

# Lake View Estates Mixed Use Project

Vested Tentative Tract # 53933  
Project# 03-304  
Conditional Use Permit  
Zone Change  
Oak Tree Permit

## *Final* Environmental Impact Report

*Volume I: Text*

July 2010

SCH# 2005051009

Los Angeles County  
Department of Regional Planning  
Impact Analysis Section  
320 W. Temple Street  
Los Angeles, CA 90012-3225

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*July 2010*

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# Lake View Estates Mixed Use Project EIR

## Project # 03-304, Tentative Tract # 53933

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## *Volume II: Appendices*

### **Appendices**

- Appendix A: Initial Study, Notice of Preparation, Responses to Notice of Preparation, and Castaic Town Council Notes and Community Input
- Appendix B: Geotechnical Reports and Drainage Concept/Hydrology Study/SUSMP Report
- Appendix C: Noise Calculations
- Appendix D: Air Quality Calculations/Greenhouse Gas Calculations
- Appendix E: Los Angeles County Department of Regional Planning Letter, Biological Resource Reports and Oak Tree Report
- Appendix F: Traffic and Circulation Study/Caltrans Approval/Los Angeles County Department of Public Works Traffic and Lighting Division Approval
- Appendix G: Sewer Study and Will Serve Letter
- Appendix H: Mitigation Monitoring and Reporting Program



## EXECUTIVE SUMMARY

The Draft EIR was circulated for a 45-day public review period from March 9, 2009, through April 23, 2009. Eight written comment letters were received, responses to the comments were formulated, and the EIR was revised showing changes in ~~striketrough~~ and underline format. Changes that were made to the EIR are summarized in the beginning of Section 8.0 *Addenda and Errata/Comments and Responses*. The Revised Draft EIR was re-issued for a second 45-day public review period from May 3, 2010 through June 17, 2010. This 45-day public review period was formally extended to June 28, 2010 through redistribution of the EIR upon discovery that two EIR sections were missing from May 3, 2010 distribution. Four written comment letters were received, responses to the comments were formulated, and the EIR was further revised showing changes in ~~striketrough~~ and underline format. Please refer to Section 8.0 *Addenda and Errata/Comments and Responses* for a summary of all of the changes to the EIR.

During ~~this time~~ the public review periods, written comments were forwarded to:

County of Los Angeles  
Department of Regional Planning  
320 West Temple Street  
Los Angeles, CA 90012

The Draft EIR and supporting documents were also available for review at the Planning Counter at 320 West Temple Street, Los Angeles, CA 90012. This document together with the circulated Revised Draft EIR, constitutes the Final EIR to be presented to the County of Los Angeles Regional Planning Commission for consideration of certification prior to decisions on acceptance and approval of the Lake View Estates Mixed Use Project.

This section summarizes the characteristics of the proposed Lake View Estates Mixed Use Project, alternatives, environmental impacts associated with the specific plan, recommended mitigation measures, and the level of significance of impacts after mitigation.

## PROJECT SYNOPSIS

### Project Applicant

Can Shelter, Inc.  
P.O. Box 34898  
Los Angeles, CA 90034

### Project Description

The proposed project includes subdivision that would allow for development of a 47.25-acre parcel with residential and business/office park uses. The project site is currently vacant and is located in the unincorporated community of Castaic, within Los Angeles County, California. The site is adjacent to existing and approved developments and it has frontage on The Old Road, which parallels the Golden State Freeway/ Interstate 5 (I-5) on the west. A building



materials yard business (zoned Industrial) is located along the site's eastern boundary. A condominium development (zoned RPD-6.5U) consisting of 75 condos on approximately 10 gross acres borders the project to the north (Tr. 34365). A 115-unit mobile home park (zoned R-3-10U) is located to the northwest of the site. An approved tentative tract map for condominium development (zoned RPD-3.5U) is located along the south boundary (Tr. 46798). On the western edge of the project site, there is a single family house on a large undeveloped parcel. To the north of the project, there is an approved Auto Sales / Repair business across The Old Road, which is currently under construction.

The project site is identified as Los Angeles County Assessor's Parcel Numbers 2865-012-002; 005; 014; and 015. The applicant requests approval to allow development of about 70,000 square feet of business/office park uses (reduced from 150,000 sf of commercial in the initial study) on three lots, 70 single-family residences, four open space lots, a separate lot for a detention basin, and one park site.

The project includes a zone change from A-2-2 to RPD-~~2.51.9~~U/AC on 42.04 acres and from A-2-2 to M-1-DP on 5.21 acres. Residential Planned Development (RPD) allows for single-family residences at a maximum density of ~~2.51.9~~ units per acre, with the approval of a Conditional Use Permit (CUP). The residential zoning of RPD-~~2.51.9~~U proposes a lower density than that of the condominium developments to the north and south, with zoning designations of RPD-6.5U and RPD-3.5U respectively. The proposed project would also require the issuance of an Oak Tree Permit to remove 13 oak trees.

While the proposed use that would occupy the commercial/industrial component of the project is for business/professional office buildings, the Light Manufacturing (M-1) zone would allow (with a Conditional Use Permit) for limited manufacturing and assembly, secondhand stores, rentals, outdoor advertising, tailor shops, commercial services, retail sales of new goods and genuine antiques, community and financial services, and business/professional offices.

## **ALTERNATIVES**

As required by CEQA, the EIR examines a reasonable range of alternatives to the proposed project. The alternatives addressed in this EIR include:

- **No Project -No Development (Alternative 1)** - This option assumes that the project is not constructed, and that the site remains in its current condition.
- **All Industrial/Commercial (Alternative 2)** - This alternative assumes full build out of the site with industrial/commercial land uses, with a maximum build out of about 571,420 sf of office space.
- **All Residential (Alternative 3)** - Full build out of the site with residential uses. This alternative assumes build out of the site with 111 dwelling units.
- **Buildout Under Existing Zoning (Alternative 4)** - Development with 23 single family residences on two-acre lots.
- **Buildout Under Existing Santa Clarita Valley Area Plan (SCVAP) Land Use Designations (Alternative 5)** - Buildout under the SCVAP Land Use Designations with 88 residential units, 166,486 square feet of industrial use.



A summary of the conclusions of the Alternatives Analysis follows.

**Alternative 1 – No Project – No Development Alternative** is considered environmentally superior for most issue areas, as it would have no impact. However it is inferior to the proposed project in two areas (water quality and flood hazard) and would not fulfill the basic objective of the project, which is to develop the project site with a balance of residential and business / professional development. Furthermore, the No Project alternative would not preclude the site from eventual development in accordance with the existing SCVAP land use designation for the site. The No Project Alternative also does not meet the financial objectives of the project.

**Alternative 2 - All Commercial/Industrial Development** is superior to the proposed project in four areas (Biota – important habitats, Biota – sensitive species, education and public services) and inferior to the proposed project in six areas (policy consistency, flooding hazard, operational air quality, transportation, waste disposal and water service).

**Alternative 3 - All Residential Development** is superior to the proposed project in three areas (transportation, waste disposal, and water service), and inferior to the proposed project in three areas (policy consistency, education and public services).

**Alternative 4 – Buildout under Existing Zoning** is superior to the proposed project in eight issue areas. These are operational air quality, light/glare, transportation/circulation, waste disposal, education, public services, water service, and global climate change. The benefits in these areas result from reduced density, which would correspondingly reduce light/glare, traffic and air quality impacts, in addition to demand for waste disposal, education, public services, and water service. This alternative is inferior in five issue areas. These are the areas of land use compatibility, policy consistency, grading, operational noise and important biological habitats. This project would be adverse in these issue areas primarily because the entire project site would be subject to development, whereas the proposed project reserves more than 28 acres in open space. In addition, this alternative would result in distribution of residential receptors closer to the I-5 noise source. The low density development in combination with variable hillside topography is expected to result in unmitigable impacts with respect to noise levels in exterior habitable spaces. This type of low density development is more likely to be in conflict with the existing industrial use adjacent the eastern site boundary and conflict with higher density development to the north and northwest, and the higher density development approved for development to the south. Moreover, the infrastructure cost associated with development of scattered residences and more extensive roadwork would make the project financially infeasible. It should also be noted that the Santa Clarita Valley Area Plan (SCVAP) land use designations for this site, including residential (U1, U2, U3), industrial (M) and Hillside Management (¼ mile Urban), supersede the Los Angeles County General Plan / Zoning. Relying on the same planning principals which have been used to develop the SCVAP – such as designating the site land uses consistent with existing adjacent land use and clustering - it would be rational to propose changing the existing zoning based on the dominant SCVAP land use designations, rather than seeking a General Plan Amendment to change SCVAP land uses to comply with the existing zoning.



Moreover, the per lot cost of the infrastructure and grading for this alternative with fewer lots would be significantly higher than that of the Proposed Project, as this alternative would use the infrastructure less efficiently than the Proposed Project. As such this alternative would not be a financially viable project as compared with the Proposed Project.

**Alternative 5** –*Buildout under existing Santa Clarita Valley Area Plan Land Use Designations*, without the benefit of density transfers and clustering, is not superior to the proposed project in any issue area and is inferior to the proposed project in the issue areas of land use compatibility, land use policy consistency, flood hazard, fire hazard, biological resources, transportation/circulation, waste disposal, education, public services, and water service. This is primarily because this alternative does not take advantage of density transfers and utilize clustering to maximize open space areas and concentrate development. In addition, the industrial uses that would be allowed would create potential for internal conflicts, whereas the applicant’s proposed office use is more compatible with adjacent residential development and likewise does not conflict with the adjacent existing industrial use (building supply yard adjacent the eastern project boundary). The impacts associated with transportation/circulation, waste disposal, education, public services and water service are greater due to increased development intensity as compared with the proposed project (18 additional residential units and 76,486 sf of commercial space as an industrial use).

This alternative examines impacts without use of additional tools such as density transfers and clustering, which advocate minimized grading, increased open space, preservation of natural buffer zones / landform, etc. This alternative could also potentially violate the Castaic Area Community Standards District’s Ridgeline Preservation Ordinance unless certain areas already designated for residential land use are excluded from such use (mainly the northeast section of the site). In essence the disadvantages of this alternative stems from the absence of density transfers (from steeper areas to flatter regions of the site), and an avoidance of clustering (of the units in the more level areas). If density transfer and clustering were to be incorporated in this alternative, the result would essentially be a denser version of the proposed project. Given such reasoning, this alternative would in practice not be a rational choice and it could essentially be categorized as a variation of a “No Project” alternative. However, this alternative is included to demonstrate that development strictly under the SCVAP land uses, without density transfers / clustering, has been given due consideration.

The only alternative to reduce the two Class I, *unavoidably significant* impacts (construction air quality and construction noise) in addition to the irreversible environmental effects of converting the site to urban uses and removal of native biological habitat that are associated with the proposed project is the No Project – No Development Alternative. The proximity of sensitive receptors to the site triggers the Class I unavoidably significant temporary air quality and noise impacts that would occur with construction of any project on the site. However, as previously stated in this section, the No Project Alternative does not preclude future development of the site under a different proposal, such as Alternative Five, which explores buildout of the site under the existing Santa Clarita Valley Area Plan land use designations.



## SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table ES-1 (page ES-7) includes a brief description of the environmental impacts associated with the proposed project, 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. The following is a list of project impacts by impact classification.

### **Class I – Unavoidable Adverse Impacts**

**Air Quality:** *The construction phase of the project would generate air pollutant emissions that exceed South Coast Air Quality Management District (SCAQMD) daily construction thresholds for ozone precursors NO<sub>x</sub> and VOC (=ROG). Project construction would also generate PM<sub>10</sub> and PM<sub>2.5</sub> emissions that exceed daily SCAQMD construction thresholds and LSTs for the area.*

**Biological Resources:** *Project development would contribute to the cumulative loss of native biological habitats within the region.*

**Noise:** *Project grading activities would create noise levels that would exceed the 75 and 80 dBA thresholds for single and multi-family residences and could occur over a period of longer than 10 days.*

**Irreversible Impacts:** *Project development would convert the existing stabilized naturalized disturbed area to relatively urban uses.*

### **Class II – Significant Impacts That Can Be Mitigated To Less Than Significant Levels**

**Geotechnical Hazards:** *There is potential for ground rupture at the project site, due to the presence of San Gabriel Fault traces. The project site also has potential for ground failure due to various soil types and bedrock orientation. Project development would involve about 640,000 cubic yards of grading and would place structures adjacent to cut slopes and locate structures on fill areas.*

**Flood Hazard:** *The project has the potential to contribute increased runoff to the Castaic Sports Complex.*

**Fire Hazard:** *The proposed project is located in Fire Hazard Severity Zone 4, which is a Very High Fire Hazard Severity Zone.*

**Noise:** *Both residential and business/professional uses at the site would be constructed in a noise environment that is within the Normally Unacceptable range for these types of development.*

**Water Quality:** *With the proposed project, runoff to Castaic Creek could be adversely affected with pollutants such as oil, pesticides, and herbicides.*

**Biota:** *Project development would result in the direct permanent loss, and indirect degradation and fragmentation of coastal sage scrub habitat. Although direct modification of the ephemeral stream in the*



southern portion of the site would not occur, construction of the proposed project could result in indirect impacts to the channel and its associated habitat. The proposed project may cause the direct loss of special-status plants identified as List 1B or two species by the California Native Plant Society (CNPS). Development of the proposed project could potentially affect the San Fernando Valley spineflower (SFVS), and Nevin's barberry, if present onsite. 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. Site development has the potential to disturb trees that may be used by raptors as foraging habitat and by migratory birds as nesting habitat. The proposed project would directly remove 13 healthy oak trees on the project site. Project development could result in the elimination of bat roosts.

**Archeological/Historical:** The proposed project would not disturb any known archaeological or historical resources; however, site development has the potential to disturb as-yet undetected areas of prehistoric archaeological significance.

**Visual Qualities:** The proposed project would produce new sources of light and glare that have the potential to adversely affect adjoining land uses.

**Traffic/Access:** Development of the proposed project would result in potentially significant traffic hazard impacts with regard to site access along The Old Road and at the commercial lots. The project would also result in potentially significant parking supply impacts. The project would result in a significant impact at The Old Road/Parker Road intersection during the P.M. peak hour. Under cumulative conditions the project would result in potentially significant impacts at three intersections during the A.M. peak hour and four intersections during the P.M. peak hours. These intersections are: 1) The Old Road/Sloan Canyon Road; 2) The Old Road/Parker Road; 3) I-5 Southbound On-Ramp/Parker Road Intersection; and 4) I-5 Northbound Off-Ramp/Ridge Route Road.

**Education Services (including Library Services):** The proposed project would generate an additional 63 students at local public schools. Direct and indirect increases in school enrollment associated with residential housing or commercial/industrial job generation would be mitigated through implementation of applicable developer school impact fees. The new residents associated with the proposed project would generate an increased demand for library services.

**Water Services:** The northeast portion of the property is outside the Newhall County Water District (NCWD) boundaries and will have to be annexed into the District for service. The proposed project includes development that would need to be accompanied by water conveyance infrastructure and connected to the existing main located beneath The Old Road. The proposed project would include 70 residential units and 70,000 sf of business/professional office uses that are required to supply adequate water pressure for fire fighting purposes. NCWD has adequate water supplies to serve the project, which would be designed to insure that adequate pressure exists for fire fighting purposes.

**Land Use:** The proposed project would generally be of a lower density but would be compatible with the adjacent residential developments to the north, northwest and south, though air quality, noise, traffic, drainage and visual qualities have the potential to result in adverse environmental effects unless properly mitigated. The location of residential element of the project in close proximity to existing adjacent commercial and industrial uses has the potential to result in land use conflicts. In addition, the mix of residential and commercial office uses within the project has the potential to result in land use conflicts if



*not properly mitigated.*

### **Class III – Less Than Significant Impacts**

**Geotechnical Hazards:** *The project site is likely to experience substantial ground shaking in the event of an earthquake on any of several faults; however, compliance with standard uniform building codes mitigates the potential for adverse effects to a level of insignificance.*

**Flood Hazard:** *The project site is located within FEMA Flood Zone C and is delineated on Safety Element Plate 6 as located within the Castaic Lake Dam and Debris Basin Inundation Area.*

**Noise:** *Project-generated traffic would incrementally increase noise levels on roads in the project vicinity. However, the increase in noise due to project traffic would not exceed the significance thresholds based on existing noise level projections for I- 5 or The Old Road.*

**Water Quality:** *During project construction, the soil surface would be subject to erosion and the downstream watershed would be subject to increased sedimentation.*

**Air Quality:** *Operation of the proposed mixed use development would generate air pollutant emissions; however, emissions are below South Coast Air Quality Management District operational significance thresholds.*

**Visual Qualities:** *The project is located in an area where visual impacts could be assessed from adjacent public viewing areas, as well as for consistency with local policies designed to protect aesthetic resources – including Santa Clarita Valley Area Plan (SCVAP) / Hillside Management Area Plan and the Castaic Area Community Standards District (CSD). However, the projects impacts were determined to be less than significant due to incorporation of design constraints and ordinance requirements. As a result, the project's visual impacts were determined to be less than significant.*

**Sewage Disposal:** *Buildout of the proposed project would generate an estimated 45,200 gallons of wastewater per day. The wastewater treatment plants serving the area have adequate capacity to accommodate this amount of wastewater. The local wastewater conveyance system is anticipated to be adequate to accommodate project-generated wastewater.*

**Public Services:** *The proposed project would incrementally increase demand for Los Angeles County fire protection services. The proposed project would incrementally increase demand for sheriff service but would not exceed the significance threshold that has been identified by the Los Angeles County Sheriff's Department. The project would increase the residential population in the Castaic Area by 225 residents, thereby contributing to local roadway traffic, and having the potential to contribute incrementally to a decreased level of service for the California Highway Patrol (CHP).*

**Water Services:** *The proposed project would generate increased demand for water. The Newhall County Water District would be able to supply the projected demand based on existing entitlements and projected capital improvements.*

**Land Use:** *Based on preliminary review of the project by the County of Los Angeles the proposed project is generally consistent with the General Plan land use designations for the site and will not require a General Plan amendment. However, the proposed project is not consistent with the current zoning, and therefore requires a zone change from A-2-2 to M-1-DP and RPD 2-51.9U. Through incorporation of*



*design measures, the project is also shown to be consistent with the applicable ordinances, including SCVAP / Hillside Management and Castaic Area Community Standards District (CSD).*

**Table ES-1 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<b>GEOTECHNICAL HAZARDS</b>		
<p><b>Impact GEO-1</b> There is potential for ground rupture at the project site, due to the presence of San Gabriel Fault traces. This is a class II <i>significant but mitigable</i> impact</p>	<p><b>GEO-1 Ground Rupture.</b> The revised San Gabriel Fault hazard setback shall be incorporated into the subdivision tract map and verified by the applicant's geotechnical consultant prior to finalization of the tract map. The utility infrastructure, including but not limited to gas lines, water lines, drainage and sewer lines shall be designed to avoid or withstand ground rupture associated with the potential for fault movement. The project engineer shall design cut and fill slopes within the fault hazard zone based on the J. Byer Group geotechnical evaluation, Los Angeles County Department of Public Works Geotechnical and Materials Engineering Division requirements and Uniform Building Code (UBC) requirements to the satisfaction of the County of Los Angeles.</p>	<p>Less than significant.</p>
<p><b>Impact GEO-2</b> The project site may experience substantial ground shaking 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.</p>	<p>None required. Conformance of the project to Uniform Building Code specifications which include design based on the seismic capabilities in the immediate project area would result in a project that is designed to withstand ground shaking.</p>	<p>Less than significant.</p>
<p><b>Impact GEO-3</b> The project site has potential for ground failure due to various soil types and bedrock orientation. This is a Class II, <i>significant but mitigable</i> impact.</p>	<p><b>GEO-3 (a) Liquefaction, Lateral Spreading, Dynamic Settlement.</b> The alluvium on site shall be removed and recompacted in accordance with recommendations of the J. Byer Group (Geologic and Soils Engineering Exploration, Tentative Tract 53933, 2005) as delineated on Figure 4.1-1, to eliminate the potential for liquefaction, lateral spreading and dynamic settlement. Grading Plans shall be reviewed by the J. Byer Group for consistency with their recommendations and submitted to the Los Angeles County Department of Public Works Geotechnical and Materials Engineering Division for their review and approval.</p> <p><b>GEO-3(b) Geological Oversight.</b> A project geologist shall be present during removals of alluvium and other necessary stripping of topsoil and colluvium, which may be five to 15 feet thick in some areas.</p>	<p>Less than significant.</p>
<p><b>Impact GEO-4</b> Project development would involve about 640,000 cubic yards of grading and would place</p>	<p><b>GEO-4(a)</b> Grading plans shall be reviewed by the applicant's geological consultant to insure that all recommendations included in the 2005</p>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<p>structures adjacent to cut slopes and locate structures on fill areas. The potential impact associated with decreased slope stability is considered a Class II <i>significant but mitigable</i> impact.</p>	<p>geotechnical investigation have been incorporated.</p> <p><b>GEO-4(b)</b> The area to receive compacted fill should be prepared by removing all vegetation, debris, existing fill, soil, colluvium, and alluvium. The exposed excavated area should be observed by the soils engineer or geologist prior to placing compacted fill. The exposed grade should be scarified to a depth of six inches, moistened to optimum moisture content, and recompact to a minimum 94 percent of the maximum density.</p> <p><b>GEO-4(c)</b> All building sites and graded pads shall have a minimum of five feet of compacted fill over the entire pad.</p> <p><b>GEO-4(d)</b> Fill consisting of soil approved by the soils engineer, shall be placed in horizontal lifts and compacted in six-inch layers with suitable compaction equipment. The excavated onsite materials are considered satisfactory for reuse in the control fills. Any imported fill shall be observed by the soils engineer prior to use in fill areas. Rocks larger than six inches in diameter shall not be used in the fill.</p> <p><b>GEO-4(e)</b> The fill shall be compacted to at least 94% of the maximum density for the material used. The maximum density shall be determined by ASTM D 1557-02 or equivalent.</p> <p><b>GEO-4(f)</b> Field observation and testing shall be performed by the soils engineer during grading to assist the contractor in obtaining the required degree of compaction and the proper moisture content. Where compaction is less than required, additional compactive effort shall be made with adjustment of the moisture content, as necessary until 94% compaction is obtained. Once compaction test is required for each 500 cubic yards, or two vertical feet of fill placed.</p> <p><b>GEO-4(g)</b> The alluvium, when removed and replaced as approved compacted fill, will shrink approximately 5% in volume. The older alluvium, when removed and placed as compacted fill, is not expected to shrink. The Saugus Formation bedrock, when removed and placed as compacted fill, is expected to bulk in volume approximately 5%.</p>	



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<b>FLOOD HAZARD</b>		
<p><b>Impact FL-1</b> The project has the potential to contribute increased runoff to adjacent properties of lower elevation and/or downstream storm drain facilities, thereby increasing the hazard of offsite flooding. This is a Class II, significant but mitigable impact.</p>	<p><b>FL-1 Drainage Concept.</b> This drainage concept, as approved, provides the quantities related to the runoff flow for the project as well as existing conditions' runoff (using new method hydrology). The drainage concept has also delineated any changes in drainage patterns and debris producing areas, and specifies the necessary storm drain and flood control facilities and mitigation measures. The storm flow conveyance and discharge facilities, which are inline with the recommendations in the soils and geotechnical reports, will be designed to mitigate the impacts resulting from potential for on and offsite flooding, siltation and erosion. Additional dissipaters or other slowing devices may be incorporated in the drainage system as needed. The project shall be engineered such that there are no impacts to offsite properties.</p>	<p>Less than significant.</p>
<p><b>Impact FL-2</b> The project site is located within FEMA Flood Zone C and is delineated on Safety Element Plate 6 as located within the Castaic Lake Dam and Debris Basin Inundation Area. This is a Class III, <i>less than significant</i> impact.</p>	<p>None required, the impact is less than significant.</p>	<p>Less than significant.</p>
<b>FIRE HAZARD</b>		
<p><b>Impact FH-1</b> The proposed project is located in Fire Hazard Severity Zone Four, which is a Very High Fire Hazard Severity Zone. This is a Class II, <i>significant but mitigable</i> impact.</p>	<p><b>FH-1(a)</b> All applicable fire code and ordinance requirements for construction, access, water mains, fire hydrants, fire flows, brush clearance, and a fuel modification plan shall be met. The plans shall be reviewed and approved by the Forestry Division of the Fire Department prior to issuance of building permits.</p> <p><b>FH-1(b)</b> The Los Angeles County Fire Department, Land Development Unit, has set forth specific guidelines regarding land development issues. These guidelines are as follows:</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• Every building constructed shall be accessible to the Fire Department apparatus by way of access roadways, with an all-weather surface of not less than the prescribed width. The roadway</li> </ul>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>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;</p> <ul style="list-style-type: none"> <li>• Access roads shall be maintained with a minimum of ten (10) feet of brush clearance on each side. Fire access roads shall have an unobstructed vertical clearance clear-to-sky with the exception of protected tree species. Protected tree species overhanging fire access roads shall be maintained to provide a vertical clearance of 13 feet, six inches;</li> <li>• The maximum allowable grade shall not exceed 15% except where topography makes it impractical to keep within such grade; in such cases, an absolute maximum of 20% will be allowed for up to 150 feet in distance. The average maximum allowed grade, including topographical difficulties, shall be no more than 17%. Grade breaks shall not exceed 10% in 10 feet;</li> <li>• When involved with a subdivision in unincorporated areas within the County of Los Angeles, 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;</li> <li>• Fire sprinkler systems are required in some residential and most commercial occupancies. For those occupancies not requiring fire sprinkler systems, it is recommended that fire sprinkler systems be installed. This will reduce potential fire and life losses. Systems are now technically and economically feasible for both commercial and residential use;</li> <li>• The <u>commercial</u> development <del>may</del> 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 (three hydrants flowing simultaneously). Final fire flows will be based on the size of the buildings, their relationship to other structures, property lines, and types of construction used;</li> <li>• Fire hydrant spacing for commercial/industrial development shall be 300 feet and shall meet the following requirements:                         <ul style="list-style-type: none"> <li>○ No portion of lot frontage shall be more than 200 feet via vehicular</li> </ul> </li> </ul>	



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<ul style="list-style-type: none"> <li>○ ~ access from a public fire hydrant;</li> <li>○ ~ No portion of a building shall exceed 400 feet via vehicular access from property spaced public fire hydrant;</li> <li>○ ~ Additional hydrants will be required if hydrant spacing exceeds specified distances (eight hydrants are required);</li> <li>○ ~ All hydrants shall measure 6"x 4"x 2-1/2" brass or bronze, conforming to current, American Water Works Association (AWWA) standard C503 or approved equal. All onsite hydrants shall be installed a minimum of 25' from a structure or protected by a two-hour rated firewall (locations specified on Subdivisions map and additional fire hydrants may be established);</li> <li>○ ~ All required fire hydrants shall be installed, tested, and accepted or bonded prior to approval;</li> <li>○ ~ Vehicular access must be provided and maintained serviceable throughout construction to all required fire hydrants. All required fire hydrants shall be installed, tested, and accepted prior to construction;</li> <li>• Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for commercial lots and at the end of all cul-de-sacs.</li> <li>• All onsite driveways/roadways shall provide a minimum unobstructed width of 28 feet. The onsite driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. The centerline of the access driveway shall be located parallel to, and within 30 feet of an exterior wall on one side of the proposed structure.</li> <li>• Driveway width for non-residential developments shall be increased when any of the following conditions will exist:                         <ul style="list-style-type: none"> <li>○ ~ 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;</li> <li>○ ~ Provide 42 feet in width, when parallel parking is allowed on each</li> </ul> </li> </ul>	



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>side of the access roadway/driveway;</p> <ul style="list-style-type: none"> <li>○ ~ Any access way less than 34 feet in width shall be labeled "Fire Lane" on the final recording map, and final building plans;</li> <li>○ ~ 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.</li> <li>• Single-family detached homes shall require a minimum fire flow of 1,250 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration, <u>over and above maximum daily domestic demand. One hydrant flowing simultaneously may be used to achieve the required fire flow.</u> When there are five or more units taking access on a single driveway, the minimum fire flow shall be increased to 1,500 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration;</li> <li>• Fire hydrant spacing for residential development shall be 600 feet and shall meet the following requirements:                         <ul style="list-style-type: none"> <li>○ ~ No portion of lot frontage shall be more than 450 feet via vehicular access from a public fire hydrant;</li> <li>○ ~ No portion of a structure should be placed on a lot where it exceeds 750 feet via vehicular access from a properly spaced public fire hydrant;</li> <li>○ ~ When cul-de-sac depth exceeds 450 feet on a residential street, hydrants shall be required at the corner and mid-block;</li> <li>○ ~ Additional hydrants will be required if hydrant spacing exceeds specified distances;</li> <li>○ ~ All hydrants shall measure 6"x 4"x 2-1/2" brass or bronze, conforming to current, American Water Works Association (AWWA) standard C503 or approved equal. All onsite hydrants shall be installed a minimum of 25' from a structure or protected by a two-hour rated firewall (locations specified on</li> </ul> </li> </ul>	



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>Subdivisions map and additional fire hydrants may be established);</p> <ul style="list-style-type: none"> <li>• A Fire Department approved turning area shall be provided at the end of all cul-de-sacs;</li> <li>• Fire Department access shall provide a minimum unobstructed width of 28 feet, clear-to-sky and be within 150 feet of all portions of the exterior walls of the first story of any existing unit. If exceeding 150 feet, provide 20 feet minimum paved width "Private Driveway/Fire Lane" clear-to-sky to within 150 feet of all portions of the exterior walls of the unit. Fire Lanes serving three or more units shall be increased to 26 feet;</li> <li>• Streets or driveways within the development shall be provided with the following:             <ul style="list-style-type: none"> <li>○ Provide 36 feet in width on all streets where parking is allowed on both sides;</li> <li>○ Provide 34 feet in width on cul-de-sacs up to 700 feet in length. This allows parking on both sides of the street;</li> <li>○ Provide 36 feet in width on cul-de-sacs from 701-1,000 feet in length. This allows parking on both sides of the street;</li> <li>○ For streets or driveways with parking restrictions: The entrance to the street/driveway and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs stating "NO PARKING – FIRE LANE" in 3-inch high letters. Driveway labeling is necessary to ensure access for Fire Department use;</li> <li>○ Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road;</li> </ul> </li> <li>• All access devices and gates shall meet the following requirements:             <ul style="list-style-type: none"> <li>○ Any single gated opening used for ingress and egress shall be a minimum of 26 feet in width, clear-to-sky;</li> <li>○ Any divided gate opening (when each gate is used for a single direction of travel – i.e. ingress or egress) shall be a minimum width of 20 feet clear-to-sky;</li> </ul> </li> </ul>	



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<ul style="list-style-type: none"> <li>○ 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;</li> <li>○ All limited access devices shall be of a type approved by the Fire Department;</li> <li>○ 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;</li> <li>• All proposals for traffic calming measures (speed humps/bumps/cushions, traffic circles, roundabouts, etc.) shall be submitted to the Fire Department for review, prior to implementation.</li> <li>• <u>Provide Fire Department or City approved street signs and building access numbers prior to occupancy.</u></li> <li>• <u>A minimum of four commercial fire hydrants and four residential fire hydrants shall be installed.</u></li> </ul>	
<b>NOISE HAZARD</b>		
<p><b>Impact N-1</b> Project grading activities would create noise levels that would exceed the 75 and 80 dBA thresholds for single and multi-family residences and could occur over a period of longer than 10 days. This is a Class I, <i>unavoidably significant</i> impact.</p>	<p><b>N-1 Construction.</b> The contractor shall not conduct project grading activities within 370 feet of a single family residence, or 175 feet of multi family residences for consecutive periods of greater than 10 days.</p>	<p>Unavoidably significant.</p>
<p><b>Impact N-2</b> Project-generated traffic would incrementally increase noise levels on roads in the project vicinity. However, the increase in noise due to project traffic would not exceed the significance thresholds based on existing noise level projections for I-5 or The Old Road. This is a Class III <i>less than significant</i> impact.</p>	<p>None required. Based on predicted traffic volumes to the study area roadway segments it was determined that project generated traffic noise would not result in a significant increase in roadway noise at nearby sensitive receptors.</p>	<p>Less than significant.</p>
<p><b>Impact N-3</b> Both residential and business/professional uses at the site would be constructed in a noise environment that is within the Normally Unacceptable range for these types of development. This is considered a Class II, significant but mitigable, impact.</p>	<p><b>N-3(a) Interior Noise.</b> At a minimum, all onsite structures shall include the following to achieve an acceptable interior noise level:</p> <ul style="list-style-type: none"> <li>• Air conditioning or a mechanical ventilation system so that windows and doors may remain closed; and</li> <li>• Double-paned windows and sliding glass doors mounted in low air infiltration rate</li> </ul>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>frames (0.5 cubic feet per minute, per ANSI specifications); and</p> <ul style="list-style-type: none"> <li>• Solid core exterior doors with perimeter weather stripping and threshold seals; and</li> <li>• Roof and attic vents facing away from I-5.</li> </ul> <p>Incorporation of these design requirements would be expected to achieve an interior noise level reduction of 25 dB or greater.</p> <p><b>N-3(b) Exterior Noise.</b> At a minimum, residential lots <del>1-8, 16-21, 60-67 and 70</del> shall incorporate six-foot tall solid block sound barrier walls <del>at the edge of the property facing I-5 on the side and rear yard property boundaries or surrounding the exterior usable space of the rear yard.</del></p> <p><b>N-3(c) Second Story Interior Noise.</b> Residential lots <del>1-8, 16-21, 60-67 and 70</del> shall incorporate second story insulation to achieve an interior second story noise level of 45 dBA.</p>	
<b>WATER QUALITY</b>		
<p><b>Impact WQ-1</b> During project construction, the soil surface would be subject to erosion and the downstream watershed would be subject to increased sedimentation. However, compliance with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit would reduce these impacts to a <i>less than significant</i> level (Class III).</p>	<p><b>WQ-1</b> Comply with approved Standard Urban Stormwater Mitigation Program, (SUSMP) which shall incorporate Best Management Practices (BMPs) for the long term operation of the site and shall be developed and implemented by the applicant to minimize the amount of pollutants that are discharged from the site. The plan shall be developed in accordance with the requirements of the County of Los Angeles and the California Regional Water Quality Control Board. Examples of BMPs and permanent BMPs that apply to both initial development of the lots and to long-term operation of the project include but are not limited to:</p> <p><i>Pollutant Escape: Deterrence</i>                      Cover all storage areas including soil piles, fuel and chemical depots. Protect from rain and wind with plastic sheets and temporary roofs.</p> <p><i>Pollutant Containment Area</i>                      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.</p>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>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.</p> <p><i>Pollutant Detainment Methods</i></p> <ul style="list-style-type: none"> <li>▪ 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.</li> </ul> <p><i>Erosion Control</i></p> <ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ Schedule excavation and grading work for dry weather. These activities may be prohibited between the months of November and April.</li> <li>▪ Slope stabilizers should be utilized. These include natural fiber erosion control blankets of varying densities according to specific slope/ site conditions.</li> <li>▪ Expedite the restoration of natural erosion control and reduce risk of slope failure by immediately revegetating and irrigating until first one inch of rain.</li> <li>▪ Reduce fugitive dust by wetting graded areas with an adequate yet conservative amount water. Cease grading operations in high (25 mph or greater) winds.</li> </ul> <p><i>Recycling/Disposal</i></p> <ul style="list-style-type: none"> <li>▪ 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).</li> <li>▪ Provide disposal facilities. Develop protocol for cleanup and disposal of small</li> </ul>	



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>construction wastes (i.e., dry concrete).</p> <p><i>Hazardous Materials Identification and Response</i></p> <ul style="list-style-type: none"> <li>▪ Develop protocol for identifying risk operations and materials. Include protocol for identifying spilled-materials source, distribution; fate and transport of spilled materials.</li> <li>▪ Provide protocol for proper clean-up of equipment and construction materials, and disposal of spilled substances and associated cleanup materials.</li> <li>▪ Provide emergency response plan that includes contingencies for assembling response team and immediately notifying appropriate agencies.</li> </ul>	
<p><b>Impact WQ-2</b> With the proposed project, runoff to Castaic Creek could be adversely affected with pollutants such as oil, pesticides, and herbicides. This is considered a Class II, <i>significant but mitigable</i> impact.</p>	<p><b>WQ-2</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 County of Los Angeles and the California Regional Water Quality Control Board. 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 and ultimately to the ocean.</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. These fliers shall be distributed to and posted at each new business unit and provided to each residential unit through the Homeowner's Association.</li> <li>▪ Provide educational flyers regarding proper disposal of routine office and household hazardous waste, including automotive waste. These fliers shall be distributed to and posted at each new business unit and provided to each residential unit through the homeowner's association.</li> </ul>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<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 pyrethrin based insecticides.</li> </ul> <p><i>Cleaning/Maintenance</i></p> <ul style="list-style-type: none"> <li>▪ Routine cleaning of streets, parking lots and storm drains. Prior to the issuance of a building permit, the applicant shall prepare a stormwater facility maintenance plan that will be implemented by the homeowner's association and building owners of the commercial parcels. This plan shall identify provisions for 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 interceptors shall be installed with the 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. The sizing and effectiveness of each of these measures shall be documented prior to the issuance of a building permit.</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>	



