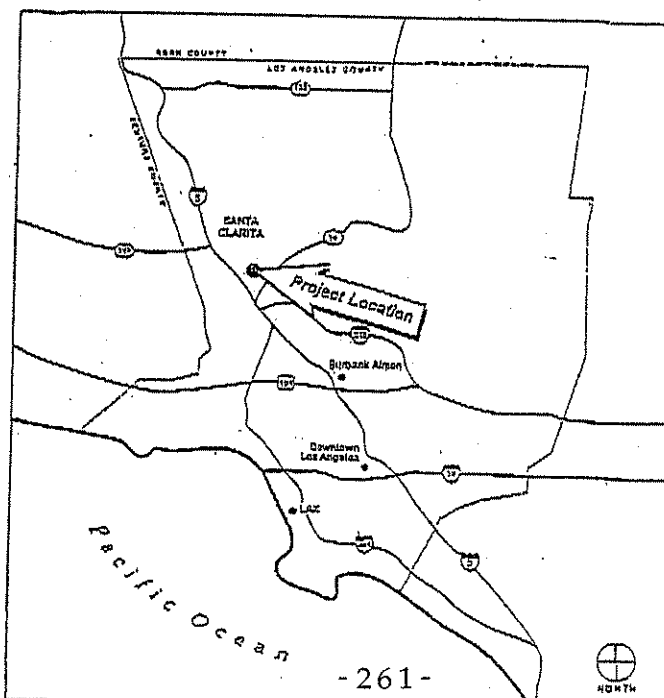
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Signed: *Raymond R.* Print name: Raymond RAY  
 Address: 2411 Arrow Park Dr #57 VA CA 91355

Address letters to the City of Santa Clarita, Planning & Building Services,  
 23920 Valencia Boulevard, Santa Clarita, CA 91355



Letter 22

COMMENTOR: Raymond Ray

DATE: No Date

RESPONSE:

The commentor expresses support for the project. The support is noted and will be considered by City decisionmakers as they review the project.





23

RECEIVED  
PLANNING DIVISION

MAR 28 2002

**S&S CONSTRUCTION SERVICES**  
**S&S RENT-A-FENCE, INC.**  
23648 PINE ST.  
NEWHALL, CA 91322  
PHONE: 800-622-2244  
FAX: 661-253-4349

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA  
**TEMPORARY FENCING**  
**PORTABLE TOILETS**  
**POWER POLES**  
**SHEDS**

March 26, 2002

City of Santa Clarita  
Department of Planning and Building Services  
23920 Valencia Blvd. #302  
Santa Clarita, CA 91355

Subject: Needham Ranch Development

Gentlepersons:

My name is Steve Parsell. I am co-owner of S&S Construction Services, a business located on Pine Street in Newhall. I am also a resident of the City of Santa Clarita.

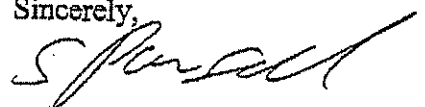
I have spoken, on several occasions, with Mark Gates, one of the principles of the Needham Ranch industrial project. I have also read the text of the presentation to the Planning Commission on March 19, 2002.

I would like to express my support for the Needham Ranch project. It is my feeling that the project supports the City's goal of revitalizing the Newhall area and will have a positive impact on stores and restaurants on and near San Fernando Road as well as Lyons Ave. The businesses located in the industrial park will employ people who live elsewhere but will shop and eat here, both before and after work as well as on their lunch breaks. This will help to support local merchants as well as providing tax revenue to the City.

The development of Needham Ranch into usable industrial property conforms with the current zoning and intended use of the land, as well as many of the immediate adjacent properties. Many of these are already operating industrial-type businesses.

In short, I feel the Needham Ranch project will be good for Newhall and good for the City of Santa Clarita.

Sincerely,



Steve Parsell  
President

*Letter 23*

**COMMENTOR:** Steve Parsell, President, S&S Construction Services

**DATE:** March 26, 2002

**RESPONSE:**

The commentor expresses support for the project. The support is noted and will be considered by City decisionmakers as they review the project.



24

Jeff W. Hogan  
Associate Planner  
Planning & Building Services  
City of Santa Clarita

Date: February 14, 2002

Dear Mr. Hogan:

I have been doing some research since we last spoke. I did seek some legal advice and according to the information I have received, I have definitely established a prescriptive easement.

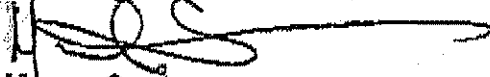
My fear had been the crossing of the Metrolink tunnel. I know that a prescriptive easement cannot be established over the railroad. On February 5, 2002, I spoke with one of their representatives and he had no problem with me crossing over the tunnel.

I hope that you understand how important it is to me to have access over that Railroad Canyon Road / Pine Street roadway for the future development of my property. There may be a couple of other alternatives that could possibly work. I hope that the city is willing to work together with me to accomplish their needs as well, as mine.

Look forward to hearing from you.

Thank you, for your help.

Sincerely,



Manny Santana  
25208 Wheeler Road  
Newhall, CA 91321  
✓ Pager (661) 291-5945

*Letter 24*

**COMMENTOR:** Manny Santana

**DATE:** February 14, 2002

**RESPONSE:**

The commentor states that it is important that access to his property be maintained over Railroad Canyon Road/Pine Street. This comment is noted. The proposed project would not preclude access to the commentor's property.



25



**OLD TOWN  
NEWHALL**

OLD TOWN NEWHALL ASSOCIATION • P.O. Box 221814 Newhall, California 91322-1814 • (661) 253-0730

RECEIVED  
PLANNING DIVISION

MAR 19 2002

PLANNING AND BUILDING SERVICES  
CITY OF SANTA CLARITA

March 19, 2002

Planning Commission  
City of Santa Clarita  
23920 W Valencia Blvd  
Santa Clarita, CA 91355

Dear Commissioners:

After reviewing the conceptual plan for the Needham Ranch project, the members of the Old Town Newhall Association unanimously agree that the project will be beneficial to the revitalization effort.

Sincerely,

Larry Bird, Chairman  
Old Town Newhall Association  
(661) 255-4354

Letter 25

**COMMENTOR:** Larry Bird, Chairman, Old Town Newhall Association

**DATE:** March 19, 2002

**RESPONSE:**

The commentor expresses support for the project. The support is noted and will be considered by City decisionmakers as they review the project.