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<b>AIR QUALITY</b>		
<p><b>Impact AQ-1</b> Project construction would generate air pollutant emissions that exceed South Coast Air Quality Management District (SCAQMD) daily construction thresholds for ozone precursors NOx and VOC (=ROG). Project construction would also generate PM<sub>10</sub> emissions that exceed daily SCAQMD construction thresholds and LSTs for the area. LSTs for PM<sub>2.5</sub> would also be exceeded. Construction impacts are considered Class I, <i>significant and unavoidable</i>.</p>	<p><b>AQ-1(a) Fugitive Dust Control Measures:</b></p> <ul style="list-style-type: none"> <li>• Water trucks shall be used during construction to keep all areas of vehicle movements damp enough to prevent dust from leaving the site. At a minimum, this will require three daily applications (start of workday, midday and at the end of the workday). Increased watering is required whenever wind speed exceeds 15 mph. Grading shall be suspended if wind gusts exceed 25 mph.</li> <li>• The amount of disturbed area shall be minimized, <u>active grading shall not exceed 7.25 acres per day</u>, and onsite vehicle speeds shall be limited to 15 mph or less on all unpaved areas. <u>Pave roads and shoulders as soon as feasible.</u></li> <li>• <u>Unpaved haul roads shall be watered three times per day.</u></li> <li>• <del>If importation, exportation and</del> stockpiling of fill material is involved, earth with 5% or greater silt content that is stockpiled for more than two days shall be covered, kept moist, or treated with earth binders to prevent dust generation. <del>Trucks transporting material shall be tarped from the point of origin or shall maintain at least two feet of freeboard.</del></li> <li>• After clearing, grading, earth-moving or excavation is completed, the disturbed area shall be treated by <del>watering, revegetation, or by</del> spreading earth binders (non-toxic soil stabilizers) according to manufacturer's <u>specifications</u> until the area is paved or otherwise developed. <u>Staging and parking areas shall also be stabilized by paving or with soil stabilizers.</u></li> <li>• <del>Any material transported offsite shall be securely covered to prevent excessive amounts of dust.</del></li> <li>• <u>Install wheel washers where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site on each trip.</u></li> </ul> <p><b>AQ-1(b) VOC Control Measure:</b> Low VOC architectural and asphalt coatings shall be used on site and shall comply with AQMD Rule 1113-Architectural Coatings. The VOC</p>	<p>The recommended mitigation measures would reduce construction-related emissions of VOCs, NOx, and CO to below thresholds. However, these measures are not sufficient to reduce emissions of fugitive dust and PM<sub>2.5</sub> to below LSTs. Therefore the temporary construction impact would be Class I <i>unavoidably significant</i>.</p>



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>content of architectural coatings shall not exceed an average of 85 g VOC/liter (less water and exempt compounds) for residential units and 87.5 g VOC/liter (less water and exempt compounds) for commercial space pursuant to the VOC content determination procedures in Rule 1113. Additionally, application of architectural coatings shall be limited such that no more than 20 residences and 45,000 square feet of commercial space shall be covered during any 20 day period. Documentation regarding this mitigation measure is contained in Appendix D.</p> <p><b>AQ-1(c) NOx Control Measures:</b></p> <ul style="list-style-type: none"> <li>• <del>Cooled Exhaust Gas Recirculation shall be required on all heavy duty diesel construction equipment during the grading and construction phases to reduce NOx emissions by 40% and PM<sub>10</sub> emissions by 90%;</del></li> <li>• Equipment engines should be maintained in good condition and in proper tune as per manufacturer's specifications;</li> <li>• Schedule construction periods to occur over a longer time period (i.e. lengthen from 60 days to 90 days) during the smog season so as to minimize the number of vehicles and equipment operating simultaneously; and</li> <li>• Use new technologies to control ozone precursor emissions as they become readily available.</li> </ul> <p><b>AQ-1(d) NOx, PM<sub>10</sub> and PM<sub>2.5</sub> Additional Control Measure:</b> The number and types of construction equipment shall be reduced such that horsepower of diesel equipment in simultaneous operation shall not exceed 2,108 horsepower during project grading and 2,618 horsepower during building construction. This would reduce project grading equipment to about nine pieces during grading activities and 14 pieces during building construction activities, depending on the type of equipment in use. Documentation regarding this mitigation measure is included in Appendix D.</p>	
<p><b>Impact AQ-2</b> Operation of the proposed mixed use development would generate air pollutant emissions; however, emissions are below SCAQMD operational significance thresholds. This is a Class III, <i>less than</i></p>	<p><b>AQ-2(a) Energy Consumption.</b> Onsite structures shall reduce energy consumption by at least 20% below current Federal guidelines as specified in Title 24 of the Code of Federal Regulations. Potential energy consumption reduction measures include, but are not limited to, the use of photovoltaic roof</p>	<p>Project operational emissions are not expected to exceed SCAQMD significance thresholds. Nevertheless, the recommended</p>



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 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<p><i>significant</i> impact.</p>	<p>tiles, installation of energy efficient windows, and the use of R-45 insulation in the roof/attic space of all onsite structures.</p> <p><b>AQ-2(b) Shade Trees.</b> Shade trees shall be planted to shade onsite structures to the greatest extent possible in summer, reducing indoor temperatures, and reducing energy demand for air conditioning.</p>	<p>mitigation measures would reduce project-related air pollutant emissions to the maximum degree feasible.</p>
<p><b>BIOTA</b></p>		
<p><b>Impact BIO-1</b> Project development would result in the direct permanent loss, and indirect degradation and fragmentation of coastal sage scrub habitat. This is considered a <i>significant but mitigable impact</i> (Class II).</p>	<p><b>BIO-1(a)</b> Temporarily disturbed areas shall be revegetated with native vegetation <u>in the same proportions and species as the natural habitat removed. Preconstruction detailed surveys of vegetation on at least three (3) blocks of 50 x 50 meters on the site shall be used to determine the native coastal scrub vegetation of the site [also see mitigation measure BIO-1(c-d)]. These proportions may be modified by County Fire Department and County Public Works as needed for safety reasons. If the 80% coastal sage scrub vegetative coverage (plants typical of the removed coastal sage scrub community in proportion to natural coverages) is not met within three years, the monitoring effort shall be extended to five years. If not met at the end of five years, the monitoring effort shall be extended another five years and again tested at the end of five years for meeting success criteria. This extension process should continue until the success criteria are met. Annual monitoring reports shall be prepared and submitted to the County Director of Regional Planning that include qualitative and quantitative data regarding the success of the revegetation effort, comparison to performance criteria, and recommendations for the successful completion of the restoration effort.</u></p> <p>A landscape plan that includes control of invasive non-native plants shall be submitted for review and approval by the County of Los Angeles Department of Regional Planning prior to the issuance of a grading permit. The landscape plan shall limit irrigation to within Fuel Modification Zone A and shall utilize only locally indigenous plant species and varieties.</p> <p><u>During grading and construction, a wheel well and undercarriage washing station shall be installed at project site entrances to serve the purpose of removing dust and plant parts</u></p>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p><u>from entering and exiting vehicles in order to prevent transport of invasive weed species onto and off of the site. The wheel washing station shall consist of a lined aggregate pit (2-3" aggregate), designed such that the washed seeds and plant parts filter through timbers and gravel onto a geotech cloth. At the end of construction, the pit shall be disassembled and back-filled, and the geotech cloth shall be carefully removed with all contents and taken to a disposal site and buried deeply so that the invasive plant parts and propagules will not spread to other areas.</u></p> <p><u>Pressurized washing shall be done for all vehicles (1) before coming to the site, (2) upon entry, and (3) at the end of each day when grading an area with exotic plants, and (4) before moving the vehicle to another site. Vehicle operators shall fill out a log book kept in a waterproof container at each washing station that can be checked by the biologist in charge of biological mitigation.</u></p> <p><b>BIO-1(b)</b> Fuel Modification shall occur within 100 feet of structures (Please refer to Figure 4.3-1, Fuel Modification Plan). Per the Los Angeles Fuel Modification Guidelines (LAFMG) for projects located in Fire Zone Four for Very High Fire Hazard Severity Zones (LAFMG, January 1998), plant material within the initial 20 feet of back yards and modification within manufactures slopes will mainly consist of native groundcovers. Some native or existing vegetation may remain if spaced according to planting guidelines of the LAFMG, and shall be maintained free of dead wood, and plants shall be thinned sufficiently to reduce fuel load. Modification of fire hazard fuels beyond this zone shall consist of hand thinning of individual shrubs, clearing dead fuel, replanting with fire-retardant 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 by the California Native Plants Society, California Invasive Plant Council, other databases and DRP Biologist shall be utilized in the landscape plans. Only those plants deemed as "desirable" by LAFMG shall be utilized in landscaping plans, and those deemed "undesirable shall not be utilized. Irrigation tolerant species that are not native to the area may be minimally utilized as long as the</p>	



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 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>species are not deemed “undesirable.”</p> <p><b>BIO-1(c)</b> The 8.5 acres of removed coastal sage scrub shall be <del>replaced</del> <u>mitigated</u> at a ratio of 1:1, <u>combining planting and protection of coastal sage scrub. Fuel modification zones shall not be included as mitigation areas.</u> <del>This</del> Mitigation areas shall be set aside and protected in perpetuity from further development, and shall be contiguous with other coastal sage scrub. <u>In the event that the California Department of Fish and Game (CDFG) becomes a responsible agency under the California Endangered Species Act pursuant to additional field work conducted under Mitigation Measures BIO-4(b-c) and/or BIO-5 (a-b, &amp; d) the CDFG shall retain the right to supersede these coastal sage scrub mitigation requirements through modification or addition pursuant to nexus. Covenants, Conditions &amp; Restrictions (CC&amp;R’s) and/or deed restrictions or conservation easements shall be developed to protect <del>this area</del> the mitigation area, and adequate fencing shall separate all preserved lands from developed areas in order to prevent pets, vehicles, and people from impacting the area.</u></p> <p><u>If coastal sage scrub habitat is restored onsite on manufactured slope or non-native grassland habitat areas that are outside the fuel modification zones in accordance with mitigation measure BIO-1(a &amp; d), the plantings shall be monitored for at least three years to determine if the restoration plantings have been successful. Success criteria shall be developed as part of the planting plans and shall be no less than 80% vegetative coverage by native plants at the conclusion of the restoration effort. If the 80% coastal sage scrub vegetative coverage (plants typical of the removed coastal sage scrub community in proportion to natural coverages) is not met within three years, the monitoring effort shall be extended to five years. If not met at the end of five years, the monitoring effort shall be extended another five years and again tested at the end of five years for meeting success criteria. This extension process should continue until the success criteria are met. Annual monitoring reports shall be prepared and submitted to the County Director of Regional Planning that include qualitative and quantitative data regarding the success of the revegetation effort,</u></p>	



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p><u>comparison to performance criteria, and recommendations for the successful completion of the restoration effort.</u></p> <p><u>If there is not sufficient suitable replacement habitat remaining onsite and outside of the fuel modification zones, the applicant shall either purchase and set-aside the residual amount of habitat needed with suitable conservation easements or restrictive covenants as necessary to provide for long term preservation, or shall acquire mitigation credits from a suitable bank. If mitigation credits are acquired from a bank, the applicant shall provide evidence of same to the County Department of Regional Planning prior to site occupancy.</u></p> <p><b>BIO-1(d)</b> Revegetation and landscaping plans for the <del>graded road</del> <u>restoration and revegetation</u> areas on the project site shall be reviewed and approved by the County before issuance of a grading permit. Plant species, seed mixes, weed suppression, planting methodology, and irrigation schedule shall be prepared by a qualified biologist or landscape architect and shall utilize locally indigenous species from onsite habitats. No species identified as invasive by the CNPS, California Invasive Plant Council, other databases and Los Angeles County Department of Regional Planning Biologist or staff shall be utilized in the landscape plans. The plan shall be reviewed and approved by Department of Regional Planning.</p>	
<p><b>Impact BIO-2</b> Although direct modification of the ephemeral stream in the southern portion of the site would not occur, construction of the proposed project could result in indirect impacts to the channel and its associated habitat. This would be a Class II or <i>significant but mitigable</i> impact.</p>	<p><b>BIO-2(a)</b> The project shall include and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP shall require that stormwater runoff be prevented from flowing over unprotected slopes and that silt fencing shall be trenched in 100 feet from the outer limits of riparian vegetation and left in place during construction. Disturbed areas shall be stabilized as quickly as possible, using biotechnical techniques.</p> <p><b>BIO-2(b)</b> Construction and operation of the proposed project shall avoid contamination of the ephemeral drainage by incorporating the following provisions:</p> <ol style="list-style-type: none"> <li>1. California Stormwater Best Management Practices (BMPs) for Construction Activity, prepared by the California State</li> </ol>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
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Impact	Mitigation Measures	Significance After Mitigation
	<p>Stormwater Quality Task Force, shall be incorporated into the construction plans. BMPs for Municipal Activities shall be incorporated into a long-term site management program. When implemented, BMPs would reduce operation-related impacts from sedimentation and contaminant loading to an insignificant level.</p> <p>2. Locally indigenous species with minimal water and fertilizer requirements shall be selected for public landscaping. Use of nitrogen fertilizers in landscaped areas is not needed. Watering shall be kept to the minimum necessary to maintain new landscaping. Temporary drip irrigation shall be used only until native landscaping is established. Irrigation water from public maintenance areas shall be retained onsite by setting timers such that excess surface flow to the local watershed does not occur. Splash pads at the bottom of manufactures slope drainages shall include a sand and gravel sump at least four feet in depth to serve as a low flow percolation pit.</p>	
<p><b>Impact BIO-3</b> The proposed project may cause the direct loss of special-status plants identified as List 1B or two species by the California Native Plant Society (CNPS). This is a Class II, significant but mitigable, impact.</p>	<p><b>BIO-3(a)</b> Prior to grading, a qualified biologist shall be retained by the applicant as the biological monitor subject to the approval of the County of Los Angeles. That person shall ensure that impacts to biological resources (inclusive of special-status plants) are avoided or minimized, and shall conduct pre-grading focused field surveys for special-status plant species that may be affected and / or eliminated as a result of grading and / or site preparation activities. The biological monitor shall be authorized to stop specific grading activities if violations of mitigation measures or any local, State, or Federal laws are suspected.</p> <p><b>BIO-3(b)</b> Pre-grading focused surveys shall be conducted in the appropriate season to determine presence or absence of any special-status plants. If no specimens are found within the development footprint or fire clearance zone, then no additional mitigation is required.</p> <p><b>BIO-3(c)</b> In the event special-status plants are identified within the development or fire clearance areas, no grading permit shall be issued until a mitigation plan has been</p>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
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Impact	Mitigation Measures	Significance After Mitigation
	<p>reviewed and approved by the Los Angeles County Department of Regional Planning biologist or staff. The plan may include, but not be limited to, the following mitigation actions in order of preference:</p> <ul style="list-style-type: none"> <li>• Grading plans shall be modified or fuel modification zones adjusted to avoid sensitive plant populations that are identified by the focused field survey, if feasible.</li> <li>• If avoidance is not feasible, any identified special-status plants shall be re-established onsite in a suitable habitat using the following:                         <ul style="list-style-type: none"> <li>○ 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.</li> <li>○ Documentation of past successful habitat creation and transplantation for the species shall be included.</li> <li>○ A performance standard of equal replacement of plants and habitat shall be required. In addition, revegetation of special plants will be considered successful at three years if the percent cover and species diversity of the restored and / or created habitat areas are similar to percent cover and species diversity of adjacent existing habitats, as determined by quantitative testing of existing, restored and created habitat areas.</li> <li>○ Harvesting and propagation techniques shall be specified.</li> <li>○ Monitoring effort shall be identified as at least five years. The responsible agent and frequency shall be specified. The monitoring plan will include:                                 <ol style="list-style-type: none"> <li>1) Qualitative monitoring (i.e, photographs and general observations.)</li> <li>2) Quantitative monitoring (i.e., randomly placed transects),</li> <li>3) Performance criteria as approved by the County</li> <li>4) Monthly reports for the first year and bimonthly reports thereafter and</li> <li>5) Annual reports which will be submitted to the County for three</li> </ol> </li> </ul> </li> </ul>	



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>to five years, depending upon the performance of mitigation site.</p> <ul style="list-style-type: none"> <li>○ Long-term preservation of the site will be outlined in the conceptual mitigation plan to ensure the mitigation site is not impacted by future development.</li> <li>○ Contingency planning (if the effort fails to reach the performance criteria, the needed remediation steps shall be identified).</li> <li>○ Irrigation method / schedule (how much water is needed, where and for how long).</li> <li>○ Weed control.</li> </ul> <ul style="list-style-type: none"> <li>• If no suitable habitat remains onsite, the applicant shall identify a suitable offsite location for re-establishment of sensitive populations following the same methodology as for onsite re-establishment.</li> </ul> <p><b>BIO-3(d)</b> Earth-moving equipment will avoid maneuvering in areas outside the identified limits of grading in order to avoid disturbing open space areas that will remain undeveloped. Prior to grading, the construction boundary limits will be marked by the construction supervisor and the project biologist. These limits will be identified on the grading plan. The applicant will submit a letter to the County of Los Angeles verifying that construction limits have been flagged in the field. No earth-moving equipment will be allowed outside the construction boundary.</p>	
<p><b>Impact BIO-4</b> Development of the proposed project could potentially affect the San Fernando Valley spineflower (SFVS), slender-horned spineflower, and Nevin's barberry if present onsite. Potential impacts to this species would be considered Class II, <i>significant but mitigable</i>.</p>	<p><b>BIO-4(a)</b> A survey for the San Fernando Valley spineflower (SFVS) and Nevin's barberry shall be conducted by a qualified biologist in all chaparral, coastal sage scrub, annual grassland, and disturbed areas prior to and where ground disturbance is anticipated. If neither species are found, no further mitigation is required. In the event the SFVS or Nevin's barberry are discovered onsite, mitigation measures B-4 (b-c) shall be required.</p> <p><b>BIO-4(b)</b> In the event the SFVS is discovered onsite, the current and anticipated future onsite distribution of the species shall be mapped by a qualified biologist. The California Department of Fish and Game (CDFG) and / or United States Fish and Wildlife Service (USFWS) shall be formally</p>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
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Impact	Mitigation Measures	Significance After Mitigation
	<p>notified and consulted depending on the listing status of the species found. A preservation and management plan shall be prepared for the SFVS and Nevin's barberry by a qualified biologist and shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> <li>• The project shall provide a buffer between development and any listed endangered plant 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 listed endangered plants</li> <li>• Listed endangered plants shall not be artificially shaded by structures or landscaping within the adjacent development areas.</li> <li>• Pesticide / herbicide use shall not be permitted within 100 feet of areas containing listed endangered plants.</li> <li>• A qualified biologist shall be retained by the applicant as the biological monitor subject to the approval of the County of Los Angeles. That person shall ensure that listed endangered plants are avoided during construction. After project completion, a monitoring agency shall be identified and the frequency and extent of monitoring shall be determined.</li> </ul> <p>The plan shall be reviewed and approved by County of Los Angeles Department of Regional Planning prior to issuance of a grading permit.</p> <p><b>BIO-4(c)</b> If avoidance is not feasible and mitigation is required for impacts to listed plant species, a Memorandum of Understanding (MOU) shall be prepared in coordination with CDFG. The MOU should be developed by a qualified plant ecologist and would include an analysis of take, mitigation measures, and an Adaptive Management Plan (AMP) to identify strategies for responding to changed circumstances, and a monitoring plan. Specifically, the MOU should identify the number of plants to be replanted, the methods that will be used to preserve this species in this location, and methods to ensure successful mitigation for</p>	



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 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>impacts to listed plant species. The required level of success for SFVS and potential Nevin's barberry shall be defined at a minimum as a demonstration of three consecutive years of growths and a population equal to or greater than that which would be lost due to the project. The mitigation plan should include but not be limited to:</p> <ul style="list-style-type: none"> <li>• Preserving appropriate topsoil within the development envelope as a seed bank to promote revegetation at a relocation site;</li> <li>• Salvage operations to relocate perennial species to a suitable mitigation site on the undeveloped areas of the property;</li> <li>• Collecting seeds of special-status plant species in the immediate vicinity of the project site, to ensure that the genetic integrity of the local landscape remains intact;</li> <li>• Sowing the collected seed into a designated suitable mitigation site.</li> <li>• Determination of necessary irrigation requirements and irrigating the mitigation plantings if necessary until they become established; and</li> <li>• Maintaining and monitoring restoration/planting sites for a minimum of five (5) years to determine mitigation success/failure, and implementing remedial measures to satisfy mitigation objectives.</li> </ul> <p>A Federal "incidental take" permit under Section 10(b) of the Federal Endangered Species Act (ESA) may also be required. If "take" permits or other agreements are required, the applicant shall provide DRP with a copy of such signed agreements prior to grading.</p>	
<p><b>Impact BIO-5</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 significant but mitigable (Class II).</p>	<p><b>BIO-5(a)</b> <u>Pre-construction surveys shall be conducted if <del>vegetation clearing and construction activities are proposed during CAGN breeding season (beginning January 15<sup>th</sup>)</del>. Prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub, a survey would be conducted to locate gnatcatchers within 100 feet of the outer extent of projected soil disturbance activities and the locations should be clearly marked and identified on the construction/grading plans. A biological monitor will also be present at the initiation of vegetation clearing to provide an education</u></p>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p><u>program to the construction operators regarding the efforts needed to protect the CAGN and other special-status species. Fencing or flagging would be installed around the limits of grading prior to the initiation of vegetation clearing.</u></p> <p><u>A qualified monitoring biologist as approved by the jurisdictional agencies shall be onsite during any clearing of coastal sage scrub. The developer will notify USFWS/CDFG at least fourteen (14) calendar days prior to the clearing of any habitat determined by the pre-construction survey to be occupied by gnatcatcher to allow USFWS/CDFG to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist would flush CAGN and other special-status species (such as loggerhead shrike) from occupied habitat areas immediately prior to brush clearing and earth-moving activities.</u></p> <p><u>Coastal sage scrub identified for protection and located within the likely dust drift radius of construction areas would be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.</u></p> <p><b>BIO-5(ba)</b> Not more than two weeks prior to ground disturbing construction within coastal sage scrub, chaparral, and annual grassland habitats, a preconstruction survey for the coast horned lizard, coastal western whiptail, 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 appropriate habitat within a nearby known preserve. These species shall be translocated as close to the site as possible in order to maintain the species' microhabitat to the greatest extent possible. During grading and vegetation clearing, wildlife escape routes shall be allowed and cornering wildlife shall be avoided to the greatest extent possible (e.g. using flagging rather than silt fencing to demarcate site boundaries).</p> <p><b>BIO-5(bc)</b> Prior to grading, a qualified</p>	



**Table ES-1 Summary of Environmental Impacts,  
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Impact	Mitigation Measures	Significance After Mitigation
	<p>biologist shall be retained by the applicant as the biological monitor subject to the approval of the County of Los Angeles (see also BIO-3(b) above). During earthmoving activities, the biological monitor shall be present to relocate any vertebrate species that may come into harm's way to an appropriate offsite location of similar habitat.</p> <p><b>BIO-5(ed)</b> <del>Before implementation of this project</del> <u>Prior to any vegetation clearance or grading, trapping is <del>recommended</del> required using live traps. If trap-and-release protocols determine the presence of San Diego desert woodrat, <del>these</del> any captured animals would be relocated to safe, public land retained in open space land use designations with suitable habitats. If live-trapping at identified woodrat stick nests does not capture the occupant, a silt fence shall be constructed to isolate the stick nest from the development area, with the base of the silt fence either buried or sandbagged to prevent animals from entering the project area from underneath the fence. The stick nest would then be removed by hand by a biologist to remove the occupant(s) and allow their escape to adjacent undisturbed habitat. A similar silt fence shall be placed at the edge of the grading envelope and remain in place and maintained until completion of ground disturbance activities. The monitoring biologist(s) shall acquire appropriate approvals from the California Department of Fish and Game as necessary to perform the salvage activities.</u></p>	
<p><b>Impact BIO-6</b> Site development has the potential to disturb trees that may be used by raptors as foraging habitat and by migratory birds as nesting habitat. This is considered a Class II, significant but mitigable, impact.</p>	<p><b>BIO-6(a)</b> The developer shall contract with a qualified biologist to conduct nesting bird surveys prior to construction activities between the months of March and September. A copy of the contracts and reports for these services shall be submitted to California Department of Fish and Game and the County Biologist for review and approval prior to issuance of a grading permit.</p> <p><b>BIO-6(b)</b> Project-related activities likely to have the potential of disturbing suitable bird-nesting habitat shall be prohibited from February 1 through August 31, unless a biological monitor acceptable to the Director of Planning surveys the project area prior to disturbance to confirm that disturbance to habitat will not result in the failure of nests</p>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>onsite or immediately adjacent to the area of disturbance. Disturbance shall be defined as any activity that physically removes and/or damages vegetation or habitat, any action that may cause disruption of nesting behavior such as noise exceeding 90 dBA from equipment, or direct artificial night lighting. Surveys shall be conducted on the subject property within 300 feet of disturbance areas (500 feet for raptors) no earlier than seven (7) days prior to the commencement of disturbance. If an active nest is discovered onsite or can be reasonably deduced to exist immediately adjacent offsite (in cases where access to adjacent properties is prevented), the project biologist shall demarcate an area to be avoided by construction activity until the active nest(s) is vacated for the season and there is no evidence of further nesting attempts. This demarcated area will incorporate a buffer area surrounding the active nest that is suitable in size and habitat type to provide a reasonable expectation of breeding success for nesting birds. Limits of avoidance shall be demarcated with flagging or fencing. The project proponent shall record the results of the surveys and recommended protective measures described above and submit the records to the Department of Regional Planning to document compliance with applicable State and Federal laws pertaining to the protection of native birds.</p>	
<p><b>Impact BIO-7</b> The proposed project would directly remove 13 healthy oak trees of the 24 total within the project site. Impacts to oak trees are considered Class II, <i>significant but mitigable</i>.</p>	<p><b>BIO-7</b> For oak trees that are affected by project implementation, an oak tree mitigation program shall be developed pursuant to the County's oak tree preservation ordinance. This mitigation program shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>• A 2:1 replacement ratio for each oak removed. Per the Los Angeles County Oak Tree Ordinance (Los Angeles Code Part 16, 22.56.2180): "Required replacement trees shall consist exclusively of indigenous oak trees and shall be in the ratio of at least two to one. Each replacement tree shall be at least a 15-gallon size specimen and measure at least one inch in diameter one foot above the base. Replacement trees shall be properly cared for and maintained for a period of two years and replaced by the applicant or permittee if mortality occurs</li> </ul>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>within that period, where feasible replacement trees should consist exclusively of indigenous oak trees and certified as being grown from a seed source collected in Los Angeles or Ventura Counties. Replacement trees shall be planted and maintained on the subject property and, if feasible, in the same general area where the trees were removed.”</p> <ul style="list-style-type: none"> <li>• Identifying specific protective measures for protecting and maintaining all oaks within potential encroachment areas (<u>up to 20 oaks encroached upon</u>);</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 100% survival for at least two years (Los Angeles Code Part 16,22.56.2180.A.6.b);</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). Irrigation shall be kept to a minimum, preferably outside the drip zone, and must never wet the trunk to prevent oak root rot and the development of favorable conditions for the Argentine ant. Soil mychorrizal inoculations shall also be used for transplanted oak trees;</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 oak trees removed as a result of project implementation shall be replaced with in-kind native oak tree specimens obtained from regional (i.e., Castaic Valley) stock.</li> </ol> </li> </ul>	
<p><b>Impact BIO-8</b> Project development could result in the elimination of bat roosts. This is considered a <i>significant</i></p>	<p><b>BIO-8</b> No earlier than 20 days prior to any grading activity that would occur during the breeding season of native bat species</p>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<p><i>but mitigable</i> impact (Class II).</p>	<p>potentially utilizing the site (April 1 through August 31), a field survey shall be conducted by a qualified biologist (retained by the applicant and reviewed by the County) to determine if active roosts of special status bats such as hoary bat, Western red bat, Yuma myotis, long-legged myotis, pallid bat, Western mastiff bat, Townsend’s big-eared bat, and pocketed free-tailed bat are present in areas of the projects site that contains suitable roosting habitat such as large tree hollows and large cliff faces. If active maternity roosts are found, construction within 200 feet shall be postponed or halted, at the discretion of the biological monitor, until the roosts are vacated and juveniles have fledged, as determined by the biologist. Implementation of this measure would ensure that no loss of active maternity roosts of special status bat species will occur and, therefore, will reduce impacts on bat species to a less than significant level.</p>	
<b>ARCHAEOLOGICAL/HISTORICAL</b>		
<p><b>Impact CR-1</b> The proposed project would not disturb any known archaeological or historical 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> Ground disturbance shall be monitored for the presence of archaeological materials. 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. If the coroner determines the remains to be those of Native American ancestry, the Native American Heritage Commission shall be notified.</p>	<p>Less than significant.</p>
<b>VISUAL QUALITIES</b>		
<p><b>Impact VIS-1</b> The proposed project</p>	<p>None required. Implementation of project</p>	<p><i>Less than significant.</i></p>



**Table ES-1 Summary of Environmental Impacts,  
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Impact	Mitigation Measures	Significance After Mitigation
<p>involves substantial grading and would alter views of the site from potentially sensitive viewing locations including I-5, a County-designated scenic highway. The project would also alter views from other public viewing locations including The Old Road and from the Castaic Creek Trail (located on the east side of the freeway). Given the incorporated design features, the alteration of views of the site is considered a Class III, less than significant impact.</p>	<p>specific design measures in accordance with locally adopted land use plans and policies (including the Castaic Standards District), together with design measures that have been incorporated into subdivision design, are expected to reduce visual impacts on views.</p>	
<p><b>Impact VIS-2</b> The proposed project would produce new sources of light and glare that have the potential to adversely affect adjoining land uses. Light and glare impacts are considered Class II, <i>significant but mitigable</i>.</p>	<p><b>VIS-2(a)</b> Exterior lighting shall incorporate mission bell shaped posts to prevent offsite illumination and glare upon adjacent parcels, public areas, environmentally sensitive areas, and the night sky. The posts shall be placed the maximum distance apart and include the minimum lumens allowed by the Los Angeles County Department of Public Works.</p> <p><b>VIS-2(b)</b> Any security lighting shall be screened such that lighting globes are not visible from a distance of more than 20 feet. Security lighting shall be activated by motion detectors.</p> <p><b>VIS-2(c)</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>Less than significant.</p>
<p><b>Impact VIS-3</b> The proposed project is located in the Castaic Area Community Standards District and also within an area that is within the Santa Clarita Valley Area Plan (SCVAP)/ Hillside Management Area. Further, the project involves development that would bisect a CSD-designated Primary Significant Ridgeline. As a result there is the potential for the project to result in visual resource policy inconsistencies that could result in adverse visual effects. Given the design of the subdivision and subsequent review and design measures that would be required as part of the development plan approval process, this is considered a Class III, <i>less than significant</i> impact.</p>	<p>None required. Implementation of project specific design measures in accordance with locally adopted land use plans and policies (including the Castaic Standards District (CSD)&amp; Santa Clarita Valley Area Plan) together with design measures that have been incorporated into subdivision design are expected to reduce the project's impact on visual resources. In particular incorporation of design features have aimed at minimizing any visual impact on the CSD-designated Primary Significant Ridgeline</p>	<p>Less than significant.</p>
<p><b>TRAFFIC and ACCESS</b></p>		



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<p><b>Impact T-1</b> Development of the Lake View Estates Project would result in the addition of 210 - A.M. and 206 - P.M. peak hour trips. These traffic additions would result in a Class II, <i>significant but mitigable</i> impact at The Old Road/Parker Road intersection during the P.M. peak hour.</p>	<p><b>T-1 Road Widening.</b> Widening of the westbound approach to provide a left-turn lane and a shared through / right turn lane would reduce the project's impact at The Old Road / Parker Road intersection to a level of insignificance, thereby mitigating the project's impact.</p>	<p>The impact would be reduced to a level that is less than significant through implementation of mitigation measure T-1 and payment of fair share contributions toward installation of a signal at The Old Road/Parker Road intersection.</p>
<p><b>Impact T-2</b> Development of the Lake View Estates Project would result in the introduction of additional traffic and turning vehicles at the proposed intersection of The Old Road and project access at "A" Street. This section of The Old Road is currently in the planning and design stages for road widening and will include provisions for pedestrians, bicycles and vehicles. A potentially significant impact would occur if the Lake View Estates project access caused a hazard for pedestrians, vehicles and bicycles on The Old Road. This is a Class II, <i>significant but mitigable</i> impact.</p>	<p><b>T-2 Adequate Turn Storage.</b> The right turn lane on The Old Road at the project entrance shall be designed such that the radius of the curb return is sufficient to accommodate turning movements of a 65-foot semi-truck and with a storage length of 140 feet to provide adequate storage for project generated traffic. The project access configuration at The Old Road shall be designed to the satisfaction of the Los Angeles County Department of Public Works Traffic &amp; Lighting Division.</p>	<p>The potential adverse impacts associated with hazards to vehicles, pedestrians and bicycles at the project access of "A" Street and The Old Road would be less than significant due to incorporation of design considerations.</p>
<p><b>Impact T-3</b> Development of the Lake View Estates Project would result in the construction of a mixed use development with an internal circulation system. A substantial adverse impact would occur if the internal circulation system and parking supply were not adequate to safely serve the needs of the development. This is a Class II, <i>significant but mitigable</i> impact.</p>	<p><b>T-3(a) Commercial Access.</b> The access driveway to Lot 77, located on the northwest corner of The Old Road / "A" Street intersection, shall be located in westernmost boundary of the lot to maximize the distance between the driveway and the intersection. The driveways that would provide access to office buildings proposed on Lots 75 and 76, which are located north and south of "A" Street, should be aligned. The access driveways shall be shown in these locations on the ultimate site plan.</p> <p><b>T-3(b) Parking.</b> The ultimate site plan shall show that for each of the office buildings, parking supply will equal one space per 400 S.F., and each residential unit shall show that two covered spaces are provided.</p>	<p>Incorporation of mitigation measure T-3 (a-b) would reduce the potential for adverse impacts to a level of insignificance and no residual effects would occur.</p>
<p><b>Impact T-4</b> Project Development would contribute to significant cumulative impacts at three study area intersections during the A.M. peak hour and four study area intersections during the P.M. peak hour. This is a Class II, <i>significant but mitigable</i> impact.</p>	<p><b>T-4(a) The Old Road / Sloan Canyon Road:</b> In addition to the intersection improvements included in the Castaic Bridge &amp; Thoroughfare (B&amp;T) Fee District Program, the westbound approach would need to be modified to provide a free right turn lane and traffic signals would need to be installed to meet County thresholds. The payment of the Castaic B&amp;T Fee District fees and payment of</p>	<p>Implementation of mitigation measure T-4(a-d) would reduce the project's cumulative impacts to a level that is less than significant. No additional mitigation is required.</p>



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<p>the proportionate share of 2% of the cost of the additional improvements would mitigate the project's cumulative impact.</p> <p><b>T-4(b) The Old Road / Parker Road intersection:</b> The following improvements would be required at this intersection to mitigate cumulative impacts: construct Castaic B&amp;T improvements and restripe the eastbound approach to provide a left-turn lane and a shared through / right turn lane. The payment of the Castaic B&amp;T Fee District fees and payment of the proportionate share of 24.3% of the cost of the additional restriping improvement would mitigate the project's cumulative impact. It is noted that these improvements are in addition to the project-specific mitigation measures outlined in Mitigation T-1.</p> <p><b>T-4(c) I-5 Southbound On-Ramp / Parker Road intersection:</b> The Parker Road Interchange project contained in the Castaic B&amp;T Fee District would result in LOS "B" during the P.M. peak hour, which meets County thresholds. Payment of the Castaic B&amp;T Fee District fees would mitigate the project's cumulative impact.</p> <p><b>T-4(d) I-5 Northbound Off-Ramp / Ridge Route Road intersection:</b> In addition to the Parker Road overcrossing widening project contained in the Castaic B&amp;T Fee District, the intersection would need to be signalized to meet County thresholds. The payment of the Castaic B&amp;T Fee District fees and payment of the proportionate share (7.4% of the cost of the traffic signal) would mitigate the project's cumulative impact.</p>	
<b>WASTE DISPOSAL</b>		
<p><b>Impact WD-1</b> Buildout of the proposed project would generate an estimated 45,200 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>None required. The Saugus and the Valencia treatment plants have sufficient combined capacity to serve the proposed project.</p>	<p>Less than significant.</p>
<p><b>Impact WD-2</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</i></p>	<p>None required. The local wastewater conveyance system has adequate capacity to accommodate the proposed project.</p>	<p>Less than significant.</p>



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Impact	Mitigation Measures	Significance After Mitigation
<i>significant.</i>		
<p><b>Impact WD-3</b> Construction and operation of the proposed project may generate significant waste. This is considered a Class II, significant but mitigable impact.</p>	<p><b>WD-3(a)</b> New homeowners shall be provided with educational materials on the proper management and disposal of household hazardous waste within the community of Castaic.</p> <p><b>WD-3(b)</b> The development project is required, pursuant to the California Solid Waste Reuse and Recycling Access Act of 1991, to provide adequate storage area for collection and removal of recyclable materials. Storage areas for the collection and storage of recyclable and green waste materials shall be required for subdivision approval and shall be required as a part of the final designs for each residential and commercial lot.</p> <p><b>WD-3(c)</b> Construction projects with a total value of over \$100,000 in addition to demolition and grading projects in the County's unincorporated areas are required to recycle or reuse 50 percent of the construction and demolition debris generated per the County's Construction and Demolition Debris Recycling and Reuse Ordinance. A Recycling and Reuse Plan shall be submitted to and approved by the Public Works Environmental Programs Division before a construction, demolition, or grading permit may be issued.</p> <p><b>WD-3(d)</b> Public Works' Environmental Programs Division shall be contacted for required approvals and operating permits in the event that construction, installation, modification, or removal of underground storage tanks, industrial waste treatment or disposal facilities, and/or storm water treatment facilities is necessary.</p>	<p>Less than significant.</p>
<b>EDUCATION SERVICES</b>		
<p><b>Impact E-1</b> The proposed project would generate an additional 63 students at local public schools. Any direct and indirect increase in school enrollment associated with residential housing or commercial/industrial job generation would be mitigated through implementation of applicable developer school impact fees. With the payment of required fees, impacts to schools are considered Class II, <i>significant but mitigable</i>.</p>	<p><b>E-1 School Fees.</b> Payment of school fees based on square footage of residential and commercial development in the amount of \$521,700 to Castaic Union School District, and \$436,740 to William S. Hart Union School District (or adjusted based on current fees) would mitigate the potential adverse impacts to local schools to a level of insignificance.</p>	<p>Less than significant.</p>
<p><b>Impact E-2</b> The new residents</p>	<p><b>E-2 Library Fees.</b> Payment of \$55,300 (or</p>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
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Impact	Mitigation Measures	Significance After Mitigation
associated with the proposed project would generate an increased demand for library services. Impacts to libraries would be Class II, <i>significant but mitigable</i> .	adjusted based on current fees) in Library Fees based on development of 70 residential units would reduce the impacts on library services to a level of insignificance.	
<b>PUBLIC SERVICES</b>		
<b>Impact PS-1</b> The proposed project would incrementally increase demand for fire protection service. This is a Class III, <i>less than significant</i> impact.	None required. The project has incorporated design features and would be required to adhere to all measures identified by the County of Los Angeles Fire Department as mitigation for both the commercial and residential components in order to ensure adequate access, fire pressure, and fuel modification (refer to Section 4.3 <i>Fire Hazards</i> FH-1(a-b)). The project applicant would be required to pay applicable developer fees.	Less than significant.
<b>Impact PS-2</b> The proposed project would incrementally increase demand for sheriff service but would not exceed the significance threshold that has been identified by the Los Angeles County Sheriff's Department. This is a Class III, <i>less than significant</i> impact.	<p><b>PS-2 (a) Access.</b> If feasible, widen "A" Street right-of-way to 66 feet all the way to "D" Street. Widen cul-de-sacs "B", "C", and "E" to 60 feet instead of the proposed 58 feet.</p> <p><b>PS-2(b) Crime Prevention.</b> The following measures are recommended for incorporation into the project design to facilitate crime prevention within the development:</p> <ul style="list-style-type: none"> <li>▪ Provide lighting in open areas and parking lots;</li> <li>▪ Ensure visibility of doors and windows from the street;</li> <li>▪ Ensure that the required building address numbers are lighted and readily apparent from the street for emergency response agencies.</li> </ul>	Less than significant.
<b>Impact PS-3</b> The project would increase the residential population in the Castaic Area by 225 residents, thereby contributing to local roadway traffic, and having the potential to contribute incrementally to a decreased level of service for the California Highway Patrol. This is a Class III, <i>less than significant</i> impact.	None required. The project includes traffic mitigation in Section 4.10, <i>Traffic &amp; Access</i> that reduces the project related traffic impacts to an acceptable level of service.	Less than significant.
<b>WATER SERVICES</b>		
<b>Impact W-1</b> The northeast portion of the property is outside the Newhall County Water District (NCWD) boundaries and will have to be annexed into the District for service. This is a Class II, <i>significant but mitigable</i> impact.	<b>W-1 Annexation.</b> Prior to development, the applicant shall coordinate with Newhall County Water District to annex the northeast portion of the project site into the service District.	Less than significant.



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Impact	Mitigation Measures	Significance After Mitigation
<p><b>Impact W-2</b> The proposed project would generate increased demand for water. The Newhall County Water District as a purveyor for Castaic Lake Water Agency (CLWA) would be able to supply the projected demand based on existing entitlements and projected capital improvements. Impacts to water supply would be Class II, <i>significant but mitigable</i>.</p>	<p><b>W-2(a) Interior Conservation.</b> Interior water conservation measures, as required by the State of California, shall be incorporated into the project residential and commercial components. 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 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> <p><b>W-2(b) Exterior Conservation.</b> Exterior water conservation features as recommended by the State Department of Water Resources, shall be incorporated into the project residential and commercial uses. 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>W-2(c) Reclaimed Water.</b> The residential and commercial uses shall, to the extent feasible, use reclaimed water for irrigation of landscaping.</p> <p><b>W-2(d) Xeriscaping.</b> Residential and commercial landscaped areas shall use vegetation that will eventually naturalize and require minimal irrigation.</p>	<p>Less than significant.</p>
<p><b>Impact W-3</b> The proposed project includes development that would need to be accompanied by water conveyance infrastructure and connected to the existing main located beneath The Old Road. The project will need to be designed such that it provides adequate flows and pressures for fire fighting purposes and will be subject to the review and approval of the Newhall County Water District and Los Angeles County Fire Department Land Development Unit. This is a Class II, <i>significant but mitigable</i>, impact.</p>	<p><b>W-3(a) Connection Fees.</b> The applicant shall pay the current Castaic Area Connection Fee that is necessary to connect water conveyance infrastructure within the project area to the eight-inch existing main located beneath The Old Road.</p> <p><b>W-3(b) Water Main Upgrades.</b> The applicant shall pay for any necessary upgrades to the eight-inch water main in The Old Road, if the upgrades are necessary to accommodate the scale of development or provide adequate fire flows to serve the project.</p> <p><b>W-3(c) Water Plan Approval.</b> The</p>	<p>Less than significant.</p>



**Table ES-1 Summary of Environmental Impacts,  
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Impact	Mitigation Measures	Significance After Mitigation
	applicant shall submit water infrastructure plans to NCWD and the Los Angeles County Fire Department Land Development Unit for review and approval to assure that the project design meets individual requirements of both agencies prior to finalization of the Tract Map.	
<b>LAND USE</b>		
<p><b>Impact LU-1</b> Based on staff's preliminary review of the project, the proposed project is generally consistent with the General Plan and Santa Clarita Valley Area Plan (SCVAP) land use designations for the site and will not require a General Plan amendment. As the Land Use Consistency Analysis, Section 4.15.2.c indicates, the project is not in conflict with any applicable land use plan, policy, or regulation of agencies with jurisdiction over the project, including the Hillside Management Area Plan and Castaic Area Community Standards District (CSD). However, the proposed project is not consistent with the current zoning, and therefore requires a zone change from A-2-2 to M-1-DP and RPD-2-51.9U. This is considered a Class III, less than significant impact.</p>	<p>None required. While the proposed project appears to be generally consistent with the SCVAP land use designations and other applicable plans and policies, rezoning of the project site will be required. However this change is not expected to result in any significant environmental impacts. The project, through incorporation of appropriate design measures as discussed in Sections 4.9, <i>Visual Qualities</i> and 4.15.2.c, <i>Land Use Consistency Analysis</i>, is shown to be consistent with the applicable land use ordinances including Hillside Management Area Plan and the Castaic Area Community Standards District (CSD).</p>	<p>Less than significant.</p>
<p><b>Impact LU-2</b> The proposed project would generally have a lower residential density than the adjacent developments but will be compatible with the residential uses in the area, though air quality, noise, traffic, drainage and visual qualities, including Castaic Area Community Standards District-related items, have the potential to result in adverse environmental effects unless properly mitigated. The location of residential uses in close proximity to existing commercial and industrial uses have the potential to result in land use conflicts. In addition, the mix of residential and commercial office uses has the potential to result in land use conflicts if not properly mitigated. Compatibility impacts are considered Class II, <i>significant but mitigable</i>.</p>	<p>Measures in Section 4.1, <i>Geotechnical Hazard</i>, Section 4.2 <i>Flood Hazard</i>, Section 4.4, <i>Noise</i>, Section 4.6, <i>Air Quality</i>, Section 4.9, <i>Visual Qualities</i>, and Section 4.10, <i>Traffic &amp; Access</i>, would address potential impacts relating to project generated impacts on adjacent developments. The project has also incorporated design measures in order to be consistent with the Santa Clarita Valley Area Plan, Hillside Management Area Plan / Hillside Design Guidelines, CSD and other applicable ordinances (see Sections 4.15.2.c, <i>Land Use Consistency Analysis</i> &amp; 4.9, <i>Visual Qualities</i>). No additional measures are required.</p>	<p>Less than significant.</p>
<b>GLOBAL CLIMATE CHANGE</b>		
<p><b>Impact GCC-1</b> The proposed project would generate about 707 metric tons of carbon dioxide during construction, and would generate about 4,148 metric tons</p>	<p><b>GCC-1 Energy Conservation.</b> At a minimum, the project shall provide or incorporate the following Greenhouse Gas (GHG) reduction measures.</p>	



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
<p>of carbon dioxide equivalents annually, thereby exceeding the 90% of future development California Air Pollution Control Officer's Association (CAPCOA) potential threshold. Therefore, project generated emissions are cumulatively considerable. The impact is Class II, significant but mitigable.</p>	<ul style="list-style-type: none"> <li>▪ Provide a complimentary electric lawnmower to every residential buyer as well as exterior electrical outlets in the front and rear yards (1% emissions reduction). See MM B-19 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).</li> <li>▪ The project shall utilize Energy Star Roof materials. (1% emissions reduction). See MM E-4 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).</li> <li>▪ The project shall optimize each building's thermal distribution by separating ventilation and thermal conditioning systems. (5% emissions reduction). See MM E-9 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).</li> <li>▪ Project orients about 50% or more of homes and/or buildings to face either north or south (within 30° of N/S). Building design includes roof overhangs that are sufficient to block the high summer sun, but not the lower winter sun, from penetrating south facing windows. Trees, other landscaping features and other buildings are sited in such a way as to maximize shade in the summer and maximize solar access to walls and windows in the winter. (2% emissions reduction). See MM E-7 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).</li> <li>▪ Non-roof surfaces with shade, light-colored/high albedo materials (reflectance of at least 0.3) and/or open grid pavement for at least 30% of the site's non-roof impervious surfaces OR use an open-grid pavement system (less than 50% impervious) for a minimum of 50% of the parking lot area. Such mitigation measures would reduce urban heat island effect. (1% emissions reduction). See MM E-8 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).</li> <li>▪ Traffic calming measures including roadways designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips. (1% emissions reduction). See MM T-5 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).</li> </ul>	



**Table ES-1 Summary of Environmental Impacts,  
 Mitigation Measures, and Residual Impacts**

Impact	Mitigation Measures	Significance After Mitigation
	<ul style="list-style-type: none"> <li>▪ Electric Vehicle charging facilities with preferential parking for each of the commercial buildings. See MM E-11 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 1%.</li> <li>▪ Using light colored paving to increase the project's albedo effect and create emissions reductions from energy savings stemming from less need for cooling. See MM E-12 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 1%.</li> <li>▪ Solar water heaters to provide a 20-70% reduction in water heating energy costs. See MM E-14 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 1%.</li> <li>▪ Certified energy efficient appliances, e.g. Energy Star, to be used throughout the project to provide emissions reductions. See MM E-16 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 2%.</li> <li>▪ Use locally made building materials for construction of the project and the associated infrastructure. This would reduce emissions by limiting the length of transport of building materials. See MM C-3 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 1%.</li> </ul>	



## 1.0 INTRODUCTION

This document is a ~~Revised Draft~~ Final Environmental Impact Report (EIR) that addresses the environmental effects of the subdivision of a 47.25-acre vacant property in the Castaic Area of Los Angeles County. The subdivision would create 70 single family residential lots, three business/professional office building lots, and four open space lots, one park lot, and one detention basin lot for Los Angeles County Flood Control District. The proposed project is described in detail in Section 2.0, *Project Description*. This section describes: (1) the purpose and legal authority of the EIR; (2) the general background of the project; (3) the scope and content of the EIR; (4) lead, responsible, and trustee agencies; (5) the environmental review process required under the California Environmental Quality Act (CEQA); and (6) areas of public controversy.

### 1.1 PURPOSE AND LEGAL AUTHORITY

*This EIR has been prepared in accordance with CEQA and the State 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..."*

This report is to serve as an informational document for the public and County of Los Angeles decision-makers. The process will culminate with Planning Commission and Board of Supervisor hearings to consider certification of a Final EIR and a decision whether to approve the proposed project.

### 1.2 PROJECT BACKGROUND

The project is located in the community of Castaic in unincorporated Los Angeles County, west of the Golden State Freeway/Interstate Freeway 5 (I-5), and approximately 1/5-mile south of Parker Road, adjacent to existing and approved higher density residential developments to the north, south and northwest. Figures 2-1 (Regional Map) and 2-2 (Site Location Map) in Section 2.0, *Project Description* show the project location from both a regional and local perspective. Access to the site is currently provided from The Old Road.

The proposed project involves the subdivision of the 47.25-acre vacant site into 70 single family residential lots (11.18 acres), three business/professional lots (5.21 acres), and four open space lots (21.28 acres) one park site for recreational use of the project's residents (4.11 acres). The project is also designed with a detention basin that would occupy a separate 0.48 acre lot, while roads would occupy the remaining 4.99 acres. Residential and open space lots would occupy an estimated 42.04 acres, and the three business/professional lots would occupy approximately 5.21 acres. It is anticipated that the three business/professional lots would be developed with office buildings totaling up to 70,000 square feet. Access to the subdivision would be from a new road that connects a series of cul de sacs to the The Old Road.



The development of the proposed project will require the following approvals:

- Vesting Tentative Tract Map No. 53933: to subdivide the 47.25-acre subject property into 70 single-family residential lots on 11.18 acres, three business/professional office building lots on 5.21 acres, four open space lots, one park site, and a lot designated for a detention basin.
- Conditional Use Permit No. 03-304: for Hillside Management Area development.
- Zone Change No. 03-304: from A-2-2 to RPD-2.51.9U (Residential) and M-1 (Light Manufacturing).
- Oak Tree Permit No. 03-304: to remove 13 oak trees that meet Oak Tree Protection Ordinance criteria.
- Encroachment Permit for work in The Old Road right-of-way, required for transition of the internal circulation system to the existing public roadway.

The community of Castaic is located within the northern portion of the Santa Clarita Valley. The Valley's northern region is defined by the ridgelines of the Liebre and Topatopa Mountains. The site is currently undeveloped and is comprised of ridges, intervening canyons and level terrain, with elevations ranging from approximately 1,139 feet to 1,494 feet above sea level. Onsite hydrology is subject to moderately steep to steep, sloping hills, most of which drain into an unnamed ephemeral stream in the eastern portion of the site. The site and surrounding area drain towards the Santa Clara River via Castaic Creek.

The project site is bounded on the north by a hi-density condominium project consisting of 75 condos on approximately five net acres (TR# 34365), and to the northwest by a 115-unit mobile home park. The Old Road and I-5, along with a building supply yard business, border the eastern portion of the site. To the south is approved Tentative Tract 46798, with condominium development pending. The area immediately west of the project site is mostly vacant, with a single-family residence on the property. To the north of the project there is an approved Auto Sales / Repair business across The Old Road. The proposed project will have a lower residential density (proposed to be zoned RPD-2.51.9U) than the existing and proposed residential developments immediately to the north (RPD-6.5U), northwest (R-3-10U) and south (RPD-3.5U).

### **1.3 EIR 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 the required 30-day period in April 2005. The NOP, Initial Study and responses to the NOP are presented in Appendix A.



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 County of Los Angeles. Issues that are addressed in this EIR include:

<i>Geotechnical Hazard</i>	<i>Visual Qualities</i>
<i>Flood Hazard</i>	<i>Traffic/Access</i>
<i>Fire Hazard</i>	<i>Sewage Disposal</i>
<i>Noise Hazard</i>	<i>Education Services</i>
<i>Water Quality</i>	<i>Public Services</i>
<i>Air Quality</i>	<i>Water Services</i>
<i>Biota</i>	<i>Land Use</i>
<i>Archaeological/Historical</i>	<i>Global Climate Change</i>

The EIR addresses the issues referenced above and identifies potentially significant environmental impacts, including both project-specific and cumulative impacts, 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 County policies and guidelines, existing EIRs and other technical studies available for the project area, and site-specific background documents prepared by the project design team. 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 for the identified 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 (Section 6.0) 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, including economic viability. Alternatives evaluated include the CEQA-required "No Project" scenario, 2 alternative development scenarios for the site, and buildout under the current County General Plan zoning designation. The EIR also identifies the "environmentally superior" alternative among the options studied.

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).*

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

The *CEQA Guidelines* require identification of "lead," "responsible" and "trustee" agencies. The County of Los Angeles 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 County of Los Angeles Board of Supervisors and Planning Commission.

A "responsible agency" is a public agency other than the "lead agency" that has discretionary approval over the project (the *CEQA Guidelines* define a public agency as a State or local agency, but specifically exclude Federal agencies from the definition). Responsible agencies for the project and their specific responsibilities are listed below:

- *The Regional Water Quality Control Board (RWQCB) may 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).*
- *The California Department of Fish and Game (CDFG) may need to issue a take permit if San Fernando Valley spineflower or Nevin's barberry are found to occur onsite within the proposed development areas during the pre-grading blooming period native plant survey.*

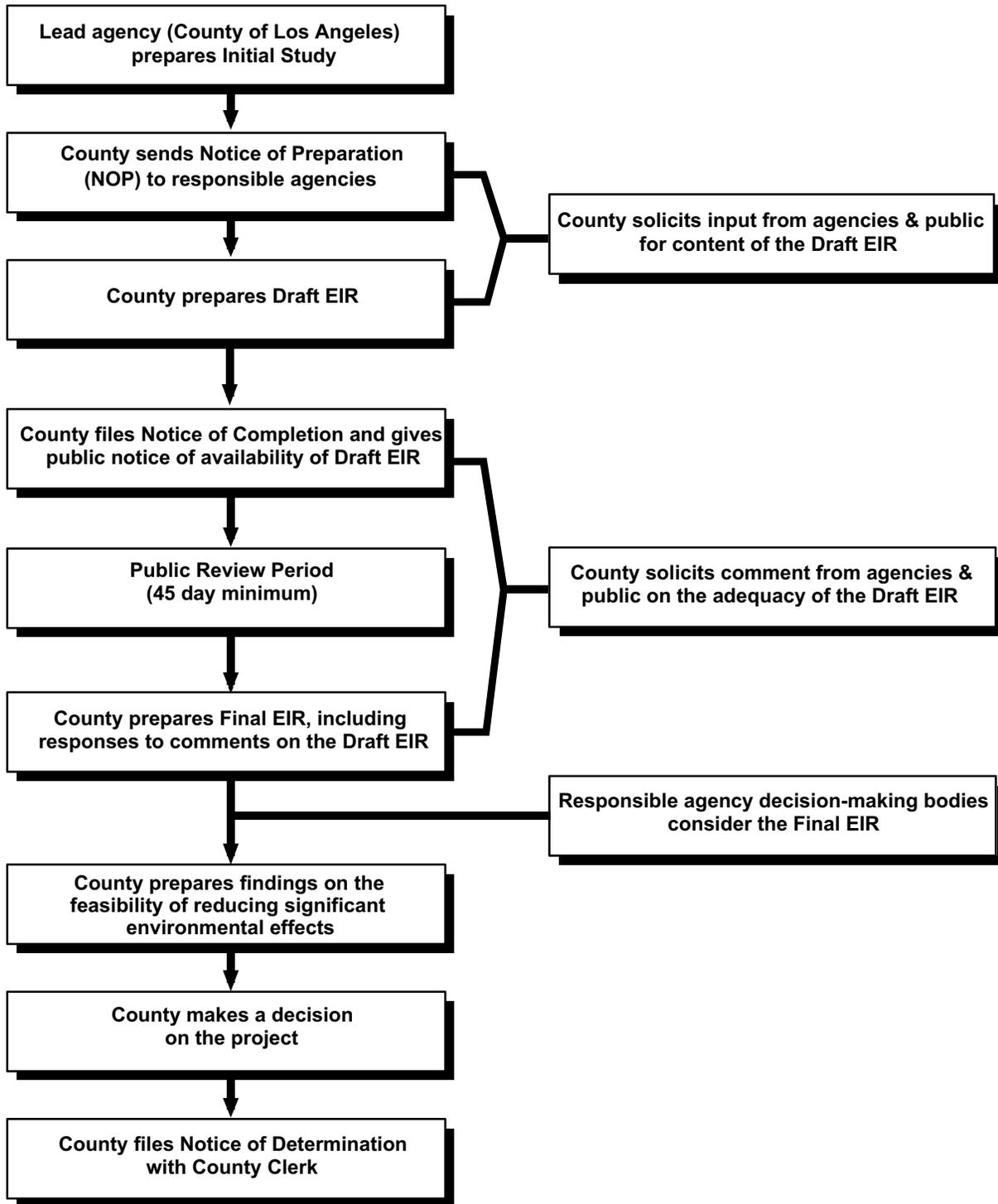
A "trustee agency" refers to a State agency having jurisdiction by law over natural resources affected by a project. CDFG has jurisdiction over biological resources, including wetlands or other riparian areas that may be affected by project development. The CDFG is therefore a trustee agency.

Although not a responsible or trustee agency under CEQA, the U.S. Army Corps of Engineers may exercise jurisdiction by law over certain grading aspects of the project. If this occurs, 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 the stream channel on the project site. In addition, the U.S. Fish and Wildlife Service may need to issue a take permit if Nevin's barberry is found to occur onsite within the proposed development areas during the pre-grading blooming period native plant survey.

## **1.5 ENVIRONMENTAL REVIEW PROCESS**

The environmental review process, as required under CEQA, is illustrated generally on Figure 1-1, and discussed herein.





CEQA Environmental Review Process

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. The NOP for the project was circulated on April 27, 2005. Copies of responses to the NOP are contained in Appendix A.
2. **Draft EIR Prepared.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, and unavoidable impacts); f) mitigation measures; and g) a discussion of alternatives.
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 (FEIR).** 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 must certify that: a) the FEIR has been completed in compliance with CEQA; 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.

## 1.6 AREAS OF CONTROVERSY

At this stage of the project, there are no known areas of substantial public controversy. The Notice of Preparation (NOP) was circulated on May 2, 2005 and 10 responses were received (Appendix A). Key issues identified in these responses included impacts to local traffic, wastewater service capacity, sheriff service, highway patrol service, construction and operational air quality, park fees, library fees, and biological resource protection. The majority of concern within responding departments stemmed from the cumulative impacts that are associated with providing necessary services to the public while development in the area is proceeding at an unprecedented rate. No response to the NOP was received from the Castaic Town Council. However, the project has been presented to the Castaic Town Council and the community on five occasions, for each of which the public had been formally notified. The most recent presentation at a Castaic Town Hall meeting was on July 20, 2005. Appendix A provides copies of meeting agendas and sample correspondence / chronology. The Town Council requires the formal decision of their Land Use Committee before a vote is taken on recommendation to the County. The Castaic Land Use Committee formally endorsed the plan originally on July 12, 2004 and later renewed its endorsement on July 11, 2005. Subsequent to each endorsement by the Land Use Committee, presentations were also made at the Town Hall meetings for obtaining community feed back. However, requesting a formal Town Council vote has been postponed by the developer pending the completion of the EIR. Public comments on the project at the five Castaic public meetings were limited. The topics of interest / issues raised by the Town Council were mainly related to Castaic Area Community Standards District (CSD) compliance, and included public services adequacy, significant ridgeline and oak tree protection, park space, residential lot size, proposed commercial use and traffic impact. These and other topics are addressed in various sections of the EIR including *Biota* (Section 4.7), *Visual*



*Qualities (Section 4.9), Traffic and Access (Section 4.10), Public Services (Section 4.13) and Land Use (Section 4.15).*



## **2.0 PROJECT DESCRIPTION**

### **2.1 PROJECT APPLICANT**

Bahram Safavi  
Can Shelter, Inc.  
P.O. Box 34898  
Los Angeles, CA 90034

### **2.2 PROJECT LOCATION**

The proposed project includes subdivision and future development of a 47.25-acre parcel with residential and business/office park uses. The project site is currently vacant and is located in the unincorporated community of Castaic, Los Angeles County, California (refer to Figure 2-1). The project site is identified as Los Angeles County Assessor's Parcel Numbers 2865-012-002; 005; 014; and 015.

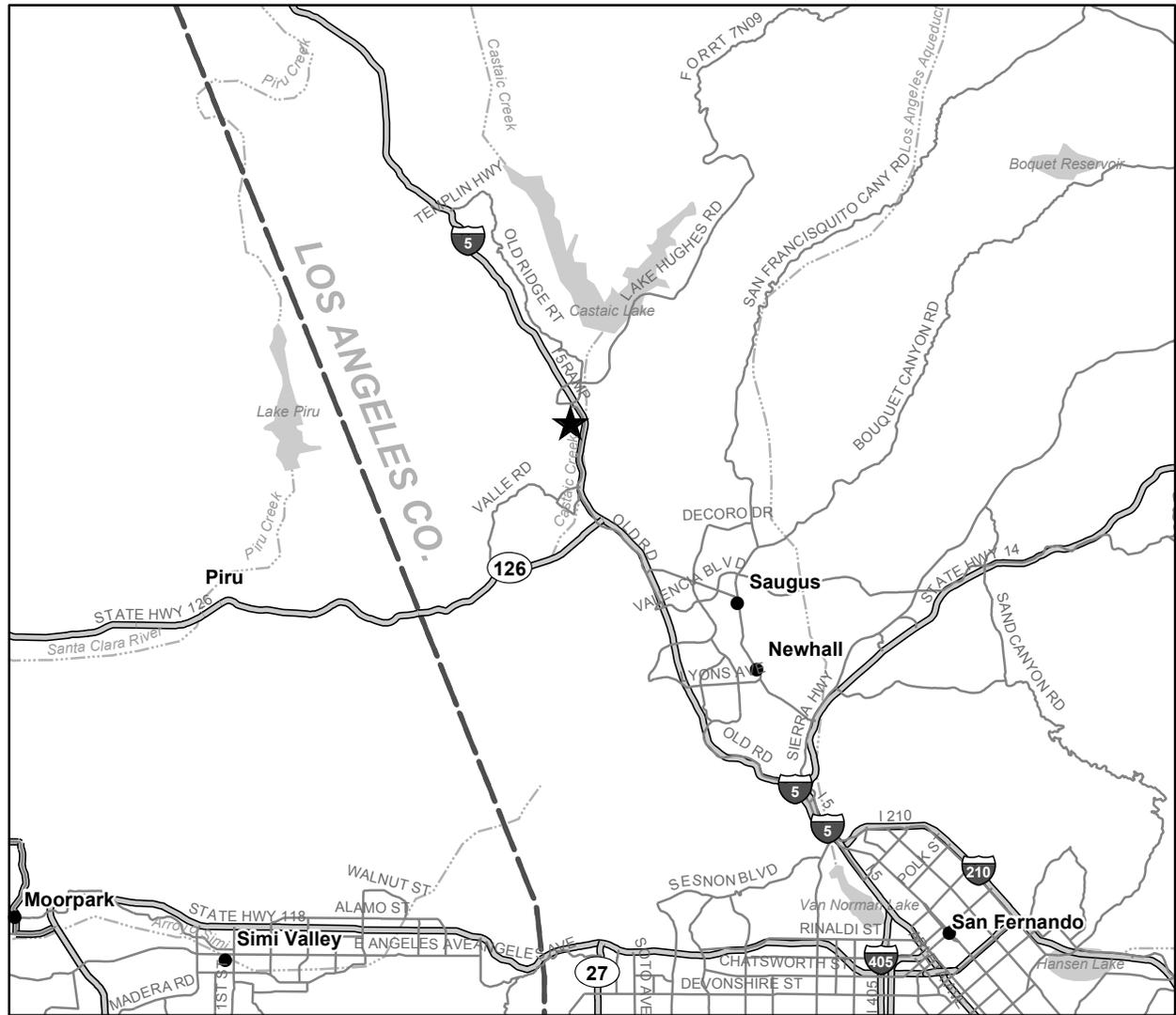
More specifically, the site is located in the northwestern portion of the Santa Clarita Valley approximately  $\frac{3}{4}$  mile southwest of the Castaic Lake State Recreation Area. The project site is parallel to and southwest of The Old Road and the Golden State Freeway/Interstate-5 (I-5). The Old Road and a building/landscape materials yard business are located along the site's eastern boundary. The Castaic County Sports Complex (refer to Figure 2-2) is located further to the east across I-5. To the north of the site there is an existing condominium development (Tract 34365) consisting of 75 condos on approximately 10 gross acres, which has a higher density (zoned RPD-6.5U) than the proposed single family residential element of the project (proposed zoning RPD-2.51.9U). Also to the north of the project site, across The Old Road is an approved commercial development providing auto services /sales and retail business space. A 115-unit mobile home park (zoned R-3-10U) located to the northwest of the project is also of high-density use. Vacant land approved for condominium development (zoned at RPD-3.5U) is located to the south (approved Tentative Tract 46798), and a mostly undeveloped parcel with a single family house borders the western edge of the project site. Figure 2-3 shows an aerial view of the project site and surrounding land uses. Figure 2-4 shows the proposed project, while Figure 2-5 shows the existing parcels.

### **2.3 CURRENT LAND USE and REGULATORY PATTERNS**

#### **2.3.1 Physical Characteristics**

Key characteristics of the project site are summarized in Table 2-1. The site is currently undeveloped and is comprised of ridges, intervening canyons and level terrain, with elevations ranging from approximately 1,139 feet to 1,494 feet above sea level. Existing vegetation consists of mixed chaparral, costal sage scrub, chamise chaparral, California annual grassland, sage scrub ecotone, and cotton-willow riparian forest vegetation communities. Twenty-four coast live oak trees and shrubs of varying sizes are located on the property





Source: US Bureau of the Census TIGER 2000 data.

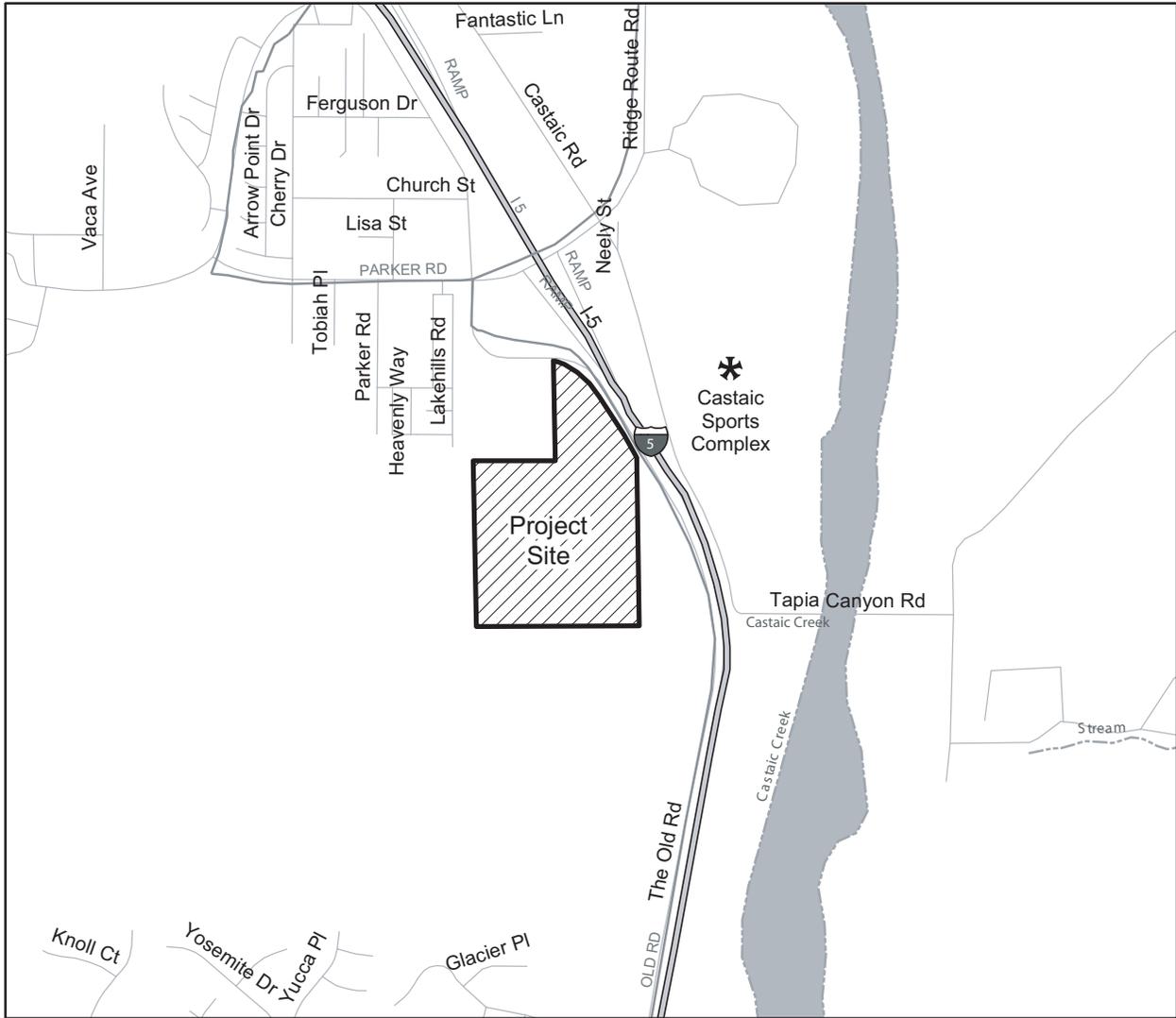
★ Project Location



Regional Location

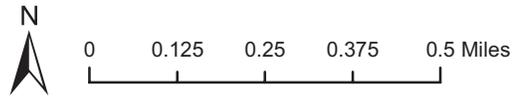
Figure 2-1





Source: US Bureau of the Census TIGER 2000 data.

 Project Site



**Project Location**

**Figure 2-2**

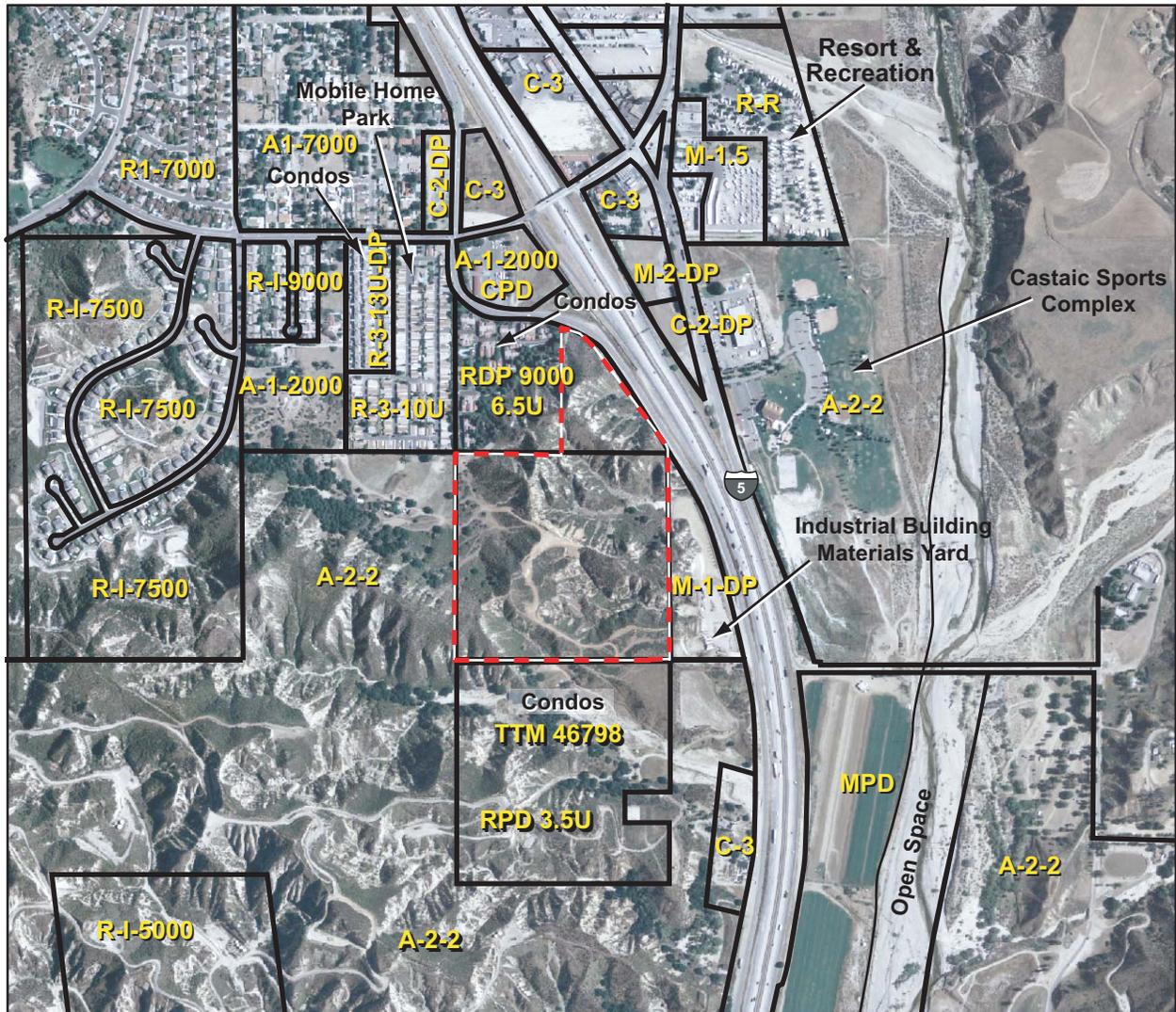
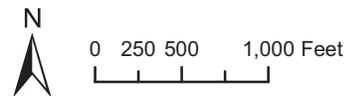


Image Source: NAIP, 2005.

 Project Site



Lake View Estates  
 Aerial Photo of Site and Surrounding Uses

Figure 2-3

Lake View Estates Mixed Use Project EIR  
 (Case File #03-304, TR# 53933)  
 Section 2.0 Project Description

GENERAL NOTES:

- (1) EXISTING ZONING A-2-2.  
PROPOSED ZONING: RFD-2.5U AND M-1-DP
- (2) SANTA CLARITA VALLEY AREA PLAN: HM, U1, U2, U3, M.
- (3) ASSESSORS PARCEL: 2885-012-02, 2885-012-5, 14, 15.
- (4) RECORD OWNER: CAN SHELTER, INC. / BAHAM SAFARI
- (5) APPLICANT: CAN SHELTER, INC.  
BAHAM SAFARI  
P.O. BOX 34898  
LOS ANGELES CA 90034
- (6) UTILITIES AND SERVICES:
  - WATER- NEWHALL COUNTY, WATER DISTRICT.
  - SEWER- L.A. COUNTY SANITATION DISTRICT NO. 32.
  - GAS- SOUTHERN CALIFORNIA GAS COMPANY.
  - ELECTRIC- SOUTHERN CALIFORNIA EDISON COMPANY.
  - TELEPHONE- PACIFIC TELEPHONE COMPANY.
  - SCHOOLS- CASTAC LAKE SCHOOL DISTRICT.
  - FIRE- L.A. COUNTY FIRE DEPARTMENT.
  - POLICE- L.A. COUNTY SHERIFFS DEPARTMENT
- (7) PREVIOUS CASES: (ADJACENT SOUTH PROPERTY) V.T.M. 46798, CUP, OTR, ZC NO. 89-345-(5)  
(ONSITE U1, U2, U3, M, HM); S.P. 89-363 ADDED BOARD OF SUPERVISORS, DECEMBER 6, 1990
- (8) THOMAS BROS. PG. 4369 H-7

SITE PLAN:

- (10) SITE IS VACANT.
- (11) GROSS ACREAGE= 47.25 ACRES.
- (12) RESIDENTIAL = LOTS 1 THRU 70; 3 COMMERCIAL = LOTS 75 THRU 77; OPEN SPACE = LOTS 71 THRU 73, AND LOT 78; PARK = LOT 74; DETENTION BASIN = LOT 79 (FEE TITLE TO LOS ANGELES COUNTY FLOOD CONTROL DISTRICT; EXISTING SLOPE EASEMENT TO L.A. COUNTY WILL BE FRACTIONALLY VACATED AS REQUIRED).
- (13) MAXIMUM SLOPE GRADE: 1 HORIZONTAL TO 1 VERTICAL.
- (14) DEVELOPER RESERVES THE RIGHT TO RECORD MULTIPLE TRACTS PER SECTION 66456.1 CALIFORNIA GOVERNMENT CODE (SUBDIVISION MAP ACT).
- (15) 13 OF 33 OAK TREES TO BE REMOVED.
- (16) GRADING PROPOSED:  
RAW CUT= 640,000 CUBIC YARDS.  
RAW FILL= 640,000 CUBIC YARDS.  
TO BALANCED ON SITE AT FINAL GRADING.

CIRCULATION:

- (17) ALL STREETS TO BE PUBLIC RIGHTS-OF-WAY.
- (18) ALL PRIVATE DRIVES SHALL BE FIRE LANES AND HAVE A MINIMUM PAVED WIDTH OF 20 FEET. FOR PRIVATE DRIVES EXCEEDING 150 FEET IN LENGTH, A PAVED TURNAROUND SHALL BE PROVIDED AT THE END OF THE DRIVE.
- (19) HOME OWNERS ASSOCIATION TO BE ESTABLISHED TO MAINTAIN ANY COMMON OPEN SPACE LOTS CREATED INCLUDING GRADED SLOPES ALONG THE OLD ROAD AND THE PRIVATE PARK - LOT 74.
- (20) DEVELOPER REQUESTS RIGHT TO ADJUST LOT LINES TO THE SATISFACTION OF THE COUNTY DIRECTOR OF PLANNING.
- (21) REQUEST RIGHT TO CREATE ADDITIONAL OPEN SPACE LOTS PRIOR TO RECORDATION OF FINAL MAP(S).
- (22) ALTERNATE STREET SECTIONS ARE PROPOSED AS SHOWN.
- (23) A PROPERTY LINE RETURN RADIUS OF 13 FEET IS PROVIDED AT ALL LOCAL STREET INTERSECTIONS AND 27 FEET AT THE INTERSECTION OF "A" STREET AND THE OLD ROAD.

APPLICANT/ OWNER:

CAN SHELTER, INC.  
 BAHAM SAFARI  
 P.O. BOX 34898  
 LOS ANGELES, CA 90034

ENGINEER:

SR CONSULTANTS WEST, INC.  
 25322 RYE CANYON ROAD, SUITE #201  
 SANTA CLARITA, CA 91355  
 PHONE: 661-257-8570  
 FAX: 661-257-8577

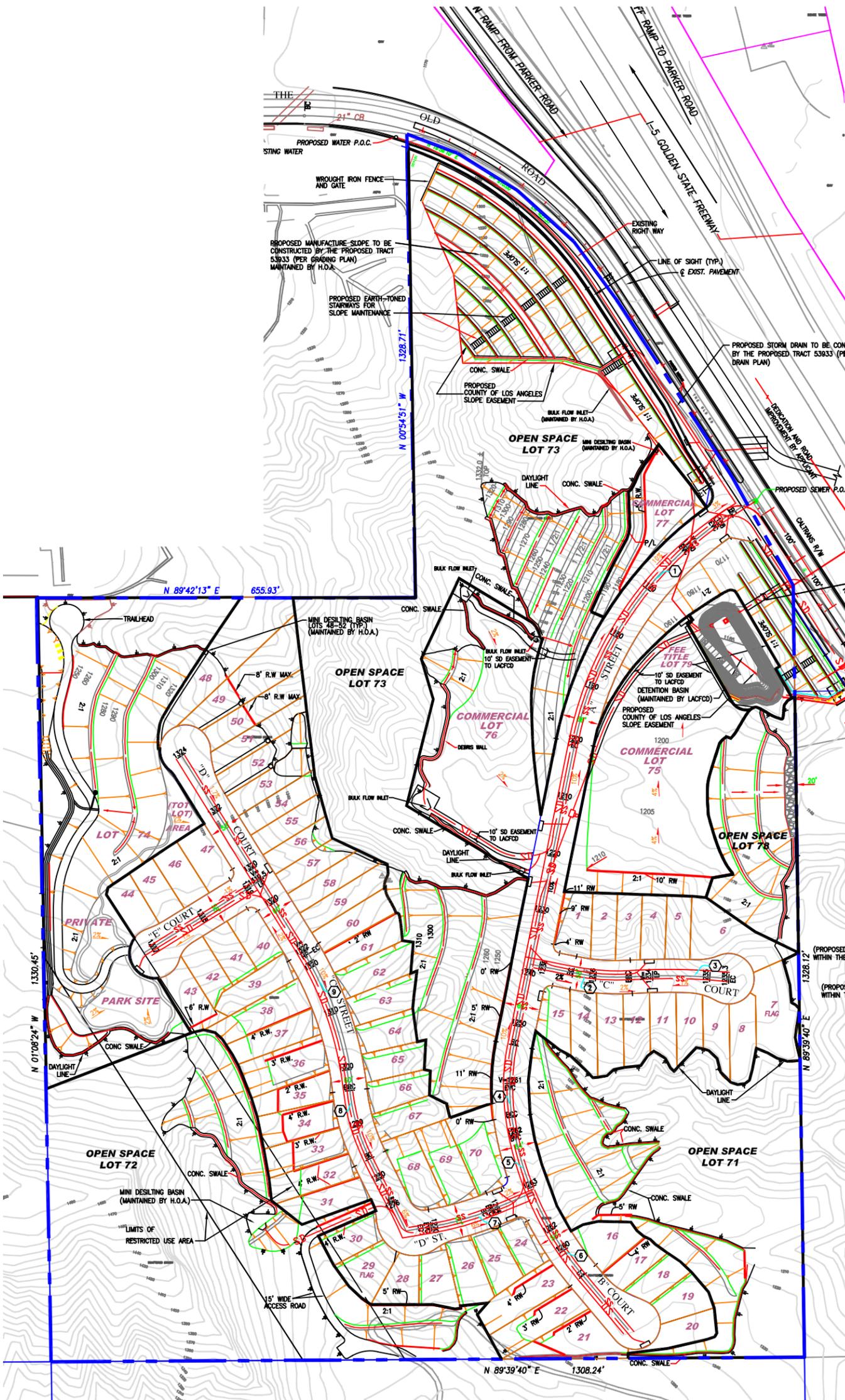
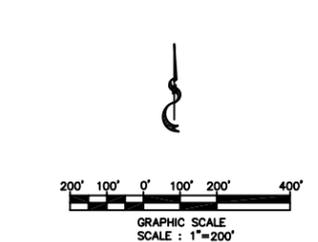
LOT AREA TABLE (GROSS)

LOTS 1-70 = RESIDENTIAL  
 LOTS 75-77 = COMMERCIAL  
 LOT 74 = PARK SITE  
 LOTS 71-73 & 78 = OPEN SPACE  
 LOT 79 = DETENTION BASIN (FEE TITLE TO LACFCD)

LOT NUMBER	GROSS AREA	LOT NUMBER	GROSS AREA
1	6,812	41	5,344
2	5,257	42	5,532
3	5,215	43	6,972
4	5,077	44	5,041
5	5,003	45	5,433
6	12,837	46	5,672
7	10,834	47	6,291
8	6,597	48	18,415
9	5,342	49	14,010
10	5,245	50	8,248
11	5,650	51	7,230
12	5,940	52	7,629
13	6,576	53	7,054
14	6,461	54	6,096
15	5,631	55	5,625
16	7,197	56	5,153
17	5,045	57	5,474
18	5,041	58	6,490
19	5,911	59	6,810
20	5,733	60	6,575
21	10,407	61	6,455
22	8,584	62	7,621
23	8,947	63	6,778
24	5,122	64	5,824
25	6,052	65	5,724
26	6,685	66	5,862
27	6,120	67	6,476
28	5,390	68	8,159
29	6,647	69	8,697
30	5,766	70	10,157
31	6,824	OPEN SPACE (71-74 & 78)	
32	7,113	71	176,123
33	7,102	72	255,424
34	7,564	73	442,861
35	6,286	74	179,212
36	5,761	75	123,949
37	7,224	76	82,980
38	6,679	77	19,878
39	6,801	78	52,816
40	5,738	79	21,019

BENCHMARK DATA:

BENCHMARK NUMBER: L5385  
 LACO BM 740 IN E CB OF THE OLD RD 2.5 M  
 S/O CB END S.S.M E/O C/L & 402M S/O  
 PARKER RD  
 NEWHALL 2003 ELEV = 1,163.676



EASEMENT NOTES:

- 1 EASEMENT(S) TO SOUTHERN CALIFORNIA GAS COMPANY FOR PIPE LINE TRANSMISSION OF GAS PER DEED RECORDED IN BOOK 15115 PAGE 262 OFFICIAL RECORDS AND BOOK 16310 PAGE 228 OFFICIAL RECORDS.
  - 2 EASEMENT(S) FOR TRANSMISSION LINE RIGHT OF WAY TO EDISON ELECTRIC COMPANY AND PACIFIC LIGHT AND POWER CORPORATION PER DEED RECORDED IN BOOK 2484 PAGE 181 OFFICIAL RECORDS.
  - 3 EASEMENT TO COUNTY OF LOS ANGELES FOR SLOPE PROPOSES RECORDED JAN 7, 1975 AS INSTRUMENT NO. 1625 OFFICIAL RECORDS AND SEPTEMBER 12, 1983 AS INSTRUMENT NO. 83-1066461 OFFICIAL RECORDS.
- EASEMENTS SHOWN ARE BASED ON PRELIMINARY TITLE REPORT 1210117-20 DATED MAY 24, 2002 PREPARED BY COMMON WEALTH LAND TITLE COMPANY.

LEGEND

- PROPOSED RETAINING WALL
- PROPOSED STORM DRAIN LINE
- PROPOSED FINISH CONTOUR LINE
- PROPOSED SLOPE & GRADE
- EXISTING 8" SANITARY SEWER
- INTERSECTION LINE OF SIGHT
- CONCRETE SWALE
- CURVE NUMBER
- SITE BOUNDARY
- COMMERCIAL AND OPEN SPACE LOTS

CURVE DATA

CURVE NUMBER	DELTA	RADIUS	LENGTH	TANGENT
(1)	45°41'55"	619.0'	493.71'	260.83'
(2)	14°54'12"	390.0'	101.44'	51.01'
(3)	09°20'46"	1040.0'	169.84'	80.01'
(4)	18°31'53"	370.0'	126.13'	63.68'
(5)	14°13'38"	550.0'	136.57'	68.64'
(6)	17°39'19"	550.0'	169.48'	85.42'
(7)	12°49'38"	500.0'	111.94'	56.20'
(8)	20°20'00"	350.0'	124.21'	62.77'
(9)	25°36'47"	600.0'	268.22'	136.39'

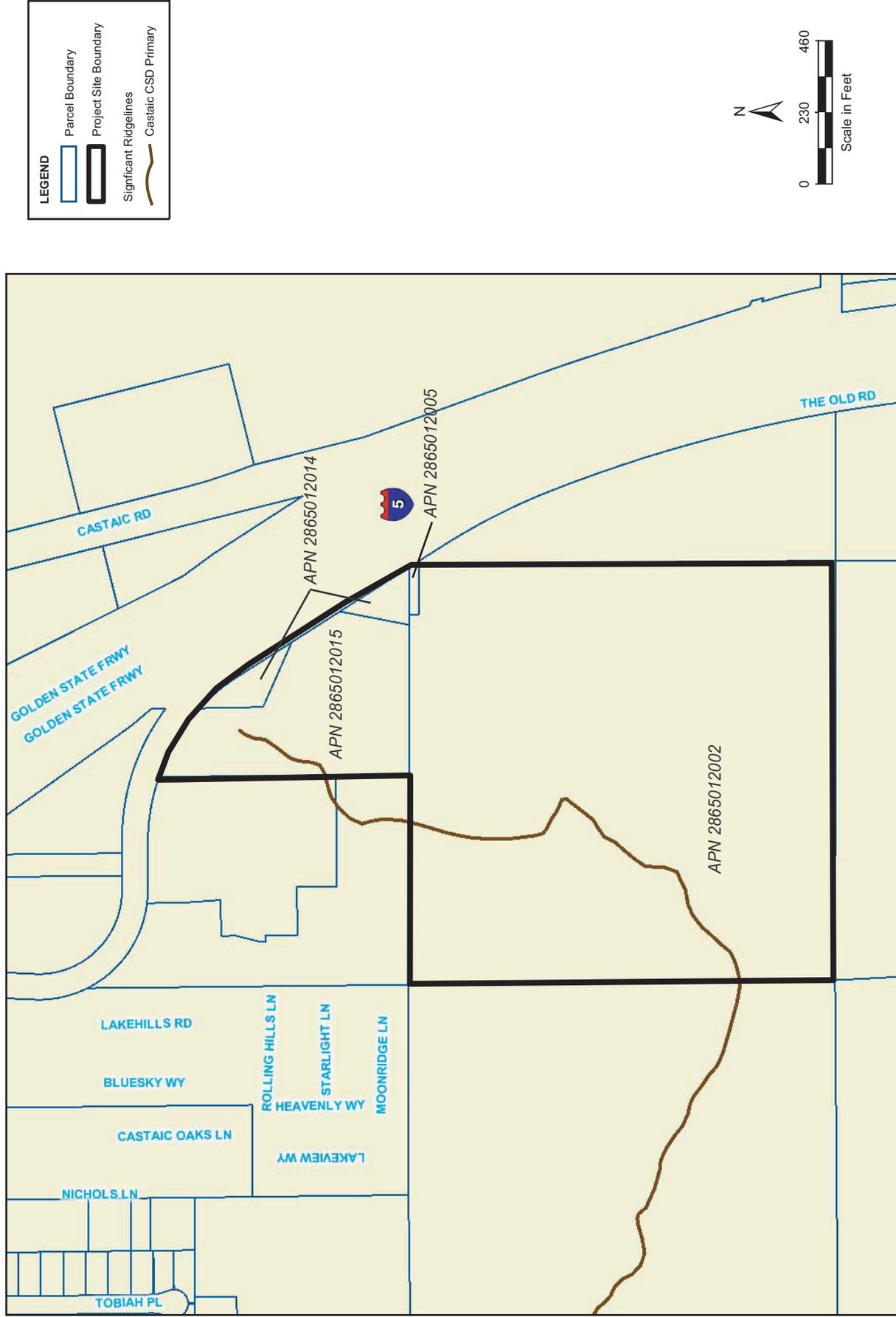
LEGAL DESCRIPTION:

PARCEL: 1 & 2  
 A PORTION OF THE SOUTHWEST QUARTER OF SECTION 25, TOWNSHIP 5 NORTH, RANGE 17 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AND A PORTION OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 25, IN TOWNSHIP 5 NORTH, RANGE 17 WEST, OF THE SAN BERNARDINO MERIDIAN, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.

Tentative Tract Map 53933

Figure 2-4

Source: SR Consultants West, Inc., October 2008.



Existing Parcels

Source: Los Angeles County Department of Regional Planning-GIS, 2005

Geologic formations onsite include the Saugus formation over much of the site, terrace deposits on flat top ridges, alluvium of sand and gravel in the canyons and slope wash deposits on hillsides. The site’s moderately steep to steep sloped canyons drain toward Castaic Creek, a tributary to the Santa Clara River. There is an ephemeral stream / riparian habitat at the southeast portion of the property. The site contains a prominent CSD delineated primary significant ridgeline, which peaks at the southwest and the north side of the property with a notable area of lower elevation between the peaks.

The San Gabriel fault is located southwest of the site and a fault hazard setback zone runs through the site in a northwest-southeasterly direction. Onsite disturbances include trails and access dirt roads that are present throughout the site. The property is crossed by Southern California Gas Company, Edison Electric Company, and County of Los Angeles-slope easements.

**Table 2-1 Current Site Information**

<b>Site Characteristic</b>	<b>Description</b>
Site Size	47.25 acres
Current Land Uses	Vacant - approximately 47.25 acres Disturbed areas – access dirt roads, trails used for hiking, bike riding, jogging and dog-walking
Proposed Land Uses and Zoning	Residential – 70 single-family (zone: RPD-2.51.9U) lots (11.18 acres), and Business/Office Park – three office building (zone: M-1-DP) lots (5.21 acres; up to 70,000 square feet of new development) Open Space – four open space lots plus one park (total gross open space including roads and detention basin is 30.86 acres);
Current General Plan Designation	Los Angeles County General Plan - Non-urban, low and medium density residential Santa Clarita Valley Area Wide Plan – Urban (U1, U2, U3), Industrial (M), Hillside Management Area (HM) Castaic Area Community Standards District (CSD) – one Primary Significant Ridgeline
Surrounding Land Use	<i>North:</i> high-density condominium project (zoned RPD-6.5U) immediately to the north, 115-unit mobile home park (R-3-10U), and single-family residential development along The Old Road and Parker Road; commercial development along the I-5; <i>South:</i> Currently vacant approved for higher density condominium development immediately to the south (RPD-3.5U), residential and commercial use along The Old Road; <i>East:</i> Single industrial development (Building Materials Yard business) along The Old Road; The Old Road; I-5; commercial and open space along Castaic Road; Castaic Sports Complex; undeveloped hillside terrain; <i>West:</i> Currently vacant level and hillside terrains; single residential unit immediately to the west; multiple residential developments northwesterly.
Site Access	Current access to the project site is from The Old Road
Utilities and Public Service Providers	<i>Water:</i> Newhall County Water District <i>Sewer:</i> Los Angeles County Sanitation District No. 32 <i>Gas:</i> Southern California Gas Company <i>Electric:</i> Southern California Edison <i>Telephone:</i> Pacific Bell Telephone Company <i>Schools:</i> Castaic Union School District and William S. Hart Union High School District



### 2.3.2 Area History

According to a Phase I cultural resources study that has been prepared for the project site, the project area was first inhabited by an American Indian tribe known as the Tataviam. They referred to the area as Castaic or “Kashtuk.” Later, Spanish explorers resided in this area. But, the official birth of Castaic came around 1915 when the California Highway Commission opened a paved trail over the mountains, named the Ridge Route, between Castaic and Gorman. In 1933, Highway 99 replaced this route. The Southern Pacific Railroad also opened a depot at Castaic Junction about four miles south of the project site. Much of the early growth history in Castaic is based on transportation opportunities. Other key historical elements in the Castaic area include the establishment of a local school district and post office, the Parker Ranch suburbs, the Castaic brick industrial facility, George Dunn’s Wayside Dairy, and the Los Angeles County Commercial Work Farm. 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
1887	Southern Pacific Railroad establishes depot at Castaic Junction
1889	Local school district is established
1894	Post office opens at Castaic Junction
1915	California Highway Commission completes and opens the Ridge Route trail between Castaic and Gorman
1923	Parker Ranch development brings suburban growth
1927	Industrial development starts with Castaic brick
1929	Agricultural/animal husbandry development starts with George Dunn’s Wayside Dairy
1933	Highway 99 replaces the Ridge Route
1937	Commercial development starts with Los Angeles County leasing George Dunn’s Wayside Dairy as a work farm

Source: Castaic Area Town Council, [Castaic.org](http://Castaic.org), 2005

### 2.3.3 Surrounding Land Uses

The project site is located within a semi-rural mountainous corridor extending westerly from the Old Road/I-5 between Parker Road and Romeo Canyon Road. High-density condominiums (zoned RPD-6.5U) immediately to the north (Tr. 34365), 115-unit mobile home park (R-3-10U), and single-family residential developments exist north of the project area along The Old Road and Parker Rd. An industrial-zoned building supply yard commercial business is located immediately to the east, between the proposed project site and The Old Road. There is an approved Auto Sales / Repair business to the north of the project across from The Old Road. Development across the Freeway to the east includes, open space, the Castaic County Sports Complex, and Castaic Brick. South of the project site is a mix of level terrain and undeveloped ridge and canyon areas with clusters of residential development. A condominium development (approved Tentative Tract 46798) with higher density (zoned RPD-3.5U) than that of the proposed project (RPD-2.51.9U) has been approved for the property immediately adjacent to and south of the project site. With the exception of The Old Road, there are no paved roads on or directly adjacent to the project site.

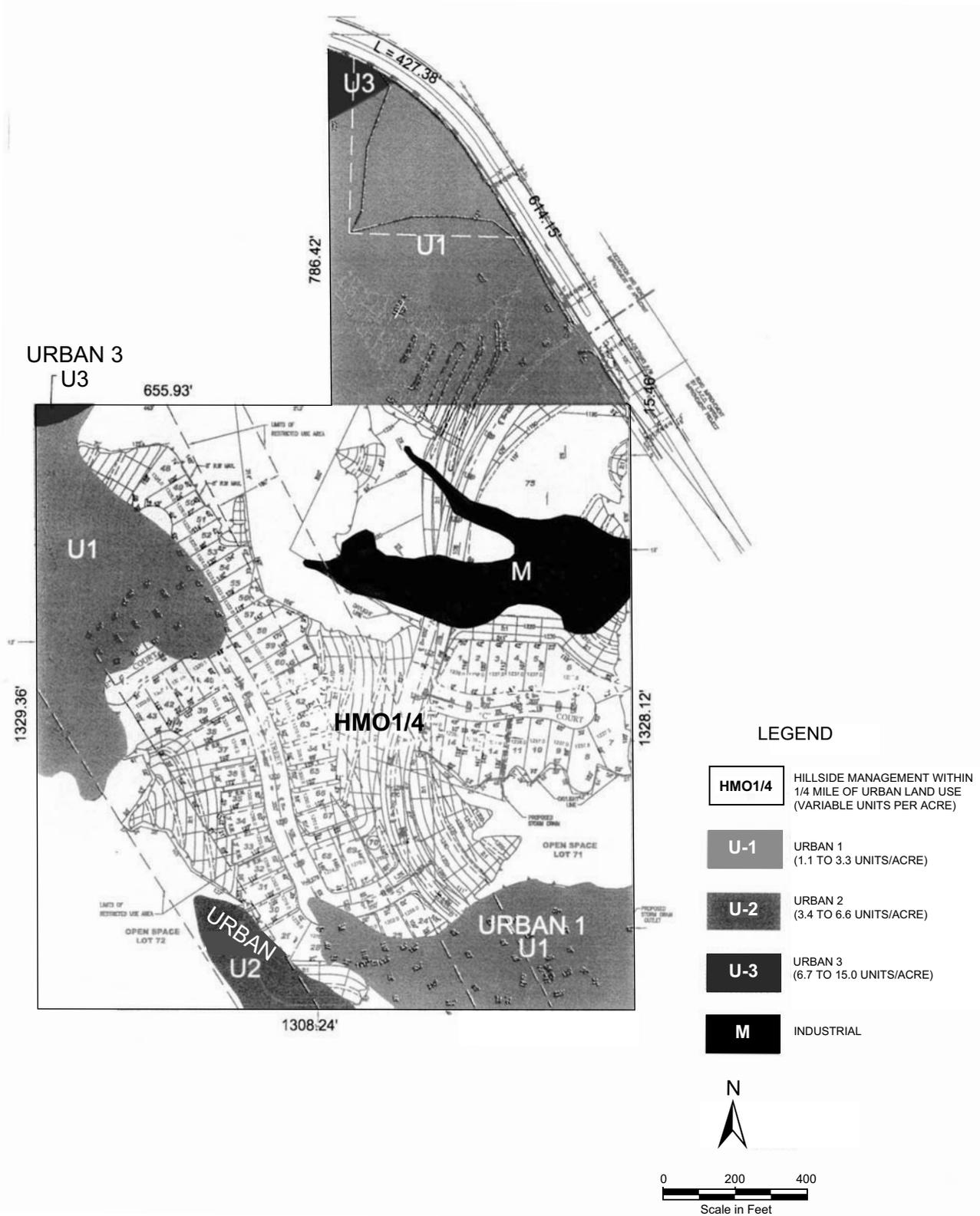


### 2.3.4 Current General Plan Land Use Designations and Zoning

As shown in Table 2-1, the site is governed by the land use designations included in the Los Angeles County General Plan and the Santa Clarita Valley Area Wide Plan. These are described below:

- **Los Angeles County General Plan - Non-urban, low and medium density residential** – This designation allows for small lot single family residences, duplexes and townhouse development at densities ranging from six to 12 units per gross acre in areas not currently planned for urban use or scheduled to receive an urban level of service (47.25 acres or 100% of the total area). This designation covers the entire project site, but is superseded by designations of the Santa Clarita Valley Area Plan, which was adopted in 1990 to guide development within the Santa Clarita Valley.
- **Los Angeles County Zoning Designation - Heavy agriculture/A-2-2** - This designation allows for single family residences, crops (field, tree, bush, berry, row and nursery stock), greenhouses and raising of cattle, horses, sheep, goats, poultry, birds, earthworms, etc., animal hospitals, dairies, dog kennels, livestock feed lots, manure spreading, and oil wells with a minimum required area dependant on the type of use. The entire project site is zoned A-2-2.
- **The Santa Clarita Valley Area Wide Plan (SCVAP)** – The SCVAP has several land use designations that cover different portions of the property. These designations are shown in Figure 2-6. They include:
  - **U1/Urban** – This designation allows 1.1 to 3.3 residential dwelling units per acre. (14.67 acres or 31% of the total site area)
  - **U2/Urban** – This designation allows 3.4 to 6.6 residential dwelling units per acre. (0.92 acres or 2% of the total site area)
  - **U3/Urban** – This designation allows 6.7 to 15.0 residential dwelling units per acre. (0.42 acres or 1% of the total site area)
  - **M/Industrial** – This designation allows light, medium, and heavy industrial with service commercial (2.73 acres or 6% of the total site area)
  - **HM ¼ Mile /Hillside Management within a ¼ mile radius of the U1, U2 and U3 uses** – (28.51 acres or 60% of the total site area). This designation is intended to ensure that future development occur in the most suitable and least environmentally sensitive areas, and is designed in a manner that is compatible with the natural resource values and character of the area.





Existing Santa Clarita Valley Area Plan  
 Land Use Designations

Figure 2-6  
 County of Los Angeles  
 Department of Regional Planning

- **Castaic Area Community Standards District (CSD)** - This is a local plan amendment to the Planning and Zoning of the Los Angeles County Code, Title 22 (22.44.137). The Community Standards District (CSD) became effective December 30, 2004, and creates standards as ordinances that are intended to protect the rural character, unique appearance, and natural resources within the Castaic community. The CSD also ensures that new development is compatible with Castaic neighborhoods and existing goals. The Castaic Area Community Standards District was written and implemented as a supplement to the County's Santa Clarita Valley Area Plan, and supersedes the Santa Clarita Valley Area Plan if there is a conflict in applicable policies/standards. The Castaic Area Community Standards District includes a number of policies that are relevant to the proposed project. An analysis of consistency with relevant Castaic Area Community Standards District (CSD) plan policies is included following the Santa Clarita Valley Area Plan in Section 4.15, *Land Use*, of the EIR.

## 2.4 PROJECT CHARACTERISTICS

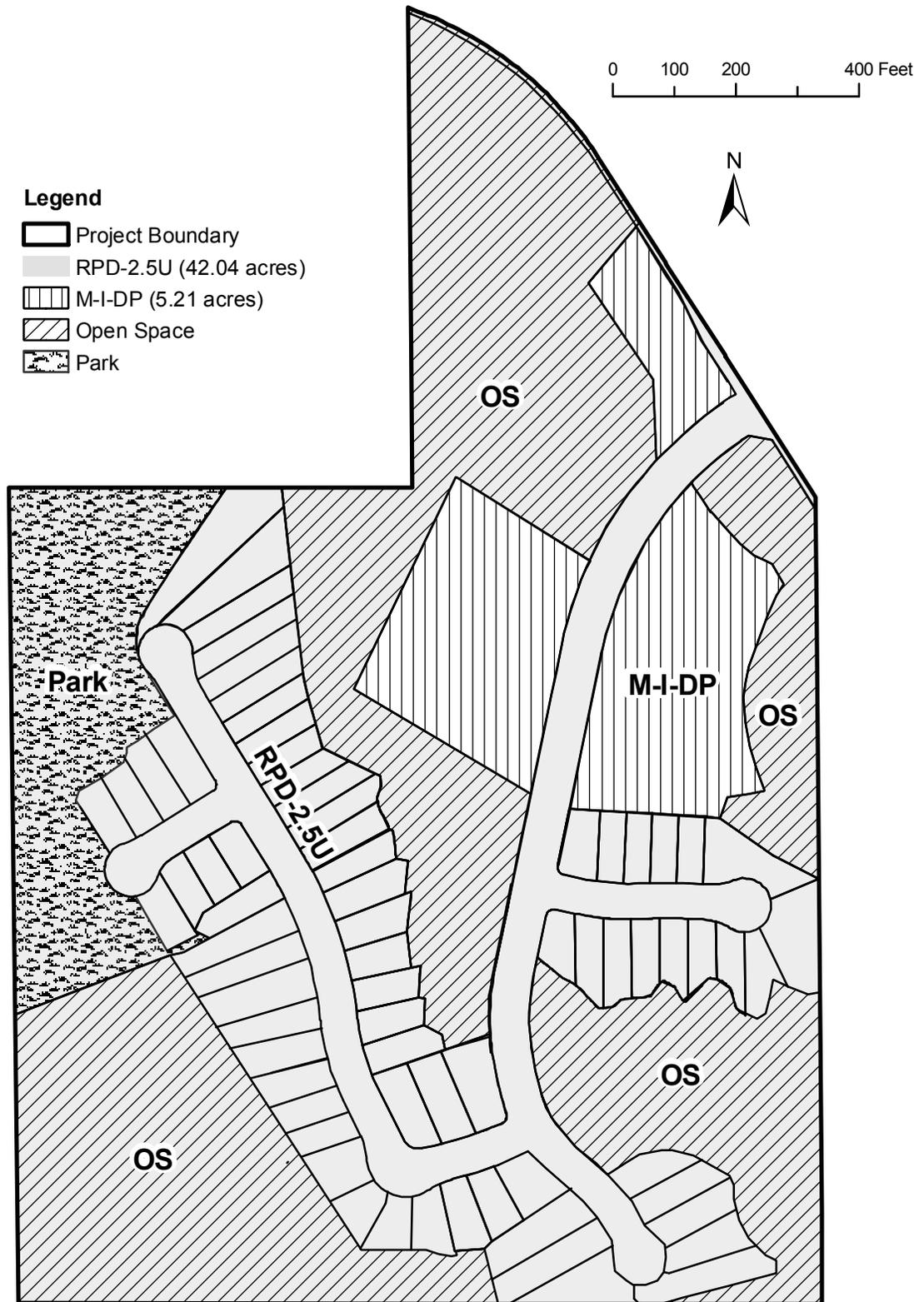
### 2.4.1 Proposed Land Use Designation Amendments and Zone Changes

The applicant is proposing to subdivide the 47.25-acre project site into 70 single-family residential lots (lots 1-70) on 11.18 acres, four open space lots (lots 71-73 & Lot 78), and a park lot, (lot 74) plus a detention basin (lot 79) and roads on 30.86 gross acres, and three office building lots (lots 75-77) on 5.21 acres.

As noted above, the project proposes a mix of land use designations; but the project is generally consistent with the proposed residential use of site identified in the Los Angeles County General Plan and Urban and Industrial land uses described in the Santa Clarita Valley Area Wide Plan. The applicant proposes to change 42.04 acres currently zoned as A-2-2 to RPD-2-51.9U/AC and 5.21 acres currently zoned as A-2-2 to M-1 -DP. The proposed land use designations are shown in Figure 2-7.

Table 2-3 shows acreages for the current zoning and those proposed by the project applicant. The proposed Residential Planned Development (RPD) designation allows for single-family residences, specifically 2-51.9 units per acre, with the approval of a Conditional Use Permit (CUP). The permitted uses that could occupy the commercial/industrial component (M-1 zoning designation) of the project include business/professional office buildings, limited manufacturing and assembly, secondhand stores, rentals, outdoor advertising, tailor shops, commercial services, retail sales of new goods and genuine antiques, community and financial services, and parks and play grounds. The proposed project would also require the issuance of an Oak Tree Permit to remove 13 oak trees that meet oak tree protection standards.





Basemap Source: SR Consultants West, Inc., October 2008.

RPD 2.5U is superceded by RPD 1.9U as of July 2010.

Proposed Land Use Designations

Figure 2-7

**Table 2-3 Comparison of Current and Proposed Zoning Designations Onsite**

Zoning Designation	Acreage	
	Current	Proposed
A-2-2	47.25	0
RPD <del>2-51.9U</del> /AC	0	42.04
M-1 DP	0	5.21
<b>Total</b>	<b>47.25</b>	<b>47.25</b>

### 2.4.2 Build out Characteristics

The buildout characteristics of the development proposal are summarized in Table 2-4. Lots 1-70, which encompass about 24% of the site, are proposed to be residential lots. Lots 71-74, 78, & 79 plus the area of the roadways, encompass about 65% of the site, including a 4.11 acre park site. Lots 75-77, which encompass about 11% of the site, consist of office building lots.

**Table 2-4 Build Out Characteristics of the Project \***

Lots	Proposed Use	Total Acres	Percent Site Coverage
Residential			
1-70	Residential	11.18	24
Commercial			
75-77	Commercial Lots	5.21	11
Open Space			
71	Open Space Lot	4.04	9
72	Open Space Lot	5.86	12
73	Open Space Lot	10.16	22
74	Park	4.11	9
78	Open Space Lot	1.21	3
79	Detention Basin	0.48	1
	Roads	4.99	11
	Total Open Space	30.85	65
<b>TOTAL</b>		<b>47.25</b>	<b>100</b>

*\* Totals reflective of areas designated on the VTTM dated October 2008. Development of the drainage concept and an increase in the designated open space have resulted in a reduction of commercial acreage lot sizes relative to the original land design. In addition, the park site acreage has increased.*



### 2.4.3 Proposed Land Uses

**a. Residential Areas.** The project would involve the development of about 11.18 acres (24% of the site) with residential uses. The residential lots (lots 1-70) range in size from 5,003 square feet (lot five) to 18,415 square feet (lot 48). The open space (lots 71-73 & 78) and park dedication (lot 74) comprises about 25.39 acres, thus the overall density of the residential component with open space represents an average density of about 1.9 dwelling units per acre.

**b. Office Park Areas.** The project would involve the development of 5.21 acres (11% of the site) with business/professional office uses. The subdivision includes 3 lots (lots 75-77) ranging in size from 123,949 square feet (lot 75) to 19,878 square feet (lot 77). The largest lot is located along the southwestern corner of The Old Road and the entrance road to the proposed subdivision. The smallest lot is located along the northwestern corner of The Old Road and the entrance road to the project site. While specific building plans have not yet been developed, it is anticipated that buildout will involve up to 70,000 square feet of commercial office development. Under the Santa Clarita Valley Area Plan, the Industrial (M-1) land use category allows light, medium, and heavy industrial uses with service commercial. Uses in this land use category must be clean, non-polluting, without offensive odors, and visually attractive. The category is intended to encourage a broad range of industrial development.

**c. Open Space Areas.** The proposed subdivision includes a gross open space area, including easements and right of ways of about 30.86 acres (73% of 42.04ac of residential element or 65% of the project site of 47.25ac). The net open space, excluding the park lot (lot 74), consists of four open space lots (lots 71-73 & 78) totaling about 21.28 acres or 45% of the project site, which include both undisturbed terrain and landscaped manufactured slopes. Any necessary maintenance of these lots would be overseen by the Homeowner's Association. The open space lots range from 52,816 square feet (lot 78) to 442,661 square feet (lot 73). The largest open space lot (lot 73) is about 10.2 acres and is located at the northernmost portion of the site, between The Old Road and an existing condominium development. Open space lot 72 includes about 5.9 acres located along the project's southwestern boundary. Lot 71 includes about 4.0 acres located between cul-de-sacs "B" and "C" of the proposed development in the southeastern portion of the site adjacent to building material yard business to the east.

**d. Park Site:** In addition to the open space lots, the project includes a private park site, approximately 4.11 acres in size, identified as lot 74. The park site is located on the western edge of the project site within the fault hazard setback, adjacent to cul-de-sac "E" of the proposed residential development. The park site, like the open space lots, would not be accessible to the general public and would be maintained by the Homeowner's Association.

### 2.4.4 Site Alteration and Grading

Site grading is estimated at 640,000 cubic yards of cut and fill that would be balanced onsite. Preliminary grading plans are shown on Figure 2-4, Tentative Tract Map. Slope ratios would be 2 : 1 (horizontal to vertical), with an exception of one slope of 1 ½ : 1 located in Open Space lot 73.



The proposed project would involve grading on about 34 acres, or about 72% of the 47.25-acre site. The cut-and-fill would be balanced on site with no import or export of material. There are a total of six cut and six fill areas. The depth of the cuts range from 20 feet to about 160 feet. The depth of fills vary from about 30 feet to 100 feet. Typical grading activities would require a variety of heavy construction equipment, including bulldozers, excavators, backhoes, scrapers, graders and water trucks. The grading and site work will be done in a single phase, which is expected to be completed in a six month time period.

#### **2.4.5 Onsite Oak Trees**

The project site contains 24 coast live oaks (*Quercus agrifolia*) distributed throughout the property. The proposed project would preserve 11 of the total 24 oaks and remove 13 oaks. None of these trees are Heritage Oaks. The potential for impacts to the project's oak trees and other biological resources is discussed in Section 4.7, Biota.

#### **2.4.6 Site Access and Roadways**

The primary access to the site is provided by one main entrance/exit road. This proposed roadway would connect to The Old Road in the northeastern portion of the site adjacent to the proposed office building lots. The primary access, denoted as "A" Street on the Tentative Tract Map (Figure 2-4), is 66 feet at the project entrance and along the office building lot frontage and slightly narrows to 64 feet where it branches into "C" Court, "B" Court, and "D" Street, extending to "C" Street in the residential component of the project. Roadways in the residential area of the project range from 58 feet to 60 feet in width, with the terminus of the cul-de-sacs having slightly greater widths.

Immediate access to Lots 1-70 (residential) would be provided by private driveways. Access to Lots 71-73 (open space) would not be necessary since the land use designation does not allow for public use. Maintenance of these lots would be overseen by the Homeowner's Association. Access to Lot 74 (park) would be provided by cul-de-sac "E" and sidewalks for pedestrian use, with a maintenance road to serve detention facilities and trailhead at the northwestern corner of the property. Access to Lots 75-77 (business/office buildings) would be provided by private driveways and parking lots off the main entrance road, and sidewalks, which would provide pedestrian access.

The Los Angeles County Department of Public Works Design Section is planning improvements to The Old Road along the proposed site entrance/exit. The project's design has incorporated these improvements, which among other items include road widening, a left turn lane, right-of-way, transition pavement, a bike lane and walkways along The Old Road frontage.

#### **2.4.7 Project Employment**

The proposed project is anticipated to involve both short and long-term employment opportunities. Short-term employment would be associated with project construction. It is



estimated that the project would involve about 260 short-term construction jobs over approximately a 12 to 20 month land development and housing construction period.

Long-term employment would be primarily associated with the business/ professional office buildings component of the project. It is anticipated that the new commercial office component of the project would generate about 1 employee per 300 square feet of building area. Based on this factor, the proposed 70,000 square feet of new office park development would generate about 233 new jobs in Castaic.

#### **2.4.8 Population**

Based on a household size of 3.21 persons per household for the Santa Clarita Valley area (Castaic Town Council), the 70 proposed new residential units would generate 225 new residents to the area.

### **2.5 PROJECTED CONSTRUCTION SCHEDULE**

The applicant has indicated that the project would be constructed in a single phase over an approximately 20 month time period. The completion of the housing construction would depend on a range of factors, including timing of approvals, market demand, and specific user needs. Currently it is anticipated that the project's construction would start around mid-2009 and be completed around late-2010. However, the start and completion dates are likely to be adjusted as dictated by the approval process and the market demand.

### **2.6 PROJECT OBJECTIVES**

The Santa Clarita Valley Area plan states that within the community of Castaic, the area west of the freeway is set aside for development of residential uses. Other key directive policies of the Santa Clarita Valley Area Plan Land Use Element pertinent to this project include Policy 1.4, Policy 2.1, and Policy 2.5.

Policy 1.4 directs to *"Promote a balanced, autonomous community with a full range of public and commercial services and a wide variety of housing and employment opportunities to minimize the dependency upon southern Los Angeles County and to reduce long distance commuting and its impacts upon gasoline consumption and air pollution."*

Policy 2.1 directs to *"Accommodate population and land use growth in a concentrated, rather than dispersed, pattern, providing for a broad range of densities and types of uses."*

Policy 2.5 directs to *"Allow for density transfer (the rearrangement of allowed residential units among various land use classifications on a project site) as a means to attain plan goals such as preservation of hillsides, and to promote superior design and allow flexibility to respond to changing housing needs."*

The applicant's objective for the proposed project is to develop a mixed use project, incorporating business professional employment opportunities with single family residences, in a manner that balances grading on site and clusters development to preserve open space and



complement the surrounding community, pursuant to the directives and vision for the area as indicated in Policy 1.4, Policy 2.1, and Policy 2.5 of the Santa Clarita Valley Area Plan.

## **2.7 REQUIRED APPROVALS**

Implementation of the proposed project would require the following discretionary approvals from the County of Los Angeles:

- Vested Tentative Tract Map 53933, to subdivide the 47.25 acre subject property into 70 single family residential lots on 42.04 acres, three industrial lots on 5.21 acres, with four open space lots, one park lot, and one lot containing a detention basin.
- Conditional Use Permit 03-304, for Hillside Management Area development
- Zone Change 03-304, from A-2-2 to RPD-~~2-5~~1.9U (Residential) on 42.04 acres and M-1-DP (Industrial Development Program) on 5.21 acres.
- Oak Tree Permit 03-304, to remove 13 ordinance-sized oak trees
- Annexation to Newhall County Water District



## **3.0 ENVIRONMENTAL SETTING**

This section summarizes the baseline conditions at the project site, and describes the general historic, current, and projected environmental conditions in the Community of Castaic 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 REGIONAL SETTING**

#### **3.1.1 Geography and Climate**

The unincorporated community of Castaic is located in the northwestern portion of the Santa Clarita Valley. The Santa Clarita Valley is an irregularly shaped area draining to 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 Pelon Mountains, several significant canyons, the valley floor, and the Santa Clara River bed. The Valley's northern region is defined by the ridgelines of the Liebre and Topatopa Mountains. Castaic 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.

#### **3.1.2 Historical Background**

The Castaic area may have been inhabited as early as 2000 B.C. (Early Period); however, the archaeological record is not substantial enough to determine the earliest occupation date. Substantial evidence exists to support occupation following 1000 B.C. (Middle Period), and major archaeological sites representing this period are located along the Piru and Castaic drainage systems, Escondido Canyon, and Vasquez Rocks. It is believed that the upper Santa Clarita Valley region was inhabited by the Alliklik or Tataviam, and that their populations ranged from Piru Creek on the west; the Tehachapi Mountains on the north; the Porter and Ritter Ridges on the East; and the San Gabriel and Santa Susana Mountains to the south.

The Spanish Missionization commenced upon their arrival in 1769 and continued until 1830. In 1769, Mission San Fernando Rey de Espana was established. The discovery of gold in Placerita Canyon brought mining to the region, and subsequent extraction of silver, quartz, copper, titanium, and oil occurred within the region. The community of Castaic developed around the transportation throughfares that bisect the region today, and is generally associated with the completion of the Ridge Route in 1915. The location proved to be an ideal stopover for persons traveling between Los Angeles and the Tejon Pass. The construction of Highway 99 and I-5 reinforced development of similar uses in the region, and industrial growth within the region increased. Recreational uses within the region are predominant north of the project area at Castaic Lake State Recreation Area (SRA). The region is experiencing rapid residential,



commercial and industrial growth, with more than 49,000 residential units, 5 million square feet of commercial, and 26 million square feet of industrial space proposed for development at this time (refer to Table 3-2).

## **3.2 LOCAL SETTING**

### **3.2.1 Geology and Biota**

The project site lies adjacent to The Old Road and I-5, in an area where development flanks I-5, on both sides of the Interstate. The project site is comprised of ridges, intervening canyons and level terrain. Site elevations range from approximately 1,139 to 1,494 feet above mean seal level (msl). Geologically, the region is situated in the western transverse range province, within the Ridge Basin. The Ridge Basin represents a tectonic depression that formed along the San Andreas fault system during Miocene and early Pleistocene time, and was folded, fractured and faulted during and following the deposition of thousands of feet of sediments (see Appendix B for geotechnical studies: J. Byer Group, Geologic and Soils Engineering Exploration, 2005, and Leighton & Associates, Preliminary Geotechnical Evaluation, 1992). The region is seismically active, and the community of Castaic is within 20 miles of the following faults: San Andreas - Carrizo segment, San Andreas -Mojave segment, Santa Susana, San Fernando, Sierra Madre-A, Sierra Madre-B, Pine Mountain, San Gabriel-A, and San Gabriel-B, Oakridge, and San Cayetano.

A Primary Significant Ridgeline (as delineated in the Castaic Area Community Standards District - CSD) runs through the western portion of the site, in a northeasterly direction, and the site is located in a Hillside Management area (Los Angeles County General Plan). Geologic units at the project site include the Plio-Pleistocene-age Saugus Formation, terrace deposits, alluvium, slope wash deposits, and artificial fill. The project site is intersected by a portion of the San Gabriel fault. This section of the fault is not included in an Alquist Priolo study zone; however, the fault is zoned Alquist Priolo approximately 2.5 miles south of the project site. Onsite hydrology is dominated by moderately steep to steep, sloping hills, most of which drain into an unnamed ephemeral stream with riparian vegetation in the eastern portion of the site. The site and surrounding area drain towards Castaic Creek, which is a major tributary to the Santa Clara River.

Vegetation at the project site includes chamise chaparral, mixed chaparral, coastal sage-scrub, cottonwood-willow riparian forest, annual grassland-sage scrub ecotone, and 24 native oak trees of varying sizes. Biological field surveys were conducted in May of 2002 and March 2005 and no special status plant species were observed. Three special status wildlife species were observed onsite. They include the coastal western whiptail lizard, the Southern California rufous-crowned sparrow, and Costa's hummingbird.

## **3.3 CUMULATIVE SETTING**

CEQA defines "cumulative impacts" as two or more individual projects that, when considered together 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 insignificant when analyzed separately, but could have a significant



impact when analyzed together. This method of cumulative impact analysis allows the EIR to provide a reasonable forecast of future environmental conditions and can more accurately gauge the effects of a series of projects.

Table 3-1 summarizes the approved and pending cumulative projects near the project site as of August 2004 (County), March 2005 (City), and May 2005 (client-developer contacts). It is noted that cumulative projections are somewhat of a moving target, as new applications are submitted, and old applications are modified or withdrawn. The CEQA Guidelines state that a lead agency is authorized to “limit its analysis of probable future projects to those which are planned or which have had an application made at the time the Notice of Preparation is released for review”. The following list was approved by DRP staff on June 1, 2005, subsequent to preparation of the notice of preparation (12/2004) and prior to publication of a draft EIR.

**Table 3-1 List of Cumulative Projects**

Map Location	Master Project / TR / PM Number	Residential	Commercial Square feet (sf***)	Industrial Square feet (sf***)	Status
1	98-002/34385	54 condo			Approved
2	89-345/46798	1 SF, 36 condo			Approved
3	89-153/47646	84 SF			Approved
4	02-196/53822	335 SF			Pending
5	CUP 02-260		Comm. auto service, 6700 sf, car sales, 8075 sf, and retail, 11500 sf		Approved
6	CUP 00-253		Comm. hotel, 64416 sf		Pending
7	94-033/51786	64 condo			Approved
8	95-085/51995	114 condo			Approved
9	TBA	500 condo			Pending
10	00-211 (north of map)	30 mobile home			Approved
11	00-81/53189	45 SF			Approved
12	02-005/26549	3 SF			Pending
13	CUP 02-087		Retail, 13,650 sf, restaurant, 14,000 sf, daycare facility, 12,000 sf		Approved
14	CUP 02-116	150 senior apt.			Approved
15	02-215/19149	4 SF			Pending
16	02-344/26755	3 SF			Approved
17	03-169/060024	84 condo			Pending
18	03-250/060257	244 SF, 109 condo	Comm. 143,748 sf		Pending
19	03-332/060646	4 SF			Pending
20	03-368	48 space RV			Pending
21****	04-046/060023	11185 SF, 6022 MF	Comm. 1,346,450 sf	Bus. Park, 3,224,224 sf	Approved
22****	02-232 (north of map)	14472 SF, 7792 MF	Comm., 1,986,336 sf	Bus. Park, 12,233,390 sf	Pending



**Table 3-1 List of Cumulative Projects *Continued***

23	04-067/060674	21 condo			Pending
24	04-068/060611	18 condo			Pending
25	04-207/060543	28 SF			Pending
26	99213/25852	4 SF			Approved
27	99251	1 SF (senior)			Approved
28	04-00323		Medical/professional office, 15,000 sf, and retail comm., 8,000 sf		Approved
29	062401/062401	161 SF, 422 apt.			Approved
30	062053/062053	191 SF			Approved
31	TR 51852	564 SF, 556 condo	Comm. 268,772 sf	Ind. 285,359 sf	Pending
32	TR 42537	222 SF			Approved
33	TR 45958	296 SF			Approved
34	TR 44429	293 SF			Approved
35	TR 52535	199 SF			Pending
36	TR 46443	222 SF			Approved
37	TR 47807	77 SF			Approved
38	PM 24798	5 SF			Approved
39	PM 21689	2 SF			Approved
40	TR 53725	42 SF			Pending
41	TR 45645	67 SF			Approved
42	TR 44373	17 SF			Approved
43	TR 49048	65 SF			Approved
44	TR 52475	44 SF			Pending
45	TR 52584	209 SF			Approved
46	TR 43750	72 SF			Approved
47	TR 060319	1 condo			Pending
48	TR 36668	67 SF			Approved
49	TR 45084	294 SF			Approved
50	TR 060665	7 SF	Comm. 305,964 sf		Pending
51	PM 22188	2 SF			Approved
52	PM 20685			Ind. 1,819,458 sf	Approved
53	PM 060030			Ind. 1,544,725 sf	Pending
54	PM 061062		Comm. 53,651 sf		Pending
55	PM 19784			Ind. 3,939,566 sf	Approved
56	PM 26363	9 SF			Pending
57	PM 18108			Ind. 406,916 sf	Pending
58	PM 26574			Ind. 145,142 sf	Pending
59	TR 53295			Ind. 1,477,337 sf	Pending
60	TR 48202	190 SF, 11 condo			Approved
61	TR 33613	1,626 SF			Approved
62	TR 45433	1,802 SF, 523 duplex, 1,298 condo	Comm. 73,0894 sf		Approved
63	PM 27143		Comm. 59,482 sf		Approved
64	PM 19050		Comm. 187,907 sf		Approved
65	PM 18654		Comm. 92,010 sf		Approved



**Table 3-1 List of Cumulative Projects Continued**

66	PM 25485	2 SF			Approved
67	PM 24801	2 SF			Pending
68	PM 19899	2 SF			Approved
69	PM 060475	2 SF			Pending
70	TR 51644	1,601 SF, 901 condo	Comm. 72,571 sf		Approved
71	TR 52302	11 SF			Approved
72	TR 46389	744 SF			Approved
73	TR 45440	182 SF			Approved
74	TR 52455	1,248 SF, 1,297 condo	Comm. 298,059 sf		Pending
75 sc	TR 23916/51826			Ind. 4,400,000 sf	Approved

\*SF = single family

\*\*MF = multiple family

\*\*\*square footages based on lot coverage and floor-area-ratio calculation (.85 lot coverage at .35 floor-area-ratio)

\*\*\*\* total residential units are anticipated to be 21,308 (Newhall) and 22,264 (Centennial), yet actual usage is unknown (assumes that 65% of total units will be SF and 35% of total units will be MF)

Source: Los Angeles County Department of Regional Planning (Case Files in the Castaic Canyon document, Webtrack on-line service, Los Angeles County public counter, Los Angeles County individual case planner contacts), Santa Clarita Valley Subdivision Activity Map (City of Santa Clarita/Graphics division)

sc = project within the existing City of Santa Clarita Boundary

Table 3-2 summarizes cumulative development potential for residential and non-residential uses and Figure 3-1 shows the location of these projects with respect to the proposed project site.

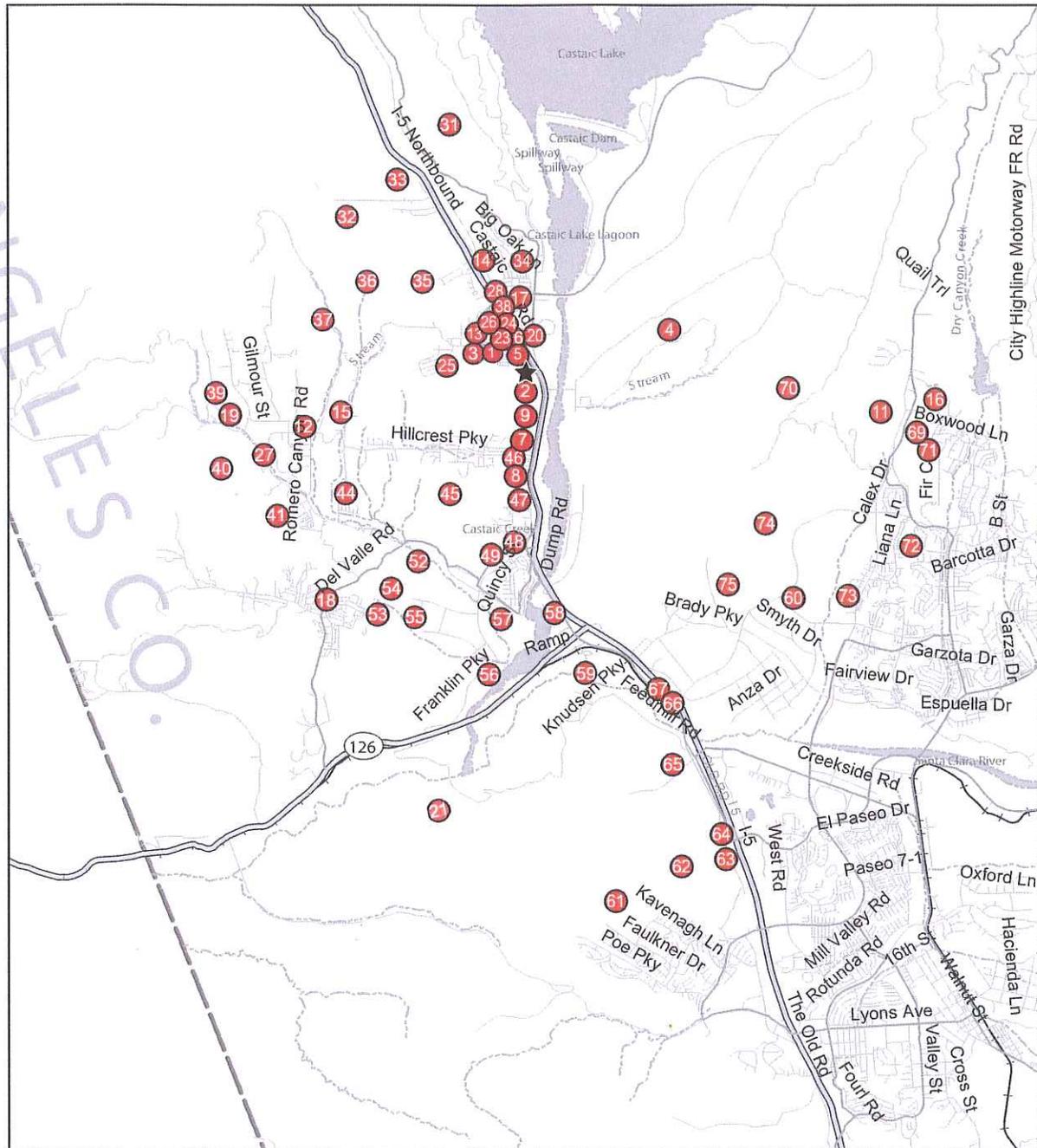
**Table 3-2 Cumulative Development Summary**

Use	Development Potential
SF*	49,801 units
Condo/MF**	25,043 units
Apartment	4,559 units
Duplex	523 units
Mobile Home	30 units
RV Park	48 units
<b>Residential Total</b>	<b>80,019 units****</b>
<b>Commercial Total</b>	<b>5,699,185 sf***</b>
<b>Industrial Total</b>	<b>29,476,117 sf***</b>

Source : Table 3-1

Note that many of these projects are pending, and could be subject to withdrawal or denial. However, the cumulative development summary and map provide a general sense of the anticipated level of development within the Castaic Area. Overall, cumulative projects in the area includes about 80,000 residential units, 5,700,000 square feet of commercial space, and 29,500,000 square feet of industrial space. Cumulative impacts are discussed at the end of each subsection in Section 4.0, *Environmental Impacts Analysis*.





Source: Los Angeles County Department of Regional Planning (Case Files in the Castaic Canyon document, Webtrack on-line service, Los Angeles County public counter, Los Angeles County individual case planner contacts), Santa Clarita Valley Subdivision Activity Map (City of Santa Clarita/Graphics Division), and U.S. Bureau of the Census TIGER 2000 data.

- ① Pending or Approved Project Locations
- ★ Lake View Estates Mixed Use Project Location



Cumulative Projects Location Map

Figure 3-1

## 4.0 ENVIRONMENTAL IMPACT ANALYSIS

This section discusses the possible environmental effects of the proposed project for the 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 begins with a discussion of the setting relevant to that issue area. Following the setting is a discussion of the project's impacts relative to the issue area. Within the impact analysis, the first subsection identifies the methodologies used and the "significance thresholds," which are those criteria adopted by the County, 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 impact listing also contains a statement of the significance determination for the environmental impact as follows:

***Class I, Significant and Unavoidable:*** 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.

***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.

***Class III, Not 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, Beneficial:*** An effect that would reduce existing environmental problems or hazards.

Following each environmental impact 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.



## 4.1 GEOTECHNICAL HAZARD

### 4.1.1 Setting

This section is based on information contained in a preliminary geotechnical review prepared by Leighton and Associates, Inc. and a Geologic and Soils Exploration by the J. Byer Group. The reports are included in Appendix B. A Castaic Standards District designated Primary Significant Ridgeline is located on site; however, the project's effects on the Ridgeline are discussed in Section 4.9 *Visual Qualities* and in Section 4.15 *Land Use*.

**a. Regional Geologic Setting.** The project site is located in the western transverse range province along the northwestern margin of the Santa Clarita Valley, within the Ridge Basin. The Ridge Basin represents a tectonic depression formed along the San Andreas Fault system during Miocene and Pleistocene time that has been infilled with thousands of feet of sediments. This strata has been moderately folded, fractured, and faulted during and following deposition.

The San Gabriel Fault crosses the southwest portion of the site and generally extends northwest and southeast of the project are. This fault forms the westerly margin of the Ridge and Soledad Basins in the Castaic and Santa Clarita Valley Area. The fault is approximately 80 miles long and extends from near Bear Mountain in northern Ventura County on the northwest to San Antonio Canyon in San Bernardino County on the west. The project site is located at the northeast edge of the Castaic Hills oil field, which is believed to result from a structural oil trap created by the San Gabriel Fault.

**b. Site Geology.** The geologic units exposed on the site include bedrock of the Plio-Pleistocene age Saugus Formation, terrace deposits, alluvium, and slope wash deposits. The locations of these units are shown on Figure 4.1-1 and are described below, in order of oldest to youngest (see Appendix B).

Saugus Formation (TQs). The Plio-Pleistocene-age Saugus Formation is exposed over most of the site. It consists of interbedded sandstone, conglomerate, and mudstone (clayey siltstone and silty claystone). The sandstone and conglomerate are moderately jointed, coarse grained, well indurated, and commonly form cliffs several tens of feet high. The mudstone, which is the least common rock type, is moderately weathered and indurated and is characterized by reddish brown colors.

Terrace Deposits (QT). Terrace Deposits are exposed atop flat ridges at the southern portion of the site, and underlie the property. They were encountered in Boring 5 and Trenches one, three, four, five, and six. They consist of silty sand, sand, and gravelly sand that are reddish brown, slightly moist to moist, dense and weathered. The gravels of the deposit consist of well-rounded pebbles and cobbles. The thickness of the terrace deposits, based on the geologic data from Leighton and Associate 1989, is estimated to be approximately 10 feet.

Colluvium. Natural colluvial deposits blanket the lower portions of the steeper natural slopes. Colluvium was mapped on the south and west portions of the site and is also present on the south side of the central main canyon. Colluvium was encountered on the west portion



of Trench one and consists of silty sand that is medium brown, dry, loose, and contains cobbles and boulders.

Alluvium (Qal). Alluvial deposits are present in the canyons of the subject site. The largest area of alluvium is located in the northwest portion of the site. The alluvium was 32 feet thick in borings eight & nine and generally thickens in the downslope direction. The alluvium consists of silty sand and gravelly sand that is brown, medium dense to dense, damp to moist, and contains some gravel. On the adjacent site to the south, the upper nine feet of alluvium was found to be susceptible to hydroconsolidation (collapse) when saturated under loading.

Bedrock. Bedrock underlying the site, encountered in trenches and borings, consists of sandstone and conglomerate mapped as part of the Saugus Formation. The bedrock is exposed on natural slopes throughout the site. The conglomerate is light brown, damp, moderately hard to hard, and massive. The sandstone is light brown, gray, dry, moderately hard, weathered and is weakly to well bedded. Red sandstone layers are interbedded within the sandstone unit. The red sandstone is moderately hard, slightly moist, weathered, massive and contains clay.

Geologic Structure. The bedrock, alluvial terrace, and alluvium described are common to this area of Castaic. The alluvial terrace and alluvium is generally massive to horizontally layered and lack significant structural planes. Bedding planes mapped within the sandstone generally strike northwest and dip between 16 and 54 degrees to the southwest, which is consistent with regional trends. Joint planes mapped are randomly oriented and steeply dipping. Shear planes were mapped in Trench one and strike to the northwest. A shear plane mapped in Trench four strikes to the northeast. The geologic structure of the bedrock is favorably oriented for stability of the site and proposed project.

**c. Site Soils.** Onsite soils are composed of native soil and artificial fill.

Native soil. Natural residual soil blankets the site and was encountered in Boring five and Trenches two and six. The soil consists of silty sand that is brown, damp, and medium dense. The soil layer observed is approximately three feet thick in Boring five.

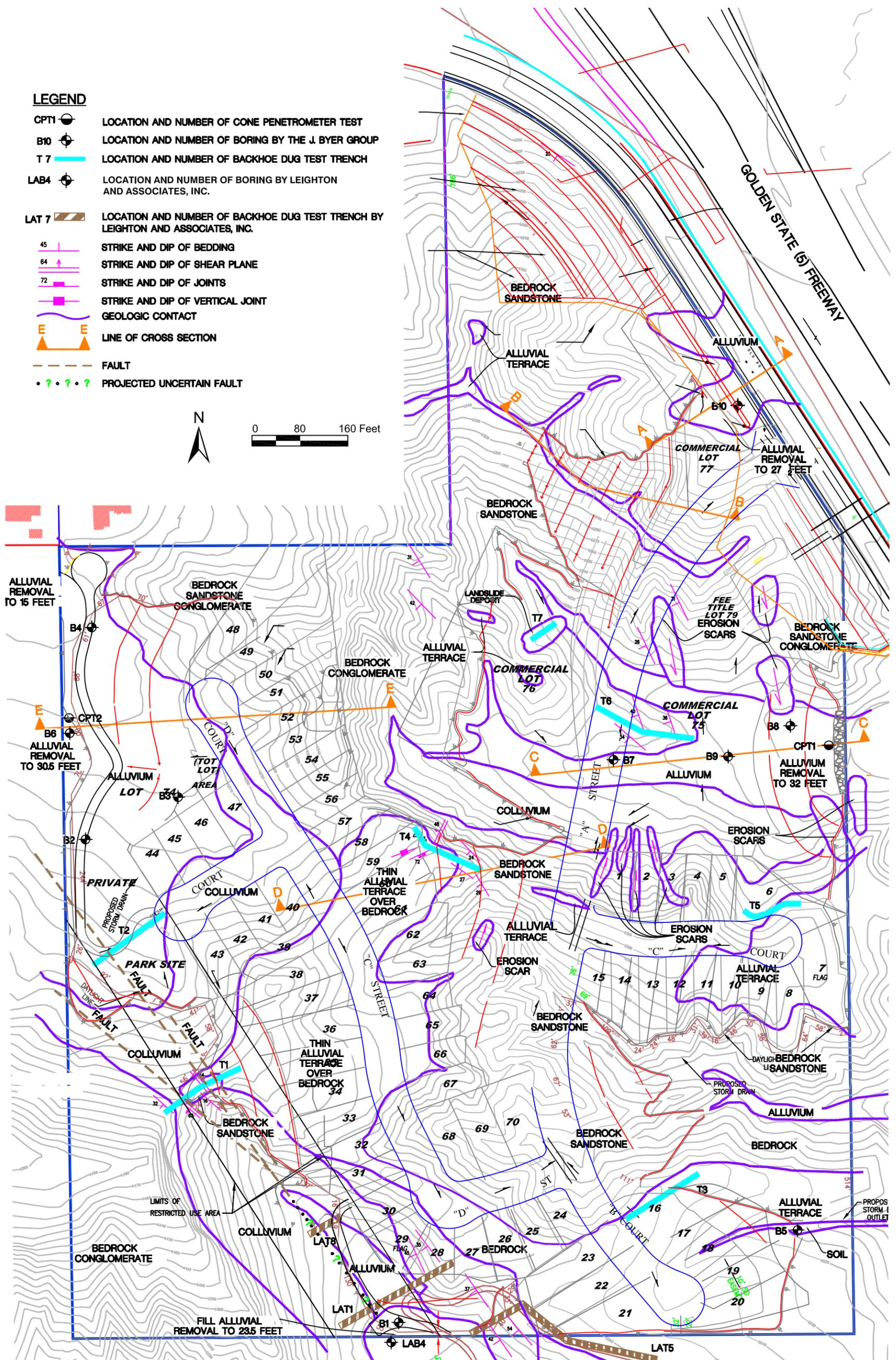
Fill. Fill associated with previous site grading, was encountered in Borings one and 10 to a maximum depth of five feet. The fill consists of silty sand that is light brown, brown, dark brown, moist, medium dense, and contains gravel to three inches.

**d. Site Geologic Conditions.**

Geologic Hazards. Geologic hazards that may affect the proposed development include seismic hazards, slope instability, and erosion.

*Seismic Hazards.* The project site is located within the seismically active southern California region. Figure 4.1-2 shows faults in the vicinity of the project site. Earthquake related hazards typically include ground rupture, resulting from fault movement being physically expressed at the earth's surface; high intensity ground shaking resulting from earthquake-generated subsurface and surface vibrations; liquefaction, or other ground





Geologic Map

Figure 4.1-1

Drawing Source: The J. Beyer Group, Inc., September 30, 2003. Revised October, 2008.

settlement, flow or slip, resulting from seismic activity in or near areas of susceptible earth materials.

- **Ground Rupture.** Traces of the San Gabriel Fault traverse the southwest portion of the project site. This portion of the San Gabriel Fault is not presently included in an Alquist Priolo Special Studies Zone; however, the fault is zoned approximately 2.5 miles southeast of the site (Hart, 1990). A study by William Cotton and Associates (1988) in the Rye Canyon area approximately four miles southeast of the site, determined that the fault was active, with the last seismic event prior to 1,300 years ago. Leighton and Associate (1989) found evidence of Quaternary displacement on the fault on the property adjacent to and south of the subject site. The subsurface exploration and fault study conducted at the site by the J. Byer Group included 900 linear feet of trenching, 10 borings, and two core penetration test soundings. Geologic mapping indicated that three potentially active faults cross the southwest portion of the site (see Figure 4.1-1 for location). Three fault shears showing offset within bedrock were found in Trench one and were plotted on the Geologic Map (Figure 4.1-1). The potential for primary (actual tectonic movement along a fault) ground rupture at the subject site exists along this trace of the San Gabriel Fault, and the slip rate is recorded as one cm/year (ICBO publication *Maps of known Active Faults Near Source Zones in California and Adjacent Portions of Nevada*).

A "Restricted Use Area" is shown on the Figure 4.1-1 and delineates an area 50 feet from each side of the bedrock faults found in Trench one. This area is used to provide protection from potential fault rupture. No other faults were encountered in the other trenches excavated on the property. The subsurface exploration conducted by the J. Byer Group concluded that the eastern structural setback delineated in 1989 by Leighton and Associate during the preliminary geotechnical investigation can be removed from the plan and the western structural setback has been adjusted based on geologic data collected during the J. Byers Group subsurface explorations.

- **High Intensity Ground Shaking.** Vibrational energy generated by nearby earthquakes can produce ground motions capable of damaging or destroying unprepared structures. Brick and masonry structures, particularly when unreinforced, are less tolerant of vibration and horizontal displacements than steel or wood structures. Critical facilities (e.g. hospitals, fire stations, water and gas utilities, and schools) are commonly treated as more sensitive.
- **Liquefaction.** Earthquake generated ground shaking may cause certain earth materials to liquefy, resulting in loss of bearing capacity. Conditions necessary for liquefaction to occur are loose, granular, saturated (due to high groundwater) fine sand and/or silt subject to groundshaking. There is potential for liquefaction to occur on site where alluvial deposits are present.

*Slope Stability.* The project site is located within a State mapped zone requiring landslide investigation mitigation per Seismic Hazard Mapping Act, State of California Public Resources Code, section 2690 et seq. (J. Byer Group Inc., 2005). A map showing these hazards is contained



in Appendix B (Appendix 2 of the J. Byer Group, Inc. Geologic and Soils Exploration Report). Cut and fill slopes are especially susceptible to instability. The potential for topples and rockfall failures exist along the northeast facing slopes due to southwest dipping bedrock. Numerous erosion scars were observed on the steep natural slopes. The east and southeast draining canyons have generated debris flows up to four feet thick and have deposited mud and debris onto the construction yard and The Old Road requiring clean up with heavy equipment.

*Settlement.* Settlement of the ground surface can occur in alluvial areas due to compression or hydroconsolidation (collapse). On the adjacent site to the south, the upper nine feet of alluvium was found to be susceptible to hydroconsolidation when saturated under loading.

Groundwater. During exploration, the nearest potential high groundwater elevation occurred at 10 feet below the lowest site elevation, just east of I-5 (J. Byer Group Inc., 2005). Seasonal fluctuations in groundwater levels may occur due to variations in climate, irrigation, and other factors not evident at the time of geologic exploration. Fluctuations in groundwater levels may also occur across the site. Rising groundwater can saturate earth materials, causing subsidence of the site or instability of slopes.

**e. Regulatory Setting.** The project site is within the jurisdiction of the County of Los Angeles and pertinent regulatory documents include the Los Angeles County General Plan, Los Angeles County Code, the Santa Clarita Valley Area Plan and the Castaic Area Community Standards District. The Los Angeles County General Plan Land Use Element designates 28.51 acres of the site as Hillside Management, due to slopes in excess of 25%. Development within a Hillside Management area is subject to additional scrutiny regarding geologic hazards and design related grading considerations for the purposes of protecting public safety and aesthetic resources. The project is also subject to the Los Angeles County Hillside Design Guidelines that specify development guidelines for grading within hillside areas. The Santa Clarita Valley Area Plan reinforces the Hillside Management policy of the Los Angeles County General Plan.

Development of the site would also 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 County of Los Angeles, Santa Clarita Valley building inspector would be responsible for assuring Code compliance.

#### **4.1.2 Impact Analysis**

**a. Methodology and Significance Thresholds.** The proposed project is located in an area having fault hazards, earthquake induced landslide hazards, and liquefaction hazards (Newhall Quadrangle) and involves grading of slopes greater than 25% (Los Angeles County Initial Study Checklist). The proposed project was evaluated with respect to the proximity of proposed buildings and infrastructure to geologic and seismic hazards as they were identified in the geotechnical evaluation prepared for the site by J. Byer Group, Inc. (Appendix B).



Under CEQA, a significant impact with respect to geologic and soils hazards would occur if the project would:

- a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*
  - i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?*
  - ii) *Strong seismic ground shaking?*
  - iii) *Seismic-related ground failure, including liquefaction?*
  - iv) *Landslides?*
- b) *Result in substantial soil erosion or the loss of topsoil?*
- c) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site lateral spreading, subsidence, liquefaction or collapse?*

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

**Impact GEO-1    There is potential for ground rupture at the project site, due to the presence of San Gabriel Fault traces. This is a class II significant but mitigable impact**

The project area contains traces of the San Gabriel Fault, which traverse the southwest portion of the project site. This portion of the San Gabriel Fault is not presently included in an Alquist Priolo Special Studies Zone; however, the fault is zoned approximately 2.5 miles southeast of the site (Hart, 1990). A study by William Cotton and Associates (1988) in the Rye Canyon area approximately four miles southeast of the site, determined that the fault was active, with the last seismic event prior to 1,300 years ago. Leighton and Associates (1989) found evidence of Quaternary displacement on the fault on the property adjacent the southern boundary of the project site. The potential for primary (from actual tectonic movement along a fault) ground rupture at the subject site exists along this trace of the San Gabriel Fault, which is documented as having a slip rate of one cm/year.

The tentative tract map, included in the project description shows the fault hazard zones that were identified on the subject property during the first geotechnical investigation (Leighton and Associates, 1992). Figure 4.1-1 shows the revised fault hazard zone following subsurface exploration by the J. Byer Group, 2005. The geotechnical analysis completed in 2005 was conducted to further delineate the location of any onsite faults and concluded that the eastern setback zone could be eliminated, and refined the western setback zone to accurately reflect a width of 50 feet on either side of the San Gabriel Fault trace (refer to Figure 4.1-1). Structural setbacks of 50 feet from the location of the fault are required to mitigate the potentially significant impacts to a level of insignificance. The revised western fault hazard zone is located predominantly west of the proposed development and no longer intercepts residential development with the exception of the western boundaries of lots 29, 30 and 31 (refer to Figure 4.1-1). According to Figure 4.1-1, the proposed development would currently place manufactured 2:1 cut and fill slopes and the park site within the fault hazard zone. There is also



potential for utilities or drainage infrastructure within this area to connect the park site with the infrastructure of the adjacent residential development.

Mitigation Measures. Incorporation of mitigation requiring avoidance or design to withstand ground rupture and shaking that could be produced by the fault would mitigate the impacts to a level of insignificance.

**GEO-1 Ground Rupture.** The revised San Gabriel Fault hazard setback shall be incorporated into the subdivision tract map and verified by the applicant's geotechnical consultant prior to finalization of the tract map. The utility infrastructure, including but not limited to gas lines, water lines, drainage and sewer lines shall be designed to avoid or withstand ground rupture associated with the potential for fault movement. The project engineer shall design cut and fill slopes within the fault hazard zone based on the J. Byer Group geotechnical evaluation, Los Angeles County Department of Public Works Geotechnical and Materials Engineering Division requirements and Uniform Building Code requirements to the satisfaction of the County of Los Angeles.

Significance after Mitigation. With incorporation of requirements of the Uniform Building Code, geotechnical verification of the location of the fault, setbacks, utility design considerations, and approval of the final plans by the County of Los Angeles, seismic impacts would be within recognized standards and are therefore considered to be less than significant. However, the potential for ground rupture would still exist at the park site.

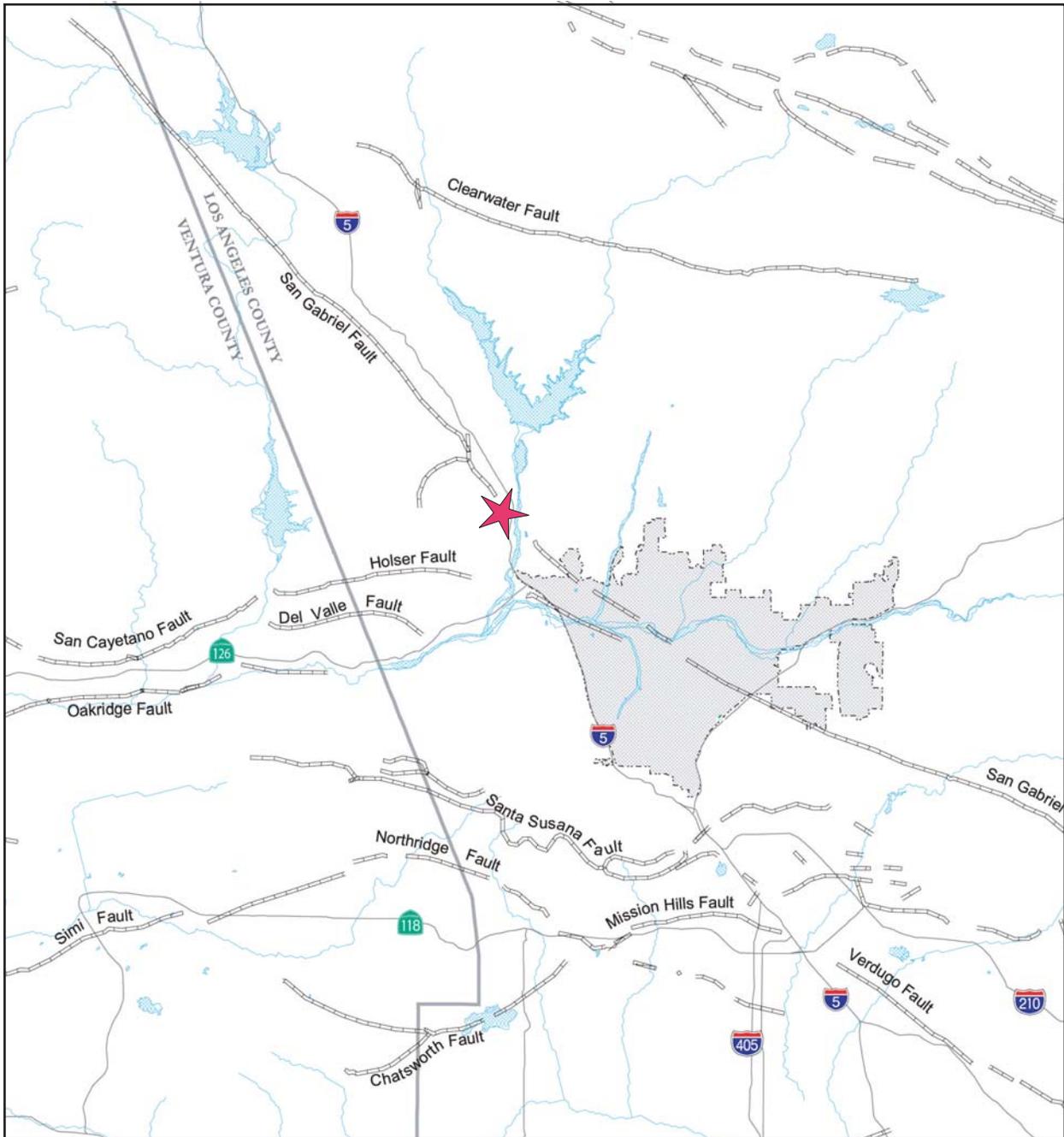
**Impact GEO-2 The project site may experience substantial ground shaking in the event of an earthquake on any of several faults. However, compliance with UBC requirements would reduce such impacts to a Class III, less than significant level.**

The project is located within a seismically active zone and could experience ground shaking from several faults in the region (see Table 4.1-1). The probabilistic approach for the Design Basis Earthquake is based on 10% chance of exceedance in 50 years, and is expected to be 0.61 g.

Mitigation Measures. None are necessary; conformance of the project to Uniform Building Code specifications which include design based on the seismic capabilities in the immediate project area would result in a project that is designed to withstand ground shaking.

Significance after Mitigation. There will always be a hazard of ground shaking on the site and in the immediate vicinity; however, adherence to UBC specifications is intended to minimize loss associated with ground shaking events.





Source: EIP Associates, August 1, 2003.

Legend

--- Fault



Regional Faults

Figure 4.1-2

**Table 4.1-1 Seismic Potential at the Project Site**

Potential Causative Fault	Distance from Project Site (miles)	Maximum Credible Earthquake (Richter Magnitude)	Peak Ground Acceleration (g)
San Andreas (Carrizo)	12.4	8.0	.30
San Andreas (Mojave)	12.4	7.5	.22
San Andreas (San Bernardino Mtns)	58.4	7.5	.03
San Andreas (Coachella Valley)	119.9	7.5	.01
Palos Verdes	41.6	7.0	.03
Whittier	44.7	7.3	.04
Santa Monica	29.8	6.7	.04
Malibu Coast	32.3	6.9	.04
Newport Inglewood	33.6	6.8	.04
Oakridge	21.1	6.9	.07
Santa Susana	12.4	6.9	.14
San Fernando	14.9	6.5	.08
Sierra Madre-A	16.8	6.4	.07
Sierra Madre-B	19.3	6.5	.06
Sierra Madre-C	28.6	6.5	.04
Santa Ynez-east	21.7	7.3	.10
Pine Mountain	16.2	7.1	.12
Big Pine	34.8	7.2	.05
San Gabriel-A	5.6	7.0	.33
San Gabriel-B	5.6	6.7	.28
Arroyo Parida	33.6	7.0	.05
San Cayetano	20.5	7.8	.09
White Wolf	44.7	7.8	.04

Source: Leighton and Associates 1992. Peak ground accelerations were found by averaging values obtained through calculations based on Campbell (1988), Joyner & Boore (1981) and Idriss (1987).

**Impact GEO-3    The project site has potential for ground failure due to various soil types and bedrock orientation. This is a Class II, significant but mitigable impact.**

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 types of ground failure identified to potentially occur at the project site are discussed below.

Slope Stability. The project site is within a landslide hazard area and manufactured cut and fill slopes can be highly susceptible to failure. A natural 1:1 slope also presents a hazard within the project area. Project development includes a 160 foot high 1 ½ :1 cut slope and a 100 foot high 2:1 fill slope. Gross stability of the cut slope was analyzed using the modified Bishop’s method with the PCSTABLE six software program by Purdue University and modified



by the University of Madison, Wisconsin. The proposed 2:1 compacted fill slopes and existing 1:1 natural slope were analyzed using Taylor's Method. The analysis showed that the project's proposed manufactured and natural slopes would be grossly stable with a factor of safety in excess of 1.5, and seismically stable with a factor of safety exceeding 1.1.

Debris Flow. Debris flow potential exists for hillsides sloping toward alluvial deposits at the proposed commercial lots 75 and 76, as evidenced by slope wash deposits that were found on the surrounding slopes, and were deposited from this site onto adjacent properties during the record rains during the winter of 2004/2005. Debris flow potential also exists below landforms that exceed development in height, such as at residential lots 48-54, and at commercial lots 76 and 77. Hazards within these areas can be mitigated through Debris basins, berms, fences or slough walls.

Hydroconsolidation/Liquefaction. The potential for hydroconsolidation and liquefaction is present in areas of alluvial deposits where some alluvial layers had core penetration test soundings that resulted in safety factors of less than 1.2. These areas are located along the western portion of the site where a 2:1 slope and park site are proposed, along the eastern boundary of the site where commercial lots 75 and 76 are proposed, and along the southern boundary where a 2:1 slope is proposed beneath residential lots 28-30. Alluvium removals are delineated on Figure 4.1-1 and range from depths of 15 to 32 feet.

Differential Settlement. Differential settlement has the potential to occur in areas where fill meets steep southwest dipping bedrock at the 2:1 slope south of lot 75 and residential lots one through six, as well as in areas that are underlain by alluvium. General grading specifications have been recommended by the J. Byer Group to mitigate any potential hazards associated with differential settlement.

Mitigation Measures. Recommendations issued in the 2005 J. Byer Group Geologic and Soils Engineering Exploration would mitigate the potential for ground failure to a level of insignificance.

- GEO-3 (a) Liquefaction, Lateral Spreading, Dynamic Settlement.** The alluvium on site shall be removed and recompactd in accordance with recommendations of the J. Byer Group (*Geologic and Soils Engineering Exploration, Tentative Tract 53933*, 2005) as delineated on Figure 4.1-1, to eliminate the potential for liquefaction, lateral spreading and dynamic settlement. Grading Plans shall be reviewed by the J. Byer Group for consistency with their recommendations and submitted to the Los Angeles County Department of Public Works Geotechnical and Materials Engineering Division for their review and approval.
- GEO-3(b) Geological Oversight.** A project geologist shall be present during removals of alluvium and other necessary stripping of topsoil and colluvium, which may be five to 15 feet thick in some areas.



Significance After Mitigation. With the implementation of recommendations contained in the site-specific geotechnical investigation impacts associated with ground failure would be reduced to a less than significant level.

**Impact GEO-4 Project development would involve about 640,000 cubic yards of grading and would place structures adjacent to cut slopes and locate structures on fill areas. The potential impact associated with decreased slope stability is considered a Class II *significant but mitigable* impact.**

The proposed project would involve grading on about 29 acres, or about 61% of the 47.25-acre site. The cut-and-fill would be balanced on site with no import or export of material. There are a total of 6 cut and 6 fill areas. The depth of the cuts range from 20 feet to about 160 feet. The depth of fills varies from 30 feet to 100 feet. One modified slope is proposed at 1 ½ :1, but the remainder are proposed at 2:1.

Mitigation Measures. In addition to the recommendations of the Phase II Geotechnical Report, any subsequent requirements of the County Department of Public Works and Grading Inspector, the following mitigation measures shall be implemented to reduce the potential slope stability hazard to a level that is less than significant.

- GEO-4(a)** Grading plans shall be reviewed by the applicant's geological consultant to insure that all recommendations included in the 2005 geotechnical investigation have been incorporated.
- GEO-4(b)** The area to receive compacted fill should be prepared by removing all vegetation, debris, existing fill, soil, colluvium, and alluvium. The exposed excavated area should be observed by the soils engineer or geologist prior to placing compacted fill. The exposed grade should be scarified to a depth of six inches, moistened to optimum moisture content, and recompacted to a minimum 94 percent of the maximum density.
- GEO-4(c)** All building sites and graded pads shall have a minimum of five feet of compacted fill over the entire pad.
- GEO-4(d)** Fill consisting of soil approved by the soils engineer, shall be placed in horizontal lifts and compacted in six-inch layers with suitable compaction equipment. The excavated onsite materials are considered satisfactory for reuse in the control fills. Any imported fill shall be observed by the soils engineer prior to use in fill areas. Rocks larger than six inches in diameter shall not be used in the fill.
- GEO-4(e)** The fill shall be compacted to at least 94% of the maximum density for the material used. The maximum density shall be determined by ASTM D 1557-02 or equivalent.



- GEO-4(f)** Field observation and testing shall be performed by the soils engineer during grading to assist the contractor in obtaining the required degree of compaction and the proper moisture content. Where compaction is less than required, additional compactive effort shall be made with adjustment of the moisture content, as necessary until 94% compaction is obtained. Once compaction test is required for each 500 cubic yards, or two vertical feet of fill placed.
- GEO-4(g)** The alluvium, when removed and replaced as approved compacted fill, will shrink approximately 5% in volume. The older alluvium, when removed and placed as compacted fill, is not expected to shrink. The Saugus Formation bedrock, when removed and placed as compacted fill, is expected to bulk in volume approximately 5%.

Significance After Mitigation. With the recommended mitigation measures, slope stability impacts would be reduced to a level considered less than significant. This should not be interpreted as a guarantee that landslides or related hazards would not occur onsite in the future. Slope stability is an issue 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 slope stability hazards have been removed and sign a statement that building pads appear to be safe from slope stability hazards, including landslides, settlement, or slippage, and that the graded site will not adversely affect adjacent properties.

**c. Cumulative Impacts.** Buildout of planned and pending development in the Castaic area 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 County 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.

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## 4.2 FLOOD HAZARD

### 4.2.1 Setting

The discussion in this section of the EIR is based on the Drainage Concept report and graphics that were produced by SR Consultants West, Inc. (May 2008). The narrative of the report is included in Appendix B of the EIR, and the technical appendix to that report is available for review on file at the Los Angeles County Department of Public Works - Storm Drain and Hydrology Section, 900 South Fremont Avenue, Alhambra, CA 91803. The Drainage Concept was approved by Department of Public Works (DPW) on 10/2/2008.

**a. Existing Conditions.** The site is currently undeveloped and is comprised of ridges, intervening canyons and level terrain, with elevations ranging from approximately 1,100 feet to 1,494 feet above sea level. An open northwest draining valley is located on the northwest portion of the site, and two prominent east flowing drainages are located in the northeastern and southeastern portion of the site. An eastern draining valley is also located south of the project area. Alluvium is present in the valleys of the site and southwest of the site.

Based on the ridgelines and topography, the existing drainage patterns of the 47-acre site and related portions of adjacent parcels fall into 5 watershed areas, as follows (see pre-development drainage plan, Figure 4.2-1):

AREA 1: Watershed Area one encompasses the eastern portion of the site including areas on the adjacent property to the east, which is an existing Building Materials Yard business. Area one consists of drainage sub-areas 1A, 2A, 3A, 4A, 5A, 15A, 8B, 9B, 10B, 11B and 12B (total area 39.5 acres), as shown on the existing hydrology map (Figure 4.2-1). Area one drains eastward to a low point on the west side of The Old Road, with the exception of sub-area 15B, which drains to a low point east of The Old Road. The storm flows from sub-areas 1A & 3A, located at the southeast of the site, sheet flow easterly over the adjacent property. Area 1 runoff flow is conveyed by an existing 7' wide X 3' high reinforced concrete box (R.C. Box) storm drain, which flows easterly, crossing under The Old Road and I-5. This 7'x3' R.C. Box outlets into a natural open channel east of I-5. This natural channel drains south for approximately 600 feet and then east where it joins the Castaic Wash (Castaic Creek). The receiving channel is located within the Los Angeles County Castaic Sports Complex parcel (Department of Parks & Recreation), which is adjacent to the 100-year floodplain and Castaic Creek.

AREA 2: Watershed Area 2 consists of sub-areas 1C & 2C located at the northeast portion of the site (Figure 4.2-1). This sub-area is 2.3 acres. Area 2 drains to The Old Road and outlets through a 5' curb opening to an existing concrete rectangular channel. This channel transitions to an existing double 8' wide x 6' high R.C. Box crossing under I-5 and discharging onto the same receiving channel east of I-5 that drains watershed Area one. The outlet point of the double 8'x6' R.C. Box into this open channel is upstream of the 7'x3' R.C. Box outlet, which drains Area one.



AREA 3: Watershed Area three consists of sub-area 3C, encompassing the northeast portion of the site, which is 4.1 acres (see Figure 4.2-1). The storm flow generated by sub-area 3C is collected by an existing 30" corrugated metal pipe (CMP), and drains eastward under The Old Road and joins the same existing double 8' x 6' R.C. Box which drains watershed Area two.

AREA 4: Watershed Area four consists of sub-area 1E (see Figure 4.2-1). This sub-area is 12.0 acres and is located in the northwest section of the project and includes a portion of the adjacent property to the west. Area 4 borders the existing condominium Tract 34365 to the north of the project, open space to the west and the Lake Hills Mobile Home Park to the northwest. The storm flow from this sub-area drains northwesterly to the west-side open space parcel, and then to a low point, located just south of the Mobile Home Park boundary. The storm flow from sub-area 1E, which includes the offsite area flow west of the project, is collected by an existing 42" CMP drain starting at the above mentioned low-point. This existing 42" CMP changes to a 33" RCP (reinforced concrete pipe) drain at the boundary of Tract 34365. Then, continuing through the condominium project as Private Drain (P.D.) 1850, transitions again to a 36" RCP, and joins a 42" RCP on the south side of The Old Road. The 42" RCP then joins an existing 8' x 3' R.C. Box under The Old Road, which in turn discharges into an open space north of The Old Road. The storm flow in the open space drains north-east through an open natural channel to an existing concrete rectangular channel. This concrete channel transitions to the same double 8' x 6' R.C. Box, which drains watershed Areas two & three. As mentioned before, this double R.C. Box crosses under the I-5 and discharges into the same receiving channel which drains watershed Areas one, two and three.

AREA 5: Watershed Area five consists of 3.8-acre sub-area 1D, located southwest of the site (Figure 4.2-1). Area five drains south and merges with the flow from the undeveloped area to the south, and then the flow continues east to an existing 7' x 5' R.C. Box located at The Old Road, approximately 500' south of the 7' x 3' R.C. Box which is downstream of watershed Area one. This R.C. Box crosses under The Old Road and I-5 prior to discharging into a natural channel located east of the I-5, which in turn drains into the Castaic Wash (Castaic Creek).

Based on the above description of the watershed areas and their drainage patterns, watershed Areas one, two, three, four and adjacent condominium Tract 34365 to the north of the project, the open space to the west, the Mobile Home Park to the northwest, and the east-side Building Material Yard parcel all drain into the same open natural channel east of the I-5. As mentioned above, this natural channel is located within Los Angeles County Castaic Sports Complex grounds, and drains into the Castaic Wash (Castaic Creek). As described above watershed Area five also drains eastward through a natural channel and into the Castaic Wash, though this channel is south of the Castaic Sports Complex.

**b. Flood Zone.** Flood Insurance Rate Maps (FIRM) are published by the Federal Emergency Management Agency (FEMA), and the project site lies within the boundaries of four different maps. These maps are 0650430330B (northwest), 0650430335 B (northeast), 0650430340 B (southwest) and 0650430345 B (southeast). The entire project site is classified as Zone C, which is located outside the boundaries of the 100 and 500-year flood zones.





**c. Castaic Dam Inundation Area.** The project site and adjacent areas, including the Castaic Sports Complex to the east of I-5 and the Castaic Creek (Castaic Wash), are located within the Castaic Dam Debris Basin Inundation Area per Los Angeles County General Plan Safety Element, Plate 6.

**d. Regulatory Setting.** The project is subject to the guidelines imposed by the County of Los Angeles in the Safety Element, and the Los Angeles County Department of Public Works with respect to flooding, water quality and drainage (refer to Section 4.5 *Water Quality* for a discussion regarding site drainage and water quality).

#### **4.2.2 Impact Analysis**

**a. Methodology and Significance Thresholds.** The project was evaluated in terms of increasing the potential for offsite flooding and in terms of the potential to expose occupants of the project to flooding hazards. According to the CEQA thresholds, the proposed project would cause a significant impact if it would:

- *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river in a manner that would result in substantial erosion or siltation on or off site; or*
- *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site; or*
- *Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems; or*
- *Place housing within a 100-year flood hazard boundary, Flood Insurance Rate Map or other flood hazard delineation map; or*
- *Place within a 100-year flood hazard area structures which would impede or redirect flood flows; or*
- *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam; or*
- *Inundation by seiche, tsunami or mudflow.*

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

**Impact FL-1** **The project has the potential to contribute increased runoff to adjacent properties of lower elevation and/or downstream storm drain facilities, thereby increasing the hazard of offsite flooding. This is a Class II, significant but mitigable impact.**

The project site contains complex terrain composed of steep slopes and canyons, with multiple watersheds, as described under Section 4.2.1.a above.

The proposed drainage concept, which has been approved by Department of Public Works (DPW) is devised such that there is no adverse impact on offsite properties. The proposed



drainage concept has also been devised such that the project's storm runoff does not exceed the capacity of the existing downstream storm drain facilities. The proposed drainage concept design is shown on the post-development hydrology plan (Figure 4.2-2). Three onsite public storm drains designated as Lines A and A-1 (serving series "A" sub-areas) and Line C (serving series "C" sub-areas) are proposed for the project. The functions of these three drain lines are described as follows:

Drainage Line A: The proposed Line A essentially drains all residential and commercial lots, consisting of sub-areas 1A to 11A as shown on the post-development drainage plan (Figure 4.2-2). Line A is essentially designed to divert the runoff from substantial parts of the following existing watershed areas, which were described under Section 4.2.1.a (see Figure 4.2-1): east-flowing Area one, west-flowing Area 4 and south-flowing Area 5. Line A flow is conveyed to a proposed detention basin, which is located at the north end of Lot 75 (sub-area 11A).

Drainage Line A-1: The proposed Line A-1 drains the open space sub-areas 12A, 13A, and 14A with a bulk flow inlet. As shown in Figure 4.2-2, downstream on The Old Road, the flow from storm drain A-1 joins the flow from the proposed detention basin, and the combined flow is then conveyed to the existing 7'x3' Reinforced Concrete Box (RCB) on The Old Road, one of the two key drainage outlets for the project's storm water.

Drainage Line C: The proposed Line C will replace the existing 30" CMP drain, which runs under The Old Road, north of project's A Street. This Line C will collect the storm flow from the open space slopes located at the northeast of the project (sub-area 1C to 4C shown on Figure 4.2-2). Line C flow will be conveyed to the existing double 8' x 6' R.C. Box, the second key drainage outlet for the project's storm water.

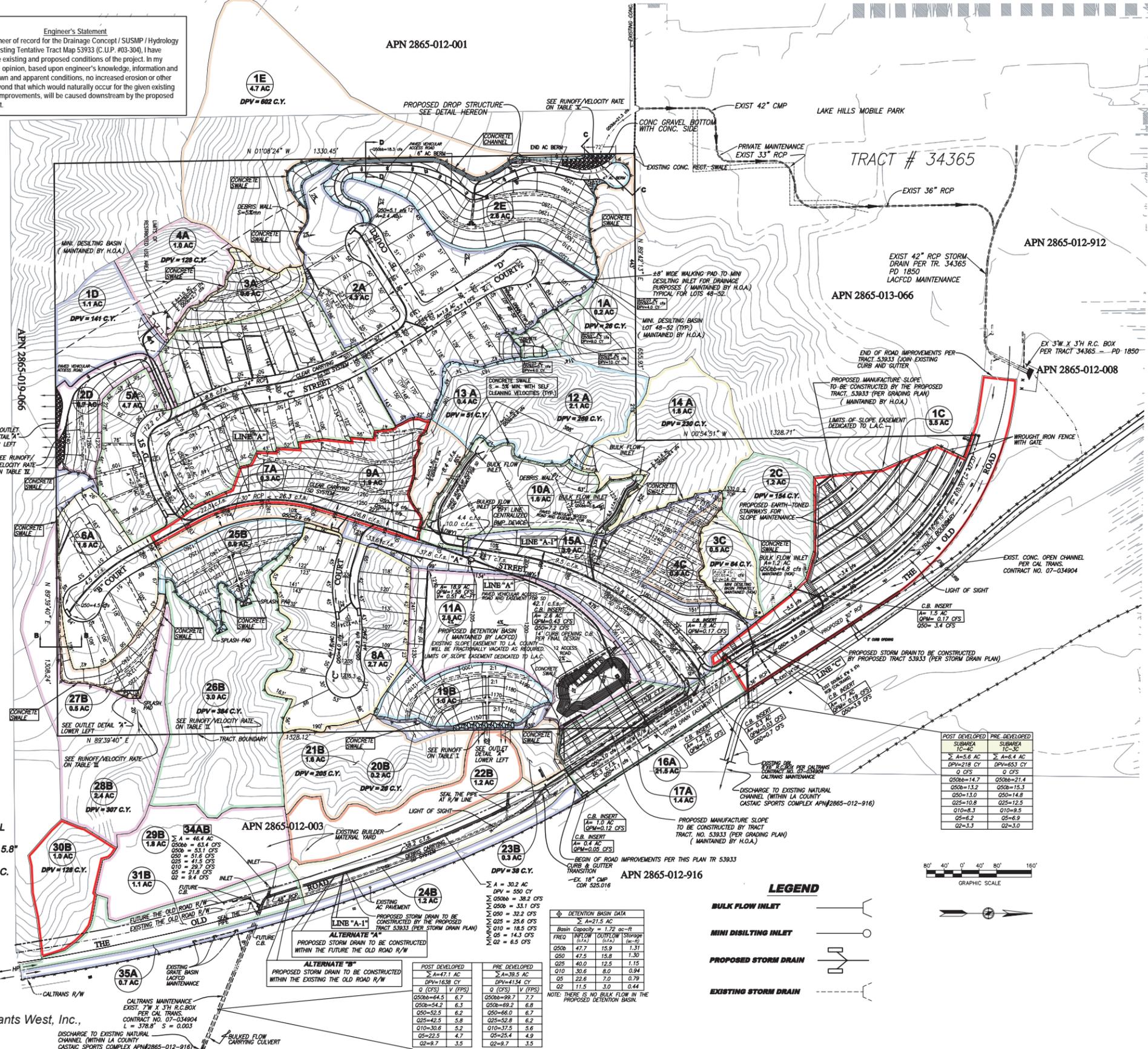
The two key drainage outlets for the development are the same outlets which drain the site under the existing conditions. These existing drainage outlets are the double 8' x 6' R.C. Box (located east of The Old Road, about 170 feet north of A Street, the project's access road), and the 7' x 3' R.C. Box (located on The Old Road, approximately 1,200 feet south of project's A Street). Similar to the runoff under the existing conditions, the project's storm water runoff from these two key outlets would drain into the same natural open receiving channel, which is located east of I-5 on the grounds of the Los Angeles County Castaic Sports Complex. The same two primary existing outlets for the proposed project are also the runoff outlet points for all or portions of the neighboring properties to the north, west, northwest and east of the project's site. Only the adjacent property to the south drains to a different outlet on The Old Road (see the description of watershed Area five under Section 4.2.1.a). The capacities of both these outlet R.C. Boxes have been verified to be adequate for the runoff that is calculated to be generated by the proposed project. The open natural receiving channel on the grounds of the Sports Complex, which receives the main portion of the project's runoff, drains south and then eastwards into the Castaic Creek (Castaic Wash).

The pre-development and post-development storm runoff flow quantities for the project site are compared in the tables that follow (Table 4.2-1 through 4.2-5). The flow volume for 50-year, 25-year, 10-year, five-year and two-year storm frequencies are tabulated. These calculations were supplied on the pre and post development drainage graphics that were prepared as part of the



**Engineer's Statement**  
 As the Engineer of record for the Drainage Concept / SUSMP / Hydrology Study for Vesting Tentative Tract Map 53933 (C.U.P. #03-304), I have analyzed the existing and proposed conditions of the project. In my professional opinion, based upon engineer's knowledge, information and belief of known and apparent conditions, no increased erosion or other impacts, beyond that which would naturally occur for the given existing terrain and improvements, will be caused downstream by the proposed development.

TABLE I		TABLE II		TABLE III		TABLE IV		TABLE V	
POST DEVELOPED	PRE DEVELOPED	POST DEVELOPED	PRE DEVELOPED						
SUBAREA 19B & 20B	SUBAREA 08	SUBAREA 25B & 26B	SUBAREA 1A	SUBAREA 27B & 28B	SUBAREA 3A	SUBAREA 10A & 20A	SUBAREA 10	SUBAREA 1E & 2E	SUBAREA 1E
Σ A=1.2 AC	Σ A=13.0 AC	Σ A=2.8 AC	Σ A=10.4 AC	Σ A=1.8 AC	Σ A=3.8 AC	Σ A=1.8 AC	Σ A=3.8 AC	Σ A=2.3 AC	Σ A=3.8 AC
Q (CFS) V (FPS)	Q (CFS) V (FPS)	Q (CFS) V (FPS)	Q (CFS) V (FPS)	Q (CFS) V (FPS)	Q (CFS) V (FPS)	Q (CFS) V (FPS)	Q (CFS) V (FPS)	Q (CFS) V (FPS)	Q (CFS) V (FPS)
Q50b=3.5 0.8	Q50b=42.7 3.7	Q50b=9.2 5.5	Q50b=30.0 7.0	Q50b=6.4 0.9	Q50b=15.2 3.4	Q50b=14.7 1.3	Q50b=20.1 2.5	Q50b=18.4 1.4	Q50b=25.8 2.7
Q25=3.2 0.8	Q25=27.7 3.4	Q25=7.0 5.2	Q25=19.4 6.4	Q25=4.1 5.6	Q25=7.1 7.3	Q25=12.9 1.4	Q25=20.1 2.5	Q25=12.9 1.4	Q25=20.1 2.5
Q10=2.2 0.7	Q10=15.1 2.5	Q10=4.1 5.7	Q10=10.8 5.7	Q10=3.2 0.8	Q10=4.1 6.1	Q10=8.9 1.2	Q10=14.1 2.3	Q10=8.9 1.2	Q10=14.1 2.3
Q5=1.8 0.6	Q5=10.3 2.3	Q5=2.9 3.6	Q5=6.9 5.2	Q5=1.6 4.7	Q5=2.6 5.1	Q5=6.2 1.0	Q5=9.3 2.2	Q5=6.2 1.0	Q5=9.3 2.2
Q2=0.7 0.5	Q2=3.7 1.7	Q2=1.2 3.3	Q2=2.4 4.1	Q2=0.7 3.1	Q2=1.0 3.4	Q2=2.5 0.7	Q2=3.3 1.8	Q2=2.5 0.7	Q2=3.3 1.8



**RUN-OFF TABLE**

SUB-AREA NO.	SUB-AREA (AC)	Q50bb (cfs)	Q50b (cfs)	Q50 (cfs)	Q25 (cfs)	Q10 (cfs)	Q5 (cfs)	Q2 (cfs)	DPV (cy)
1A	0.2	0.8	0.6	0.5	0.5	0.4	0.3	0.2	26
2A	4.3	---	---	8.5	6.9	5.2	3.8	1.8	---
3A	0.6	---	---	1.6	1.4	1.0	0.7	0.3	---
4A	1.0	4.0	2.7	2.6	2.2	1.8	1.4	0.7	128
5A	4.7	---	---	10.3	8.4	6.3	4.5	2.2	---
6A	1.6	---	---	4.5	3.9	2.8	2.0	1.0	---
7A	0.3	---	---	0.9	0.8	0.6	0.5	0.3	---
8A	2.7	---	---	6.8	5.5	4.3	3.0	1.5	---
9A	1.9	---	---	4.3	3.7	2.6	1.9	0.9	---
10A	1.6	---	---	4.4	3.6	2.8	2.1	1.2	---
11A	2.6	---	---	7.2	6.3	4.7	3.6	2.0	---
12A	2.1	8.4	5.7	5.5	4.7	3.3	2.3	0.9	269
13A	0.4	1.6	1.1	1.1	0.9	0.7	0.6	0.2	51
14A	1.8	7.2	4.9	4.7	4.0	3.2	2.5	1.0	230
15A	3.0	---	---	7.1	5.7	4.3	3.1	1.5	---
17A	1.4	---	---	4.1	3.2	2.4	1.8	0.9	---
19B	1.0	---	---	2.7	2.3	1.8	1.3	0.6	---
20B	0.2	0.8	0.6	0.5	0.5	0.4	0.3	0.1	26
21B	1.6	6.4	4.4	4.2	3.6	2.8	2.2	1.1	205
22B	1.2	---	---	2.4	2.0	1.4	0.9	0.4	---
23B	0.3	1.2	0.8	0.8	0.7	0.5	0.4	0.2	38
24B	1.2	---	---	2.6	2.2	1.6	1.2	0.6	---
25B	0.9	---	---	2.4	2.1	1.6	1.3	0.6	---
26B	3.0	10.7	7.3	7.0	5.5	3.9	2.5	1.0	384
27B	0.5	---	---	1.3	1.1	0.9	0.6	0.3	---
28B	2.4	7.9	5.4	5.1	4.1	2.9	1.9	0.7	307
29B	1.8	---	---	4.3	3.4	2.5	1.7	0.7	---
30B	1.0	4.0	2.7	2.6	2.2	1.8	1.4	0.6	128
31B	1.1	---	---	2.6	2.1	1.5	1.1	0.5	---
35A	0.7	---	---	1.6	1.4	1.0	0.8	0.5	---
1C	3.5	---	---	8.0	6.6	5.1	3.7	2.0	---
2C	1.2	4.8	3.3	3.1	2.7	2.1	1.6	0.8	154
3C	0.5	2.0	1.4	1.3	1.1	0.9	0.7	0.3	64
4C	0.4	---	---	1.1	1.0	0.8	0.6	0.3	---
1D	1.1	4.4	3.0	2.9	2.5	1.9	1.5	0.6	141
2D	0.7	---	---	2.0	1.8	1.3	0.9	0.5	---
1E	4.7	15.4	10.5	10.0	8.0	5.5	3.7	1.4	602
2E	2.6	---	---	5.9	4.7	3.5	2.4	1.1	---

- DRAINAGE CONCEPT NOTES**
- HYDROLOGY INFORMATION AND STORM DRAIN ALIGNMENTS SHOWN ARE NOT NECESSARILY APPROVED.
  - COMPLIANCE OF ALL STREET DRAINAGE REQUIREMENTS WILL BE MET TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
  - NECESSARY EASEMENTS WILL BE DEDICATED FOR THE STORM DRAIN SYSTEM TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS. PROPOSED STORM DRAIN SYSTEM TO BE MAINTAINED BY LACFCD WITHIN PUBLIC RIGHT OF WAY ONLY UNLESS OTHERWISE INDICATED ON PLAN.
  - VEHICULAR ACCESS WILL BE PROVIDED TO ALL INLETS AND OUTLETS TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
  - APPROVAL OF THE DRAINAGE CONCEPT DOES NOT CONSTITUTE DETERMINATION THAT THE OFFSITE IMPROVEMENTS ARE REQUIRED WITHIN THE MEANING OF GOVERNMENT CODE SECTION 66462.5, (EXCEPT AS NOTED).
  - AN OFFSITE DRAINAGE COVENANT FOR ACCEPTANCE OF DRAINAGE (AND DRAINAGE FACILITIES) MAY BE REQUIRED WHERE INDICATED.
  - A NOTE OF FLOOD HAZARD WILL BE REQUIRED WHERE INDICATED ON THIS PLAN.
  - A DRAINAGE BENEFIT ASSESSMENT AREA WILL BE REQUIRED TO FINANCE THE FUTURE ONGOING MAINTENANCE AND CAPITAL REPLACEMENT OF ALL DRAINAGE DEVICES / SYSTEMS IDENTIFIED BY THE DEPARTMENT OF PUBLIC WORKS
  - A SOIL REPORT WILL BE REQUIRED TO VERIFY THAT A 7-DAY PERCOLATION RATE CAN BE OBTAINED.
  - CONCRETE SWALES (HOA MAINTENANCE) ARE DEBRIS CARRYING WITH 5% MINIMUM SLOPE AND SELF-CLEANING VELOCITIES. SWALES SHALL NOT BE LOCATED WITHIN LIMITS OF PROPOSED RIGHT OF WAY TO LACFCD.
  - PROVIDE SMART IRRIGATION (OR APPROVED EQUIVALENT) FOR ALL LOTS, LANDSCAPED AREAS, AND ENGINEERED SLOPES TO PREVENT OVER WATERING AND TO MITIGATE NUISANCE FLOW TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS PRIOR TO APPROVAL OF THE GRADING PLAN.
  - DRAINAGE DEVICES NOT WITHIN PUBLIC RIGHT OF WAY TO BE MAINTAINED BY H.O.A. UNLESS OTHERWISE NOTED.

**HYDROLOGICAL DATA**  
 QUAD..... NEWHALL  
 SOIL..... 97  
 50 YEAR 24 HOUR ISOHYET..... 5.8"  
 DPA..... 5  
 DPV..... 128 C.Y./A.C.  
 BULKING FACTOR..... 1.47

Drawing Source: SR Consultants West, Inc.,  
 October 2008.

Post-Development Site Drainage  
 Figure 4.2-2  
 County of Los Angeles  
 Department of Regional Planning

Drainage Concept (see Figures 4.2-1 and 4.2-2). As shown, the post-development runoff flow to each of the immediately adjacent properties to the east, south, west, northwest and north, has been reduced as compared with the existing conditions (pre-development) runoff. The post-development maximum peak flow to adjacent properties (50-year burn and bulk flood) is generally reduced in the range of 45% to 90% compared with the respective flow under existing conditions. Table 4.2-1 shows the pre and post development runoff quantities for flows discharged to the property west of the project site, which contains a single family residence on a large lot. As indicated, the maximum post-development peak flow to the northwest (Table 4.2-1) is reduced by about 46% relative to its pre-development runoff flow (flow reduced from 39.4 cubic feet per second to 21.3 cubic feet per second).

**Table 4.2-1 Storm Runoff Flow Discharged to West-side Property at Northwest**

Storm Event	Flow (Q) in CFS* From Pre-Development Sub-Area 1E (12.0Ac)	Flow (Q) in CFS* From Post-Development Sub-Areas 1E & 2E (7.3Ac)
50-year Burn & Bulk	39.4	21.3
50-year Burn	26.8	16.4
50-year	25.8	15.9
25-year	20.1	12.7
10-year	14.1	8.9
5-year	9.3	6.2
2-year	3.3	2.5

Source: SR Consultants West, Inc. Drainage Concept: Hydrology Study: SUSMP for Tract 53933 Post Developed Condition; 2008; Table V.  
 \*CFS is Cubic Feet per Second

Table 4.2-2 shows the pre and post development runoff for drainage to the south, where post development drainage is reduced under each of the flood frequency scenarios.

**Table 4.2-2 Storm Runoff Flow Discharged to South-side Property at Mid-South**

Storm Event	Flow (Q) in CFS* From Pre-Development Sub-Area 1D (3.8 Ac)	Flow (Q) in CFS* From Post-Development Sub-Areas 1D & 2D (1.8 Ac)
50-year Burn & Bulk	15.2	6.4
50-year Burn	10.4	5.0
50-year	9.9	4.9
25-year	7.5	4.2
10-year	5.5	3.2
5-year	3.9	2.4
2-year	1.5	1.1

Source: SR Consultants West, Inc. Drainage Concept: Hydrology Study: SUSMP for Tract 53933 Post Developed Condition; 2008; Table IV.  
 \*CFS is Cubic Feet per Second



Flows to the east towards the Building Supply Yard are discharged through two different sub watersheds. At the southeast, the manufactured slope and Open Space Lot 71 post development flows are reduced from 30% to 48% (see Table 4.2-3).

**Table 4.2-3 Storm Runoff Flow Discharged to East-side Property at Southeast**

Storm Event	Flow (Q) in CFS* From Pre-Development Sub-Area 3A (3.3 Ac)	Flow (Q) in CFS* From Post-Development Sub-Areas 27B & 28B (1.8 Ac)
50-year Burn & Bulk	10.8	5.6
50-year Burn	7.4	4.2
50-year	7.1	4.1
25-year	5.6	3.3
10-year	4.1	2.5
5-year	2.6	1.6
2-year	1.0	0.7

Source: SR Consultants West, Inc. Drainage Concept Hydrology Study SUSMP for Tract 53933 Post Developed Condition; 2008; Table III.  
 □ CFS is Cubic Feet per Second

The graded slope east of Business Professional lot 75 also drains onto the northern end of the Building Supply Yard. As indicated in Table 4.2-4, the post-development peak flow (3.5cfs) is a reduction of over 91% when compared with the pre-development peak flow (42.7cfs).

**Table 4.2-4 Storm Runoff Flow Discharged to East-side Property at Northeast**

Storm Event	Flow (Q) in CFS* From Pre-Development Sub-Area 8B (13.0 Ac)	Flow (Q) in CFS* From Post-Development Sub-Areas 19B & 20B (1.2 Ac)
50-year Burn & Bulk	42.7	3.5
50-year Burn	29.1	3.3
50-year	27.7	3.2
25-year	22.0	2.8
10-year	15.1	2.2
5-year	10.3	1.6
2-year	3.7	0.7

Source: SR Consultants West, Inc. Drainage Concept Hydrology Study SUSMP for Tract 53933 Post Developed Condition; 2008; Table I.  
 □ CFS is Cubic Feet per Second

The project's runoff into the downstream Castaic Sports Complex on the east side of Interstate 5 has not increased as compared with the flow under the existing conditions (Table 4.2.5). As



shown, the post-development flow for the project will not result in a higher storm runoff for two, five, 10 and 25 year storm frequencies for the Castaic Sports Complex downstream.

**Table 4.2-5 Storm Runoff Flow Discharged Into the Existing 3'x7' R.C. Box \*\***

Storm Event	Pre-Development Flow (Q) in CFS * (Total Contributory Area 39.5 Ac)	Post-Development Flow (Q) in CFS * (Total Contributory Area 47.1 Ac)
50-year Burn & Bulk	99.7	64.5
50-year Burn	69.2	54.2
50-year	66.0	52.5
25-year	52.8	42.5
10-year	37.5	30.6
5-year	25.4	22.5
2-year	9.7	9.7

Source: SR Consultants West, Inc. Drainage Concept Hydrology Study: SUSMP for Tract 53933 Post Developed Condition; 2008.

□ CFS is Cubic Feet per Second

□ The Existing 3'x7' R.C. Box Discharges to Existing Downstream Natural Channel Located on the Grounds of Castaic Sports Complex along east-side of I-5

The design of project's drainage system includes but is not limited to: drainage control, debris control, energy dissipating devices, and drip irrigation is proposed for all landscaped slopes to mitigate any nuisance water flow impact offsite. Project is engineered such that there are no adverse impacts to offsite properties. Therefore, no significant impacts are anticipated due to the proposed improvements.

In summary, as the above tables indicate, the proposed drainage system design does not increase the storm runoff to offsite properties, which has been achieved by introducing a detention basin on site. Thus the runoff from the project does not increase the demand on downstream storm drain facilities, nor would it have the potential to increase downstream erosion or result in hydromodification. Nevertheless, mitigation is required to ensure the final designs are consistent with the analysis findings.

Mitigation Measures. The following measure is required to address alteration of drainage, potential concerns about increasing flooding, siltation and erosion hazards at on or offsite locations.

- FL-1 Drainage Concept.** This drainage concept, as approved, provides the quantities related to the runoff flow for the project as well as existing conditions' runoff (using new method hydrology). The drainage concept has also delineated any changes in drainage patterns and debris producing areas, and specifies the necessary storm drain and flood control facilities and mitigation measures. The storm flow conveyance and discharge facilities, which are inline with the recommendations in



the soils and geotechnical reports, will be designed to mitigate the impacts resulting from potential for on and offsite flooding, siltation and erosion. Additional dissipaters or other slowing devices may be incorporated in the drainage system as needed. The project shall be engineered such that there are no impacts to offsite properties.

Significance After Mitigation. With the recommended mitigation measure, impacts relating to increased potential for offsite flooding, siltation and erosion are mitigated to a level of insignificance.

**Impact FL-2 The project site is located within FEMA Flood Zone C and is delineated on Safety Element Plate 6 as located within the Castaic Lake Dam and Debris Basin Inundation Area. This is a Class III, less than significant impact.**

The project site is located in FEMA Flood Zone C, which does not require any special consideration or mitigation. However, the initial study checklist stated that the project area is also located within the Castaic Lake Dam Inundation area. The notes on the map for Plate six state that the “map is intended for general land use planning purposes only”. The Castaic Dam Inundation area extends southward from Castaic Lake along Castaic Creek to the Santa Clara River through Santa Paula. In the event of failure at the Castaic Lake Dam, the flow would rapidly travel southward, flooding Castaic and Valencia within 15 minutes (Santa Clarita Valley General Plan Technical Background Report, 2004). The chances of a failure associated with the dam are considered minimal, and people are allowed to live and work in the vicinity of dams with the knowledge that a failure may occur, similar to the risk people take when living and working in a seismically active region, knowing that a catastrophic earthquake might occur. The County of Los Angeles and City of Santa Clarita both implement programs to facilitate emergency preparedness associated with natural and man-made disasters (Santa Clarita Valley General Plan Technical Background Report, 2004). Warning systems are in place in the event of dam failure to help to avoid or minimize adverse effects of a dam failure. In an emergency, governmental response is an extension of responsibility and action, coupled with normal day-to-day activity. Normal governmental duties will be maintained, with emergency operations carried out by those agencies assigned specific emergency functions. The Standardized Emergency Management System (SEMS) has been adopted by Los Angeles County and the City of Santa Clarita for managing response to multi-agency and multi-jurisdiction emergencies and to facilitate communications and coordination among all levels of the system and among all responding agencies. Chapter one of Division two of Title 19 of the California Code of Regulations establishes the standard response structure and basic protocols to be used in emergency response and recovery. Fully activated, the SEMS consists of five levels: field response, local government, operational areas (countywide), Office of Emergency Services (OES) Mutual Aid Regions, and State government (Santa Clarita Valley General Plan Technical Background Report, 2004).

The proposed project does not involve any unique characteristics that would warrant any special measures or other considerations beyond standard design measure required of other development within this dam inundation area. As such, given compliance with all building and



zoning codes, the effect of developing the project within the dam inundation areas is considered less than significant. The overall potential for flooding at the project site is less than significant.

Mitigation Measures. None required, the impact is less than significant.

Significance After Mitigation. None, the impact is 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. However, both the City of Santa Clarita and the Los Angeles County Flood Control District and other local jurisdictions within the Santa Clara River watershed require that the post-development peak discharge be reduced to at or below the pre-development peak discharge and also require that individual developments implement measures to prevent new development from resulting in flooding impacts within the watershed. This project is proposing to adopt mitigation measures which result in post-development peak discharges that do not increase compared with the pre-developed conditions. With the recommended drainage concept mitigation measure, impacts related to increased potential for offsite flooding, siltation and erosion are mitigated to a level of insignificance.



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## 4.3 FIRE HAZARD

### 4.3.1 Setting

The documents and contacts used as information sources in this analysis include: the County of Los Angeles Fire Department, Planning Division, Forestry Division, and Fire Stations 149 and 76 in 2005; the “Water System Requirements” and “Condition of Approval for Subdivisions,” from the County of Los Angeles Fire Department, Land Development Unit and Fire Prevention Division in November 2003.

**a. Fire Hazards.** The project site is located on 47.25 acres of primarily undeveloped hillside terrain that is subject to the threat of wildfire. The project site is comprised of ridges, intervening canyons and level terrain with elevations ranging from approximately 1,100 to 1,494 feet above mean sea level. The County of Los Angeles classifies the project site as Zone four, 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.

Wildfire potential depends upon several factors, including topography, the composition of onsite 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 encompasses considerable sloped terrain, wildfire is a substantial concern across much of the site. Areas with slopes of 50% or more are particularly fire prone.

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 windy. These are conditions that create high potential for intense wildfires. Solar heating of the earth’s surface, 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.

### 4.3.2 Impact Analysis

**a. Methodology and Significance Thresholds.** The analysis of fire hazard impacts involved: (1) interviews with staff of the Los Angeles County Fire Department; and (2) review of relevant documents, including the “Water System Requirements” and “Conditions of Approval for Subdivision” from the Land Development and Fire Prevention Division of the Los Angeles County Fire Department.

The significance thresholds for fire hazard were obtained from the County of Los Angeles Department of Regional Planning Initial Study Checklist and the Los Angeles County Fire Department. According to the County Initial Study Checklist, a significant impact could be associated with the following conditions.



- *Is the project site located in a Very High Severity Fire zone (Fire Zone four); and/or*
- *Is the project site in a high fire hazard area and served by inadequate access due to lengths, widths, surface materials, turnarounds or grade; and/or*
- *Does the project site have more than 75 dwelling units on a single means of access in a High Fire Hazard Severity Area; and/or*
- *Is the project site located in an area having inadequate water and pressure to meet fire flow standards?*

The Los Angeles County Fire Department (LACFD) has determined that the following conditions would result in a significant impact.

- *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.*

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

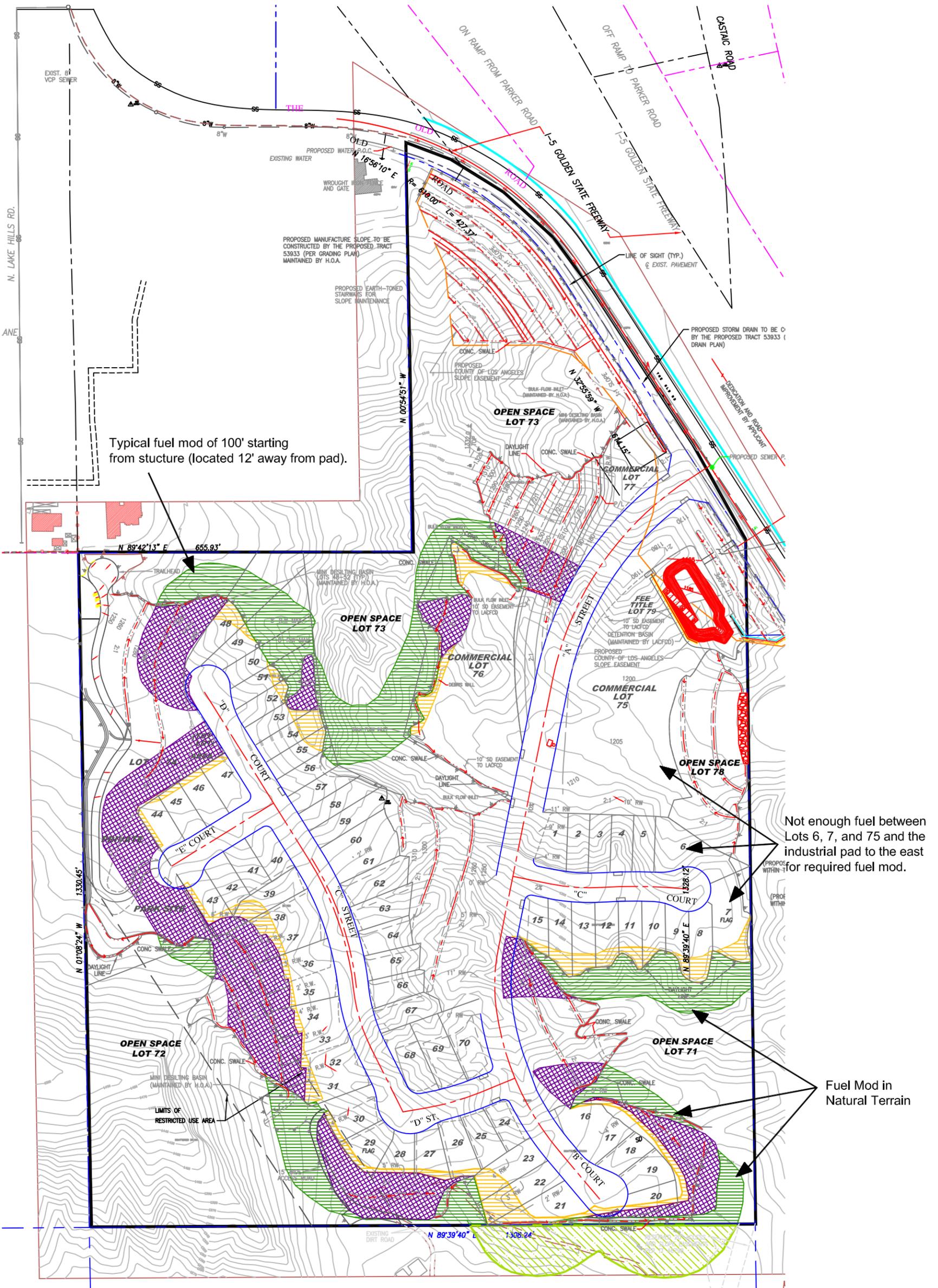
**Impact FH-1 The proposed project is located in Fire Hazard Severity Zone four, which is a Very High Fire Hazard Severity Zone. This is a Class II, significant but mitigable impact.**

The proposed project is located in the highest Fire Hazard Severity Zone and is required to incorporate design considerations that would facilitate access to all areas of the project site, provide adequate pressure for fire fighting purposes, and incorporate design measures that would reduce the potential impacts to structures if a fire were to occur on the property. LACFD has been consulted throughout the tentative tract development process to insure that the access to the project is adequate and that the circulation system within the project area accommodates fire engines and allows sufficient turning radius. Prior to recordation of the final tract map, all of the requirements of the LACFD will be incorporated in the plan. The recommendations of LACFD are here included as mitigation measures.

Mitigation Measures. The following measures are included to ensure that the hazard associated with developing in a Severe Fire Hazard Severity Zone is minimized to the maximum extent feasible and to a level of insignificance. A fuel modification plan was created and is shown as Figure 4.3-1.

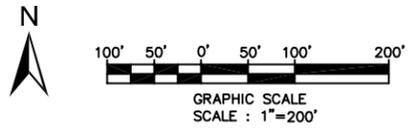
- FH-1(a)** All applicable fire code and ordinance requirements for construction, access, water mains, fire hydrants, fire flows, brush clearance, and a fuel modification plan shall be met. The plans shall be reviewed and approved by the Forestry Division of the Fire Department prior to issuance of building permits. The project applicant would be required to pay applicable developer fees.





**LEGEND**

- Area within the lot (Primarily plant management within backyard)
- Plant management within manufactured slopes
- Native plants trimming within 100' from structure
- Fuel mod within neighboring property. Letter of agreement required.
- Project Site



**Fuel Modification Plan**

Source: SR Consultants West, Inc., September 2003, Kimberly-Horn & Associates, Inc., April 2007.

**FH-1(b)** The Los Angeles County Fire Department, Land Development Unit, has set forth specific guidelines regarding land development issues. These guidelines are as follows:

- 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 the Fire Department apparatus by way of access roadways, with an all-weather surface of not less than the prescribed width. 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;
- Access roads shall be maintained with a minimum of ten (10) feet of brush clearance on each side. Fire access roads shall have an unobstructed vertical clearance clear-to-sky with the exception of protected tree species. Protected tree species overhanging fire access roads shall be maintained to provide a vertical clearance of 13 feet, six inches;
- The maximum allowable grade shall not exceed 15% except where topography makes it impractical to keep within such grade; in such cases, an absolute maximum of 20% will be allowed for up to 150 feet in distance. The average maximum allowed grade, including topographical difficulties, shall be no more than 17%. Grade breaks shall not exceed 10% in 10 feet;
- When involved with a subdivision in unincorporated areas within the County of Los Angeles, 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 recommended that fire sprinkler systems be installed. This will reduce potential fire and life losses. Systems are now technically and economically feasible for both commercial and residential use;
- The commercial development ~~may~~ requires fire flows up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to a five-hour duration (three hydrants flowing simultaneously). 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 for commercial/industrial development shall be 300 feet and shall meet the following requirements:



- No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant;
- No portion of a building shall exceed 400 feet via vehicular access from property spaced public fire hydrant;
- Additional hydrants will be required if hydrant spacing exceeds specified distances (eight hydrants are required);
- All hydrants shall measure 6" x 4" x 2-1/2" brass or bronze, conforming to current, American Water Works Association (AWWA) standard C503 or approved equal. All onsite hydrants shall be installed a minimum of 25' from a structure or protected by a two-hour rated firewall (locations specified on Subdivisions map and additional fire hydrants may be established);
- All required fire hydrants shall be installed, tested, and accepted or bonded prior to approval;
- Vehicular access must be provided and maintained serviceable throughout construction to all required fire hydrants. All required fire hydrants shall be installed, tested, and accepted prior to construction;
- Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for commercial lots and at the end of all cul-de-sacs.
- All onsite driveways/roadways shall provide a minimum unobstructed width of 28 feet. The onsite driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. The centerline of the access driveway shall be located parallel to, and within 30 feet of an exterior wall on one side of the proposed structure.
- Driveway width for non-residential developments shall be increased when any of the following conditions will exist:
  - 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;
  - Provide 42 feet in width, when parallel parking is allowed on each side of the access roadway/driveway;
  - Any access way less than 34 feet in width shall be labeled "Fire Lane" on the final recording map, and final building plans;
  - For streets or driveways with parking restrictions: The entrance to the street/driveway and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs stating "NO PARKING - FIRE LANE" in 3-inch high letters. Driveway labeling is necessary to endure access for Fire Department use.



- Single-family detached homes shall require a minimum fire flow of 1,250 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration, over and above maximum daily domestic demand. One hydrant flowing simultaneously may be used to achieve the required fire flow. When there are five or more units taking access on a single driveway, the minimum fire flow shall be increased to 1,500 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration;
- Fire hydrant spacing for residential development shall be 600 feet and shall meet the following requirements:
  - No portion of lot frontage shall be more than 450 feet via vehicular access from a public fire hydrant;
  - No portion of a structure should be placed on a lot where it exceeds 750 feet via vehicular access from a properly spaced public fire hydrant;
  - When cul-de-sac depth exceeds 450 feet on a residential street, hydrants shall be required at the corner and mid-block;
  - Additional hydrants will be required if hydrant spacing exceeds specified distances;
  - All hydrants shall measure 6" x 4" x 2-1/2" brass or bronze, conforming to current, American Water Works Association (AWWA) standard C503 or approved equal. All onsite hydrants shall be installed a minimum of 25' from a structure or protected by a two-hour rated firewall (locations specified on Subdivisions map and additional fire hydrants may be established);
- A Fire Department approved turning area shall be provided at the end of all cul-de-sacs;
- Fire Department access shall provide a minimum unobstructed width of 28 feet, clear-to-sky and be within 150 feet of all portions of the exterior walls of the first story of any existing unit. If exceeding 150 feet, provide 20 feet minimum paved width "Private Driveway/Fire Lane" clear-to-sky to within 150 feet of all portions of the exterior walls of the unit. Fire Lanes serving three or more units shall be increased to 26 feet;
- Streets or driveways within the development shall be provided with the following:
  - Provide 36 feet in width on all streets where parking is allowed on both sides;
  - Provide 34 feet in width on cul-de-sacs up to 700 feet in length. This allows parking on both sides of the street;
  - Provide 36 feet in width on cul-de-sacs from 701-1,000 feet in length. This allows parking on both sides of the street;
  - 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;
- Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road;
  - All access devices and gates shall meet the following requirements:
    - Any single gated opening used for ingress and egress shall be a minimum of 26 feet in width, clear-to-sky;
    - Any divided gate opening (when each gate is used for a single direction of travel – i.e. ingress or egress) shall be a minimum width of 20 feet clear-to-sky;
    - 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;
    - All limited access devices shall be of a type approved by the Fire Department;
    - 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;
  - All proposals for traffic calming measures (speed humps/bumps/cushions, traffic circles, roundabouts, etc.) shall be submitted to the Fire Department for review, prior to implementation.
  - Provide Fire Department or City approved street signs and building access numbers prior to occupancy.
  - A minimum of four commercial fire hydrants and four residential fire hydrants shall be installed.

Significance After Mitigation. The Los Angeles County Fire Department would require project construction to comply with the building requirements for the Very High Fire Hazard Severity Zone. These requirements include specifications for building materials and structure design, access, road widths and cul-de-sacs, water supplies, and clearance of fuels. With implementation of applicable requirements of the County Building Code, approval of the Fuel Modification Plan, and the Land Development guidelines listed above, impacts would be reduced to a less than significant level.

**c. Cumulative Impacts.** Cumulative development that is currently envisioned within a 5-mile radius is summarized in Section 3.3, Cumulative Setting. Anticipated cumulative development in the Santa Clarita area includes approximately 80,000 residential units and 35,200,000 square feet of commercial/industrial development. This level of new development will continue to increase the County’s population and place development within High and Very



High Fire Hazard Severity Zones. This would result in both negative and beneficial impacts. The negative impacts result from placement of structures and location of persons within High and Very High Fire Hazard Severity Zones. However, development within previously undeveloped areas facilitates placement of water resources in those regions and will help to insure that there is adequate water pressure to fight fires in areas that may have been previously inaccessible. To the extent that firefighting capabilities are able to keep pace with new development and with the implementation of fire prevention measures, cumulative impacts on wildfires are considered significant but mitigable. The project itself is not considered cumulatively considerable relative to the anticipated development that is forecast for the area.



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## 4.4 NOISE HAZARD

### 4.4.1 Setting

The Los Angeles County General Plan Noise Element (December 1992) provides basic information regarding the physical characteristics of noise and the existing noise environment in the area. This Element is incorporated by reference in its entirety. The following is a summary of the information contained in the Noise Element and pertinent additional information and is intended to provide sufficient background to allow consideration of the potential noise impacts of the proposed development.

**a. Overview of Sound Measurement.** Noise level (or volume) is generally measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment of the actual sound power levels to be consistent with that of the 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). In addition to the actual instantaneous measurement of sound levels, the duration of sound is important since sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time. Typically, the Leq is summed over a one-hour period.

The 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. Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of three dBA and a sound that is 10 dBA less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dB greater than the reference sound to be judged as twice as loud. In general, a three dBA change in community noise levels is noticeable, while one to two dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40 to 50 dBA, while those along arterial streets are in the 50 to 60+ dBA range. Normal conversational levels are in the 60 to 65 dBA range, and ambient noise levels greater than that can interrupt conversations. Table 4.4-1 lists a variety of common environmental noises and their corresponding sound levels (dBA).

Noise levels typically attenuate (lessen) at a rate of six dBA per doubling of distance from point sources such as industrial machinery. Noise from lightly traveled roads typically attenuates at a rate of about 4.5 dBA per doubling of distance, while noise from heavily traveled roads typically attenuates at about three dBA per doubling of distance.



**Table 4.4-1 Common Environmental Noise Source Sound Levels**

Sound Level (dBA)	Type of Noise		Sound Level (dBA)
	Outdoor	Indoor	
130	Military Jet w/afterburner take off on Aircraft Carrier @ 50 feet	Oxygen Torch	120
118	Turbo Fan Aircraft (take off power at 200 feet)	Rock-N-Roll band	108-114
103	Jet Flyover at 1000 feet	Newspaper Press	97
84	Diesel Truck (40 mph at 50 feet)	Food Blender	88
76 ± 6	Freeway (50 feet from edge of pavement)	Vacuum cleaner	70
60	Air Conditioner@ 100 feet	Conversation	60

Source: Adapted from Melville C. Branch and R. Dale Beland, "Outdoor Noise in the Metropolitan Environment", 1970.

The actual time period in which noise occurs is also important since noise that occurs at night tends to be more disturbing than that which occurs during the daytime. To evaluate community noise on a 24-hour basis, the day-night average sound level was developed (Ldn). Ldn is the time average of all A-weighted levels for a 24-hour period, with a 10 dB upward adjustment added to those noise levels occurring between 10:00 PM and 7:00 AM to account for the general increased sensitivity of people to nighttime noise levels. The Community Noise Equivalent Level (CNEL) is similar to the Ldn except that it adds five dB to evening noise levels (7:00 PM to 10:00 PM). Thus, both the Ldn and CNEL noise measures represent a 24-hour average of A-weighted noise levels with Ldn providing a nighttime adjustment and CNEL providing both an evening and nighttime adjustment.

**b. Sensitive Receptors.** Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. Residences, hospitals, schools, guest lodging, and libraries are most sensitive to noise intrusion and therefore have more stringent noise exposure targets than manufacturing or agricultural uses that are not subject to impacts such as sleep disturbance. Sensitive receptors most likely to be affected by the project include a mobile home community located approximately 60 feet northwest of the project area, and a single-family residence located approximately 300 feet west of the project area. A condominium development also exists north of the project area, with the closest unit at a distance of approximately 30 feet. A condominium development (approved Tentative Tract 46798) is also approved adjacent the southern boundary of the project site at a distance expected to be approximately 30ft. The closest schools are Castaic Elementary and Castaic Middle School approximately 0.5 mile northeast of the project area on the northeastern side of I-5. The closest hospital is located in Santa Clarita approximately 10 miles southeast of the project area.

**c. Existing Noise Sources.** Roads are among the most common sources of noise in developed areas. I-5 and The Old Road border the northeastern boundary of the project site. This is the most significant source of noise at the project area due to the high volume of daily traffic. According to the traffic study that was produced for this project and 2003 Caltrans truck traffic volumes, existing Average Daily Trips (ADT) along I-5 is 272,435 vehicles with 5.5% heavy trucks and 1.9% medium trucks. Caltrans truck traffic data is not available for The Old



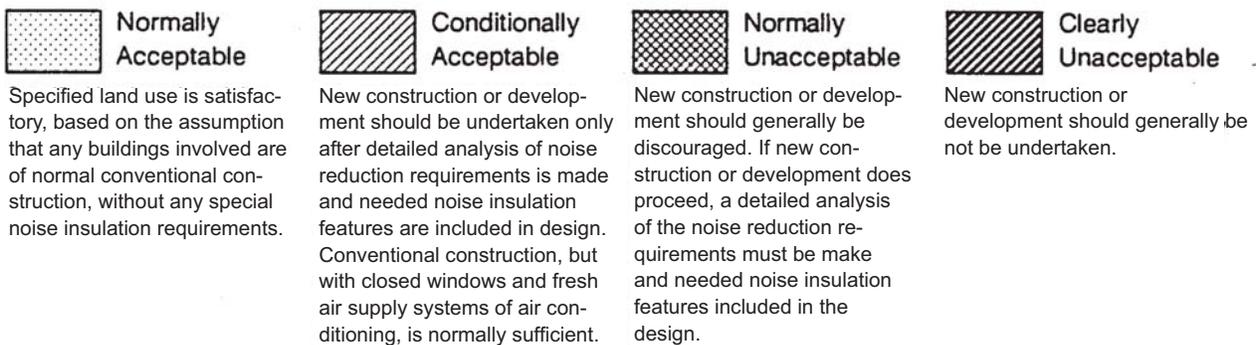
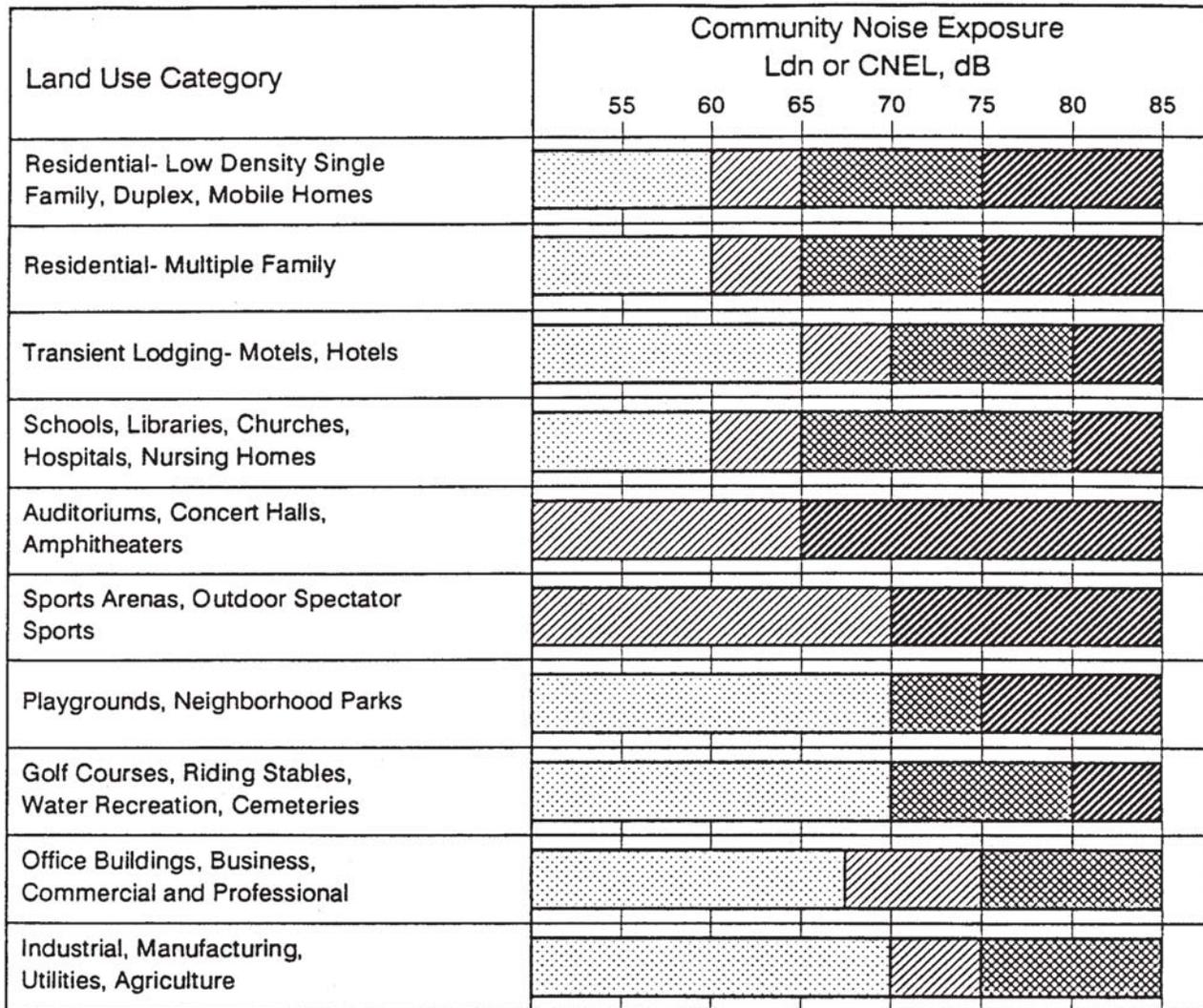
Road; however, the traffic report indicated that The Old Road currently carries 5,200 vehicles per day. These are the only significant roadway noise sources in the vicinity of the project; however, a building supply yard is located adjacent the project site between the eastern boundary and The Old Road. The building supply yard is presumed to be operational only during normal daytime business hours, and common noises would be similar to those heard at a loading dock or Home Improvement lumber yard with intermittent truck operations, forklift operations and loading/unloading of building materials. Noise levels generated at the site are likely in the 70-80 dBA range slightly less than those generated at a construction site. These noise levels could affect sensitive residential receptors at the site.

Noise levels in the project vicinity were mapped for the Santa Clarita Valley Area Plan update and are published on the One Valley One Vision (OVOV) website. Noise level measurements were taken at the Castaic Truck Stop approximately 1/3 mile northeast of the project area on the eastern side of I-5. In April 2003, sound level measurements at the truck stop ranged from 61.7 to 68.0 dBA with an Leq of 64.2 dBA. An existing noise level contour was created based on the (OVOV) study and is also published on the website.

**d. Regulatory Setting.** The project site is located in an area that is governed by several planning documents including the Castaic Area Community Standards District (CSD), the Santa Clarita Valley Area Plan (SCVAP), the Los Angeles County General Plan Noise Element, and the Noise Control Ordinance of Los Angeles County. The Castaic Area Community Standards District does not contain any rules or regulations that pertain specifically to noise. The Santa Clarita Valley Area Plan contains language instructing implementation of the County's Noise Element, but does not contain any additional information pertinent to this project. The Los Angeles County General Plan Noise Element contains background information regarding sound measurement and common noise levels of various sources. The Noise Element also contains policies and goals with regard to reduction of transportation noise, compatible noise uses, allocation of mitigation costs to noise producers, increased public awareness, and protection of existing quiet areas. These policies are generally implemented through adoption of ordinances and designation of land uses. The Noise Control Ordinance is published under Title 12, Chapter 8 and includes the most specific guidelines for protection of sensitive receptors from noise.

Figure 4.4-1 shows the ranges of noise exposure, for various land uses that are considered acceptable, conditionally acceptable, or unacceptable under the State Office of Noise Control guidelines. An acceptable noise environment is one in which development may be permitted without requiring specific noise studies or specific noise-reducing features. A conditionally acceptable noise environment is one in which development should be permitted only after noise mitigation has been designed as part of the project, to reduce noise exposure to acceptable levels. In normally unacceptable noise environments, development should only be undertaken after detailed analysis of noise reduction requirements are made and needed noise insulation features are included in design. Figure 4.4-2 shows the project site overlain with the existing noise contours. The noise measurements taken for these contours were obtained in 2003 (Santa Clarita Valley General Plan Technical Background Studies, 2004). These contours do not take topography into consideration; therefore, actual noise levels in areas where topography blocks views of I-5, would be lower than indicated on the graphic.





Source: Cotton/Beland/Associates. Modified from U.S. Department of Housing and Urban Development Guidelines and State of California Standards.

Noise Compatibility Matrix

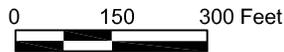
Figure 4.4-1





Source: SR Consultants West, Inc., September 2003,  
 US Bureau of the Census TIGER 2000 data and  
 EIP Associates, April 24, 2003

-  Project Boundary
-  70 CNEL
-  65 CNEL



Existing Noise Contours

Figure 4.4-2

#### 4.4.2 Impact Analysis

**a. Methodology and Significance Thresholds.** Existing and future traffic noise levels on local roadways and the freeway were calculated using standard mathematical equations in a spreadsheet model based on the average sound level algorithms from the Federal Highway Administration’s Traffic Noise Model® (TNM) and current and forecasted traffic volumes. Traffic volumes (average daily trips) were obtained from the traffic analysis that was prepared for this project, and I-5 truck traffic was obtained from Caltrans (2003-Annual Average Daily Truck Traffic on the California State Highway System, 2004). Construction noise was estimated based on methodologies contained in the Handbook of Noise Control (C.M. Harris, 1979) and adapted to a spreadsheet program. Appendix C contains the spreadsheet input and output results.

Construction Noise. The proposed project is subject to the Los Angeles County Code and noise requirements incorporated therein. Title 12, Chapter 12.08 of the Los Angeles County Code covers noise due to construction. It states that operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between weekday hours of 7:00 p.m. and 7:00 a.m., or at any time on Sundays or holidays, such that the sound therefrom creates a noise disturbance across a residential or commercial real-property line, except for emergency work of public service utilities or by variance issued by the health officer, is prohibited. It further states the contractor shall conduct construction activities in such a manner that the maximum noise levels at the affected buildings will not exceed those listed in Table 4.4-2.

**Table 4.4-2 Los Angeles County Construction Noise Ordinance**

	Single Family Residential	Multi-Family Residential	Sound Level
<b>Mobile Equipment (Less than 10 days)</b>			
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	75dBA	80dBA	85dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	60 dBA	64dBA	70dBA
<b>Stationary Sources (More than 10 days)</b>			
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	60dBA	65dBA	70dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	50dBA	55dBA	60dBA

Source: Los Angeles County Code, 12.08.440.

Operational Noise. The threshold of significance for operational roadway noise impacts is based on County standards for noise exposure, the standards from the State Office of Noise Control, and the recommendations of the Federal Interagency Committee on Noise (FICON). The FICON recommendations were developed as a result of studies that relate aircraft noise levels to the percentage of people highly annoyed by various noise levels. Although these recommendations were developed specifically for aircraft noise impacts, they are considered applicable to all noise sources that use noise exposure metrics such as the Level Day/Night and



Community Noise Equivalent Levels. The level of significance changes with increasing noise exposure, such that smaller changes in ambient noise levels result in significant impacts at higher existing noise levels. Table 4.4-3 shows the significance thresholds for increases in operational noise levels caused either by the project alone or by cumulative development.

Significant impacts due to operational roadway noise could occur in three ways:

- 1) If residential development or other sensitive receptors would be exposed to traffic noise increases exceeding the criteria outlined in Table 4.4-3;
- 2) If project-related onsite activities would generate noise exceeding the allowable standards in the City's Noise Ordinance ;
- 3) If any of the uses proposed for the site would be exposed to traffic-related noise levels exceeding the "normally acceptable" noise level for that use as shown on Figure 4.4-1.

**Table 4.4-3 Significance of Changes in Operational Roadway Noise Exposure**

Ambient Noise Level Without Project (Ldn or CNEL)	Significant Impact
< 60 dB	+ 5.0 dB or more
60 – 65 dB	+ 3.0 dB or more
> 65 dB	+ 1.5 dB or more

Source: FICON

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

**Impact N-1 Project grading activities would create noise levels that would exceed the 75 and 80 dBA thresholds for single and multi-family residences and could occur over a period of longer than 10 days. This is a Class I, *unavoidably significant* impact.**

Construction noise represents a temporary impact on ambient noise; however, project construction activities are anticipated to require up to 20 months to complete. Construction typically occurs in several distinct phases, each of which has its own unique noise characteristics. Table 4.9-4 shows typical noise levels associated with conventional construction equipment at a distance of 50 feet from the noise source for each of the major phases of construction.

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 noise levels because of the use of heavy equipment, including trucks, bulldozers, graders, and scrapers. Project grading is anticipated to require six months time for balancing 640,000 cubic yards of cut and fill and would involve at least one excavator, one truck and one water truck, working simultaneously during soil transfer. Graders and scrapers may also need to be working during this time.



**Table 4.4-4 Typical Noise Level Ranges at Construction Sites**

Construction Phase	Average Noise Level at 50 Feet	
	Minimum Required Equipment Onsite	All Pertinent Equipment Onsite
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.*

Based on this scenario, at 60 feet from the development noise from excavation would be 86.6 dBA. This would exceed the 80 dBA threshold by 6.6 dBA, and the 75 dBA threshold by 11.1 dBA. Sensitive receptors most likely to be affected by the project include a mobile home community located approximately 60 feet northwest of the project area, a condominium development located 30 feet north of the project area, and a single-family residence located approximately 300 feet west of the project area. A condominium development (approved Tentative Tract 46798) is also approved for development south of the project area at an anticipated distance of not less than 30 feet. The closest schools and hospital are located too far away to be affected by project generated noise.

Mitigation Measures. The following measure is recommended to reduce construction noise related impacts to the maximum extent feasible. Based on maximum noise levels associated with project grading activity, noise levels at the closest sensitive receptors would be above allowable levels when project grading activities occur within 370 feet of the project boundary. At distances further than 370 feet, project grading related noise would drop below 75 dBA. This distance roughly corresponds to grading activity that would be associated with lots 48, a portion of lot 49, and the majority of the 2:1 slope in the northwestern corner of the project area. If condominiums (approved Tentative Tract 46798) are developed and occupied along the southern boundary of the project area, approximately 30ft from the site border, construction related noise levels will also exceed the thresholds here.

- N-1 Construction.** The contractor shall not conduct project grading activities within 370 feet of a single family residence, or 175 feet of multi family residences for consecutive periods of greater than 10 days.

Significance After Mitigation. With the recommended measure, construction related noise would be controlled to the greatest extent feasible; nevertheless, project grading activities would result in noise impacts that would exceed the 75 and 80 dBA standards at the closest sensitive receptors which are located approximately 60 feet from the closest point where grading would occur.



**Impact N-2 Project-generated traffic would incrementally increase noise levels on roads in the project vicinity. However, the increase in noise due to project traffic would not exceed the significance thresholds based on existing noise level projections for I-5 or The Old Road. This is a Class III *less than significant* impact.**

Table 4.4-5 compares pre- and post-project noise levels along roadways that would be affected by the proposed project. Noise level increases were projected for I-5 and The Old Road, taking into account the future widening of The Old Road, based on existing traffic, project generated traffic, an ambient growth rate of 4.6%, and cumulative projects. Noise levels were determined at the project boundary based on distance from the centerline of the roadway noise source. Traffic volumes were obtained from the traffic study that was prepared for this project and truck traffic volumes on I-5 were obtained from Caltrans counts in 2003.

Because the noise environment in the vicinity of the project is dominated by noise from I-5, the noise levels from traffic on The Old Road and I-5 were combined to give a value at the affected property boundaries. Table 4.4-5 shows how noise levels at the commercial and residential lots within the project area change with project-generated traffic, cumulative and ambient growth through 2008.

**Table 4.4-5 Comparison of Pre-Project and Post-Project Traffic Noise From I-5 and The Old Road**

Location	Projected Noise Level (dBA CNEL) <sup>a</sup>			Change In Noise Level (dBA CNEL)	
	Existing (1)	Existing + Project (2)	Cumulative + Ambient + Project (2008) (3)	Due to Project Traffic (2-1)	Due to Cumulative Traffic Growth (3-1)
Noise at the boundary of office lots <sup>b</sup>	78.5	78.5	79.8	0	1.3
Noise at the boundary of residential lots <sup>c</sup>	73.2	73.2	74.5	0	1.2

Notes: Refer to Appendix C for the spread-sheets that generated these estimates.

<sup>a</sup>Delineates sum of noise generated at I-5 and The Old Road at the specified boundary.

<sup>b</sup>Closest Office lot is lot 77

<sup>c</sup>Closest residential units are residential lots 1-8

Since the existing noise levels are above 65 dBA, a significant increase would occur if traffic generated noise exceeded 1.5 dBA (refer to Table 4.4-3). Based on predicted traffic volumes to the study area roadway segments it was determined that project generated traffic noise would not result in a significant increase in roadway noise at nearby sensitive receptors because the noise level increases from project generated traffic would be negligible and do not exceed the 1.5 dBA threshold. Furthermore, the traffic generated with cumulative growth and ambient



growth also do not exceed the 1.5 dBA threshold, as they are 1.3 dBA at the boundary of the office lots, and 1.2 dBA at the boundary of the residential lots.

Mitigation Measures. While the proposed project would not generate long term noise levels that significantly affect nearby land uses, mitigation measures identified below for Impact N-3 would be required to mitigate the impact of existing and projected future noise levels on the proposed project.

Significance After Mitigation. See discussion below for Impact N-3.

**Impact N-3 Both residential and business/professional uses at the site would be constructed in a noise environment that is within the Normally Unacceptable range for these types of development. This is considered a Class II, significant but mitigable, impact.**

The entire project area is exposed to noise from I-5 and The Old Road, which generate a combined noise level of 78.5 dBA at the eastern boundary of lot 77 (60 feet from the centerline of The Old Road and 220 feet from the centerline of I-5). The projections for project area ambient noise levels are based on line of sight methodology, indicating that if there are no barriers to line of sight between the affected property and the noise source, it can be presumed that there are no barriers to provide attenuation. The northern edge of the project area is approximately level with the I-5 surface (1,155); however, the project area slopes upward from I-5 towards a ridge that forms the backdrop of the project. The commercial properties to be constructed at elevations between 1,170 and 1,220, whereas the residential areas would be constructed at elevations 1,237 to 1,326. Building heights for all structures are also limited to 35 feet. Based on the grade elevations presented on the tentative tract map, it can be presumed that the commercial structures will not provide any attenuation for the residential uses. The range of noise levels that are considered normally acceptable, conditionally acceptable and normally unacceptable for business/professional and residential uses are summarized in Table 4.4-6.

**Table 4.4-6 Summary of Proposed Uses and Noise Exposure Ranges**

Proposed Use	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Office Buildings	<68	68-75	75-85	>85
Single Family Residential	<60	60-65	65-75	75-85

*Derived from Table 4.9-1*

The business/professional uses on lots 75 and 77 would be exposed to a noise level of 78.5 dBA CNEL at the eastern property boundaries (see Table 4.4-7). This noise level is within the Normally Unacceptable range according to the State of California Standards and the U.S. Department of Housing and Urban Development Guidelines. Development within this range should only be undertaken along with a detailed analysis of noise reduction requirements, and incorporation of noise insulating features. Mitigation can be tailored to incorporate noise-insulating features that would reduce interior noise levels to 50 dBA for this commercial use,



necessitating a reduction of 28.5 dBA. Features such as forced air ventilation, and double paned windows can be incorporated to give the desired results.

**Table 4.4-7 Noise Levels at Affected Lot Boundaries**

Lots	Exterior Noise Level	Resultant exterior noise level with sound wall	Interior reduction required
Business/Professional Lots 75 & 77	78.5	n/a	28.5
Business Professional Lot76	72.0	n/a	22
Residential Lots 1-8	73.2	63.6	18.6 1 <sup>st</sup> floor 28.2 2 <sup>nd</sup> floor
Residential Lots 16-21	72.0	62.4	17.4 1 <sup>st</sup> floor 27 2 <sup>nd</sup> floor
Residential Lots 60-67 and 70	68.0	58.4	13.4 1 <sup>st</sup> floor 23 2 <sup>nd</sup> floor

Based on roadway noise generated at I-5 and the Old Road, the closest residential units would be approximately 500 feet away. The exterior ambient noise level would be 73.2 at lots 1-8, and a 6-foot solid block sound wall would be required to reduce ambient noise levels to within an acceptable range. This incorporation would give a 9.6 dBA reduction, resulting in exterior noise levels of 63.6 dBA. Interior noise levels would need to be reduced to 45 dBA. Second story windows would require more protection because they would not benefit from the attenuation provided by the 6-foot sound wall. These scenarios would also apply to residential lots 16-21 and 60-67, and 70, i.e. 23 residential lots in total, although the dBA for each property varies slightly with distance (see Table 4.4-7). The remaining 47 residential lots would be sheltered from noise by adjacent homes or topographical features acting as acoustic buffer zones, and are not expected to require noise level reductions to achieve the exterior noise level standards. Nevertheless, noise-insulating features should be incorporated into the design of each structure to insure that future traffic increases (beyond 2008) will not result in excessive interior noise levels.

Mitigation Measures. The following measures are recommended to reduce the effects of exterior noise on interior noise levels.

**N-3(a) Interior Noise.** At a minimum, all onsite structures shall include the following to achieve an acceptable interior noise level:

- Air conditioning or a mechanical ventilation system so that windows and doors may remain closed; and
- Double-paned windows and sliding glass doors mounted in low air infiltration rate frames (0.5 cubic feet per minute, per American National Standards Institute specifications); and
- Solid core exterior doors with perimeter weather stripping and threshold seals; and
- Roof and attic vents facing away from I-5.



Incorporation of these design requirements would be expected to achieve an interior noise level reduction of 25 dB or greater.

**N-3(b) Exterior Noise.** At a minimum, residential lots ~~1-8, 16-21, 60-67 and 70~~ shall incorporate six-foot tall solid block sound barrier walls ~~at the edge of the property facing I-5 on the side and rear yard property boundaries or surrounding the exterior usable space of the rear yard.~~

**N-3(c) Second Story Interior Noise.** Residential lots ~~1-8, 16-21, 60-67 and 70~~ shall incorporate second story insulation to achieve an interior second story noise level of 45 dBA.

Significance After Mitigation. Traffic levels on I-5 will continue to increase as the community continues to develop. Ambient noise levels will also increase. Although as traffic capacity increases, speeds will decrease unless the Interstate is expanded. Nevertheless, careful consideration of these conditions has resulted in incorporation of mitigation that will provide for interior ambient noise levels that will offer a measure of comfort for residents.

**Table 4.4-8 Interior Noise Levels with Incorporation of Mitigation**

Lots	Exterior Noise Level (dBA)	Interior Standard (dBA)	Interior Reduction Required (dBA)	Resultant Interior Noise Level
Business/Professional Lots 75 & 77	78.5	50	28.5	50
Business Professional Lot76	72.0	50	22	50
Residential Lots 1-8 w/wall	73.2	45	18.6 1 <sup>st</sup> floor	45
			28.2 2 <sup>nd</sup> floor	45
Residential Lots 16-21 w/wall	72.0	45	17.4 1st floor	45
			27 2nd floor	45
Residential Lots 60-67 and 70 w/wall	68.0	45	13.4 1 <sup>st</sup> floor	45
			23 2 <sup>nd</sup> floor	45

**c. Cumulative Impacts.** Growth within the Santa Clarita Valley area will contribute to increased traffic flow on local and regional roadway systems. The increase in vehicles on County roadways will result in an increase in the ambient noise levels at properties that adjoin these roadway faculties. The proposed project in combination with buildout of the cumulative projects would involve construction of 80,000 residential units, 5,700,000 square feet of commercial space and 29,500,000 square feet of industrial space. Additionally, an ambient growth rate of 4.6% was assumed for the analysis. The analysis determined that the proposed project would not result in a perceptible increase in the overall noise environment in the project area, largely due to the exiting noise generated by high traffic volumes along I-5. Project + cumulative + ambient growth would result in an increase of about 1.2-1.3 decibels at land uses adjoining The Old Road and I-5. This increase, while adverse, would not exceed the impact



thresholds identified by Federal Interagency Committee on Noise (FICON), as outlined in Table 4.4.3.



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## 4.5 WATER QUALITY

### 4.5.1 Setting

The project site consists of approximately 47.25 acres of undeveloped ridges, valleys and level terrain. The site elevation ranges from approximately 1,100 feet to 1,494 feet above mean sea level. The site is situated in the northwestern portion of the Santa Clara River Basin within the unincorporated community of Castaic. Storm water runoff from this area discharges into Castaic Creek, which converges with the Santa Clara River, approximately 10 miles downstream of the project area. 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 Santa Clara River is the largest river system in southern California that remains in a relatively natural state. The river originates in the northern slopes of the San Gabriel Mountains in north Los Angeles County, traverses in a westerly direction into Ventura County, and discharges into the Pacific Ocean in the City of Ventura. The river runs approximately 100 miles from its headwaters near Acton, California, to its outlet, and drains an area of approximately 1,600 square miles. On site hydrology is dominated by the steep sloping hills that drain primarily eastward, where an unnamed ephemeral stream is located; however, a portion of the site drains to the northwest, to the west and to the south (see Section 4.2 *Flood Hazard* for additional discussion regarding existing and proposed drainage patterns).

Regulatory Setting. The protection of water quality in Castaic Creek, Santa Clara River, and other drainages in the vicinity 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.

### 4.5.2 Impact Analysis

**a. Methodology and Significance Thresholds.** The Los Angeles County Department of Regional Planning initial study checklist identifies potentially significant impacts associated with this project as occurring if the project would:

- *Involve construction activities that may significantly impact the quality of groundwater and or storm water runoff to the storm water conveyance system and/or receiving water bodies; and/or*
- *Involve post development activities that could potentially degrade the quality of storm water runoff and/or non-storm water discharges through contribution of potential pollutants to the storm water conveyance system and/or receiving bodies.*



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

**Impact WQ-1 During project construction, the soil surface would be subject to erosion and the downstream watershed would be subject to increased sedimentation. However, compliance with the requirements of the National Pollutants Discharge Elimination System (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 Castaic 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 Notice of Intent to comply with the terms of the existing National Pollutant Discharge Elimination System State General Construction Permit must be filed. The proposed development would involve grading of up to about 29 acres. Therefore, the State Permit would apply. Permit compliance 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, but are not limited to:

*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 Best Management Practices to be implemented on the project 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. Comply with NPDES State General Construction Permit and implementation of BMPs to be developed as part of the SWPPP for the site (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 WQ-2 With the proposed project, runoff to Castaic 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 commercial and residential 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 some of these landscape chemicals into and through local drainage systems and into Castaic Creek and eventually to the Santa Clara River.

Urban runoff can have a variety of adverse effects on watershed resources. 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 compliance with NPDES MS-4 Permit and Standard Urban Stormwater Mitigation Plan (SUSMP) to be reviewed and approved by DPW. 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.

**WQ-1** Comply with approved Standard Urban Stormwater Mitigation Program, which shall incorporate Best Management Practices (BMPs) for the long-term operation of the site and shall be developed and implemented by the applicant to minimize the amount of pollutants that are discharged from the site. The plan shall be developed in



accordance with the requirements of the County of Los Angeles and the California Regional Water Quality Control Board. Examples of BMPs and permanent BMPs that apply to both initial development of the lots and to long-term operation of the project include but are not limited to:

*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 and ultimately to the ocean.
- Provide educational flyers to each new building unit regarding toxic chemicals and alternatives for fertilizers, pesticides, cleaning solutions and automotive and paint products. These fliers shall be distributed to and posted at each new business unit and provided to each residential unit through the Homeowner's Association.
- Provide educational flyers regarding proper disposal of routine office and household hazardous waste, including automotive waste. These fliers shall be distributed to and posted at each new business unit and provided to each residential unit through the Homeowner's Association.

*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 pyrethrin based insecticides.

*Cleaning/ Maintenance*

- Routine cleaning of streets, parking lots and storm drains. Prior to the issuance of a building permit, the applicant shall prepare a stormwater facility maintenance plan that will be implemented by the Homeowner's Association and building owners of the commercial parcels. This plan shall identify provisions for 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 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. The sizing and effectiveness of each of these measures shall be documented prior to the issuance of a building permit.

- 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 Best Management Practices would ensure compliance with the Los Angeles County Standard Urban Stormwater Mitigation Plan and NPDES MS-4 Permit and would therefore reduce impacts associated with long-term operation of the project to a level that is considered less than significant.

**c. Cumulative Impacts.** The proposed project, in combination with other development in the Santa Clara River watershed would increase sedimentation relating to grading and construction and would increase the generation of urban stormwater 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 would 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.

### **4.5.3 Low Impact Development Consistency**

~~Low Impact Development, (LID) is a critical component in the overall sustainability of a development site. LID seeks to achieve stormwater control through the creation of a hydrologically functional landscape that mimics the natural, pre-development conditions. When land is altered from its natural state, as impervious surfaces are built and connected, as slopes are modified, as runoff is channelized, and as human activities intensify, the characteristics of runoff quantity and quality change. LID aims to protect surface and ground water quality, maintain the integrity of aquatic living resources and ecosystems, and preserve the physical integrity of receiving streams by controlling rainfall and storm water runoff at the source. Managing stormwater runoff has two major benefits. First, reduction of runoff entering waterways reduces erosion, sediment build-up, and pollution entering the waterway. This helps to maintain the health of aquatic resources and ecosystems. Second, on site infiltration and storage of rainfall to be reused onsite, or infiltrated back into the water table are means to reduce imported water and cut back on energy required to import it.~~

~~LID Best Management Practices (BMP's) distribute stormwater through a project site in order to replenish groundwater supplies, create clean runoff, and allow land to be developed in an environmentally responsible manner. Such LID practices conserve water, improve human health, reduce the quantity and improve the quality of runoff, recharge local groundwater supplies, and cost less to maintain than traditional stormwater~~



management techniques. The benefits of LID practices make them a highly cost-effective way to immediately make dramatic reductions in greenhouse gas emissions.

Stormwater control measures of LID include the following strategies:

- Reducing the amount of runoff by providing runoff storage measures dispersed uniformly throughout a site's landscape with the use of a variety of infiltration, detention, retention, and runoff practices.
- Directing runoff from a variety of surfaces, including roofs, parking lots, and other impervious surfaces, to either distribute water into the ground or to collect it for reuse.
- Disconnecting impervious surfaces in order to slow and infiltrate runoff.
- Strategically routing flows to maintain predevelopment travel time and control the rate of discharge.
- Cleansing runoff by routing it through vegetated conveyances and filtering it through bioretention systems.
- Implementing effective public education programs to encourage property owners to use pollution prevention measures and maintain the on-lot hydrologically functional landscape management.

The County of Los Angeles recommends incorporating LID practices for new development and redevelopment, including amending Title 21 Subdivision Code and Title 22 Planning and Zoning Code to require standards of dispersed, onsite, post-construction stormwater BMP's when feasible. Table 4.5-1 illustrates the project's compatibility with LID measures and existing provisions.

**Table 4.5-1 Site Planning Project Compatibility  
 with Existing Provisions and Low Impact Development Measures**

LID Element	Project Compatibility	Existing Provision	Project Compatibility
<b>SITE PLANNING</b>			
Use hydrology as the integrating framework:  Preserve sensitive areas that affect the hydrology, including streams and their buffers, floodplains, wetlands, steep slopes, high-permeability soils, and woodland conservation zones.  Evaluate potential site layout and development schemes to reduce, minimize and disconnect the total impervious area at the site.	About 60% of the total site area is under a Hillside Management designation. This designation is intended to ensure that future development will occur in the most suitable and least environmentally sensitive areas, and is designed in a manner that is compatible with the natural resource values and character of the area.  The proposed clustering design would result in less	Title 21 (Subdivision Ordinance): 21.24.250 and 21.24.260 permit reduced lot sizes due to sloping terrain; 21.24.360 allows alternate requirements.  Title 22 (Zoning Ordinance) 22.44 and 22.56.215 establish regulations on preservation of creeks and ridgelines and native vegetation.	Compatible with Title 21: The project was designed to concentrate development resulting in a clustered design to minimize grading.  Compatible with Title 22: The project design preserves an environmentally sensitive ephemeral stream/riparian habitat area while creating open space areas to protect the highest portions of the ridgeline.



**Table 4.5-1 Site Planning Project Compatibility  
 with Existing Provisions and Low Impact Development Measures**

LID Element	Project Compatibility	Existing Provision	Project Compatibility
	impermeable surface than would occur if a different configuration occurred requiring multiple access roads in different portions of the site. Thus, the proposed design allows for more ground water recharge in open space and park areas.		
<p><b>Decentralization:</b></p> <p>Rather than dealing only with peak flows and large watersheds, consider parcels as watersheds, design for small, more frequent storms, think small regarding the size of control practices, and distribute the controls throughout the entire site.</p>	<p>The proposed drainage design of the site considers 5 watershed sub-areas. The proposed drainage design also considers a range of storm flows from smaller more frequent storms (2 year and 5-yr storms) to larger less frequent storms (10-yr, 25-yr and 50-yr). Mini desilting basins and bulk flow inlet areas are introduced in various locations on site, which have soft bottoms where permitted, and will allow for infiltration of storm water to promote groundwater recharge.</p>	<p>Current provisions do not include decentralization.</p>	<p>The project is compatible with current Los Angeles County design criteria.</p>
<p><b>Utilization of simplistic, non-structural methods:</b></p> <p>For stormwater management, utilize features such as native plants, soil and gravel (instead of engineered conveyances using concrete and steel).</p>	<p>The onsite detention basin and the mini desilting basins are proposed to have soft bottom, allowing infiltration of storm flow, subject to approvals of the soils engineer and LA County Department of Public Works design criteria. The project's swales are generally located within or at the toe of slopes and as infiltration of water along their path may destabilize these slopes, soft bottom</p>	<p>Some L.A. County Community Standards Districts encourage or mandate the use of natural materials in flood control conveyances wherever possible.</p>	<p>Castaic Area CSD 22-44-137-D14 (Page 13-14) does opt for soft bottom channels with trapezoidal sections. However, the project's swales are generally located within or at the toe of slopes, and as infiltration of water along their path may destabilize these slopes, soft bottom swales are not proposed for this project.</p> <p>The project design</p>



**Table 4.5-1 Site Planning Project Compatibility  
 with Existing Provisions and Low Impact Development Measures**

LID Element	Project Compatibility	Existing Provision	Project Compatibility
	swales are not considered desirable.		does preserve an environmentally sensitive ephemeral stream/riparian habitat area in its natural state, which drains a portion of the southeast watershed area.
<p>Create a multifunctional landscape and infrastructure:</p> <p>Urban landscape or infrastructure features (roof, streets, parking, sidewalks, and green space) can be designed to be multifunctional, incorporating detention, retention, filtration, or runoff use.</p>	<p>Roof runoff will be directed to dry wells (small excavated pit backfilled with gravel or stone), which are to be proposed in the final engineering phase of the project subject to soil engineer's and LA County approval.</p> <p>Mini desilting basins (located on Lots 48, 49, 51 and 52) will utilize soft bottoms to allow runoff filter through and be stored within a shallow depression underneath, subject to soils engineer and Los Angeles County approvals in final engineering phase.</p> <p>The project's Park landscaping grass adjacent to "E" Court pavement also functions as a Filter/Buffer Strip directly on the path of the runoff flow from the Park to the catchment basin in the cul-de-sac.</p>	<p>Title 21 (Subdivision Ordinance): 21.32.160 requires subdividers to plant street trees of a number, species and location to be determined by the road commissioner.</p> <p>Title 21 (Subdivision Ordinance): 21.32.170 requires the director of Parks and Recreation to advise any subdivider so required in the selection and care of trees and shrubs for planting strips to be reserved on the subject property.</p> <p>Title 21 (Subdivision Ordinance): 21.32.195 requires developers to plant onsite ("front yard") trees subject to the approval of the director or Regional Planning.</p>	Compatible with Title 21 Ordinances (see Land Use, 4.15).
<b>HYDROLOGY</b>			
Match post-development peak flow rates off the property to pre-development conditions for a range of storms	The project generally reduces the post-development peak flow rates compared with the existing flows for all the storm frequencies that are required to be	Current practices require that major infrastructure be designed to convey runoff from the 50-year design storm. In the urban environment, the	Compatible (see Flood Hazard, 4.2).



**Table 4.5-1 Site Planning Project Compatibility  
 with Existing Provisions and Low Impact Development Measures**

LID Element	Project Compatibility	Existing Provision	Project Compatibility
	considered by Los Angeles County Department of Public Works (namely 2-year, 5-yr, 10-yr, 25-yr and 50-yr flood frequencies). The project includes a stormwater detention basin that would help mitigate post-development flow rates to levels below pre-development conditions.	combination of streets and drains must safely convey the runoff from a 25-year rainfall and post-development peak flow rates must not exceed the downstream receiving system's capacity. Under specific development conditions in specific geographic areas, the post development runoff from a 2-year or 50-year storm must not exceed the pre-development runoff rate.	
Match post-development runoff volumes off the property for small, more frequent storms to pre-development conditions.	Post-development runoff volumes at all outlets from the project will be less than or equal to the pre-development conditions	Current practices require the infiltration of runoff, if flow-through treatment is not provided, for specific "priority" projects according to SUSMP regulations, most commonly from a 3/4" rainfall.	Compatible: This Project has been approved for SUSMP compliance
Match post-development runoff durations for small, more frequent storms to pre-development conditions.	This project has been designed per Los Angeles County drainage policy, which dictates 24-hour duration for all storms for both pre and post development conditions	Current practice does not require matching post development runoff durations to pre-development levels.	This project has been designed according to, and approved for compliance with Los Angeles County drainage policy
Control stormwater quality for small, more frequent storms.	This Project has been approved for SUSMP compliance, which addresses stormwater quality, especially for small more frequent storms, or more specifically for the 3/4 inch rainfall	Current practices require the flow-through treatment of runoff, if infiltration is not provided, for specific "priority" projects according to SUSMP regulations, most commonly from the 85 <sup>th</sup> percentile storm.	Compatible: This Project has been approved for SUSMP compliance
<b>INTEGRATED BMP's</b>			
Bioretention Facilities: A practice to manage and treat stormwater runoff by using an engineered planting	Privately maintained de-silting basins (located behind Lot 31 and mini basins serving Lots 48, 49,	Current practice allows for inclusion of bioretention facilities in new development on a case-by-case	Subject to soils engineer and Los Angeles County approvals for slope stability in final



**Table 4.5-1 Site Planning Project Compatibility  
 with Existing Provisions and Low Impact Development Measures**

<b>LID Element</b>	<b>Project Compatibility</b>	<b>Existing Provision</b>	<b>Project Compatibility</b>
soil bed and planting materials to filter runoff stored within a shallow depression.	51 and 52) will utilize engineered planting soil beds and planting materials to filter runoff and store the runoff within a shallow depression underneath, subject to soils engineer and Los Angeles County approvals in final engineering phase.	basis provided the designer can substantiate the facility's performance.	engineering phase of the project, the privately maintained de-silting basins (located behind Lot 34 and mini basins serving Lots 48,49,51 and 52) will utilize engineered planting soil beds and planting materials to filter runoff and store the runoff within a shallow depression,
Dry Wells: A small excavated pit backfilled with gravel or stone to receive roof runoff. Treatment is accomplished by adsorption.	Dry Wells to receive residential units' roof runoff will be proposed in the final engineering phase of the project subject to soil engineer's and LA County approval.	Inclusion of dry wells in new development is allowed on a case-by-case basis provided the designer can substantiate the dry well's performance.	Subject to soil engineer's and Los Angeles County approval in the final engineering phase of the project, Dry Wells, will be proposed to receive runoff from roofs.
Filter/Buffer Strips: Bands of closely growing vegetation, usually grass planted between pollutant source areas and a water body or environmentally sensitive area, commonly used as a pretreatment device with other BMP's.	In the proposed project's Park, the landscaping grass adjacent to and along the pavement of "E" Court will function as a "Filter/Buffer Strip", as it lies directly on the path of the runoff flow from the Park to the catchment basin in the cul-de-sac.	Inclusion of filter strips in new development is allowed on a case-by-case basis provided the designer can substantiate the filter strip's performance.	Filter Strips located along swales are not desirable for this project as the swales are commonly located within, or at the toe of slopes, and flow infiltration may lead to slope instability.
Grassed Swales: Convey runoff away from roadways and rights of way.	Swales for this project are commonly located within, or at the toe of slopes, and flow infiltration through Grassed Swales may lead to slope instability and are not desirable.	Inclusion of grassed swales in new development is allowed on a case-by-case basis provided the designer can substantiate the grassed swale's performance.	Swales for this project are commonly located within, or at the toe of slopes, and flow infiltration through Grassed Swales may lead to slope instability and are not desirable.
Rain Barrels: Above-ground, low cost retention devices that store rooftop runoff.	Dry Wells will be proposed for this project instead of Rain Barrels (see above)	Current practices do not allow for rain barrel usage on private property.	Compatible
Cisterns: Storage tanks that primarily store rooftop runoff for infiltration or later reuse.	Dry Wells will be proposed for this project which function similar to Cisterns (see above)	Current practices will allow inclusion of cisterns in new development on a case-by-case basis provided the designer	Compatible: Dry Wells will be proposed for this project which function similar to Cisterns (see above)



**Table 4.5-1 Site Planning Project Compatibility  
 with Existing Provisions and Low Impact Development Measures**

<b>LID Element</b>	<b>Project Compatibility</b>	<b>Existing Provision</b>	<b>Project Compatibility</b>
		can defend their performance.	
Infiltration Trenches: An excavated open trench back-filled with stone that stores water for slow release into the soil, usually coupled with a pretreatment BMP.	Infiltration Trenches are proposed for this project at the toe of slopes facing east; these devices are identified as "Splash Pads" on the drainage plan, and their details shown as "Alternate 'A' Per Grading Plan" on the "Drainage Concept/Hydrology Study/SUSMP" plan for post-development condition in Flood Hazard Chapter 4.2 of this EIR)	Current practices allows for inclusion of infiltration trenches in new development on a case-by-case basis provided there is adequate clearance from unprotected foundations and depth to seasonal high groundwater and designer can defend their performance.	Subject to Soils Engineer and LA County approvals in the final engineering stage of this project, the Infiltration Trenches are proposed for this project along the toe of east-facing slopes. these devices are identified as "Splash Pads" on the drainage plan, and their details shown as "Alternate 'A' Per Grading Plan" on the "Drainage Concept/Hydrology Study/SUSMP" plan for post-development condition in Flood Hazard Chapter 4.2 of this EIR)
Other Onsite BMP Technology: New and developing proprietary and nonproprietary technology, such as porous pavements, "smart" irrigation controllers, pop-up emitters, green roofs, and other devices designed to mitigate stormwater flow, volume, and quality.	Compatible. A drip irrigation system or equivalent is proposed for all onsite common area landscaping irrigation. Drip irrigation landscaping, in combination with splash pads at the toe of slopes will mitigate any nuisance water flow impact offsite (see splash pads at the toe of slopes facing east and south on the "Drainage Concept/Hydrology Study/SUSMP" plan for post-development condition in Flood Hazard Chapter 4.2 of this EIR).	Current practice allows for inclusion of various on-site BMP's in new development on a case-by-case basis provided the designer can substantiate the technology's performance and verify its safety.	Compatible with current practice, the approved drainage concept for the project's tentative map includes smart irrigation system (see Note number 11 of the "Drainage Concept/Hydrology Study/SUSMP" plan for post-development condition in Flood Hazard Chapter 4.2 of this EIR)
<b>EROSION and SEDIMENT CONTROL</b>			
Planning: Plan the construction operation to fit the existing site features.	Compatible (see Flood Hazard, 4.2).	MS4 permit enforced by DPW requires the preparation of a local Stormwater Pollution Prevention Plan (SWPPP) for all private construction	Compatible. Full development of the site would require production of a SWPPP.



**Table 4.5-1 Site Planning Project Compatibility  
 with Existing Provisions and Low Impact Development Measures**

LID Element	Project Compatibility	Existing Provision	Project Compatibility
		activity in the County. SWPPPs address slopes, natural drainage paths, soil erodability, and natural vegetation.	
Scheduling of Operations: Minimize the extent and duration of exposed soils during construction. Preferably schedule earthmoving and grading operations during the dry season or dry periods.	Compatible with the intent of SWPPP (Stormwater Pollution Prevention Plan) the earthmoving and grading operations will be minimized in the rainy season.	DPW encourages exposing the smallest practical area of land for the shortest possible time for private and public development construction projects.	Compatible: The construction phase of the project will expose the smallest practical area of land and minimize the construction duration.
Controlling Soil Erosion: Employ soil erosion controls at the source during construction as a first line of defense.	Compatible. Temporary erosion control measures are required during grading, and project drainage has been designed to flow into pre-project receiving areas.	DPW encourages the use of preventative soil stabilization and runoff control practices on exposed soils wherever possible for private and public development construction projects.	Compatible. Temporary erosion control measures are required during grading, and project drainage has been designed to flow into pre-project receiving areas (see Land Use, 4.15-15)
Controlling Sediment: Employ sediment controls at the construction site as a second line of defense against off-site damage.	Different devices such as sandbags and sediment screens will be proposed on the construction site to control sediments.	DPW requires the use of BMP's to prevent eroded soil particles from leaving the disturbed area and reaching the street, storm drain, or receiving water for private and public development construction projects.	Compatible: Different devices such as sandbags and sediment screens will be proposed on the construction site to control sediments.
Inspection and Maintenance: Inspect, maintain, and repair all erosion and sediment controls before, during, and after development.	Compatible. Cut slopes and finished grades are required to be revegetated upon completion of disturbance.	DPW enforces the maintenance of private development construction practices through periodic inspection. DPW requires the developer/contractor to conduct self-inspections before, during and after storm events. DPW inspects and enforces maintenance of County development construction projects.	Compatible. The project SWPPP (Stormwater Pollution Prevention Plan) details project-specific BMP's. Integral with the SWPPP is a project-specific erosion control plan. This project will be subject to and comply with all DPW inspection requirements.



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## 4.6 AIR QUALITY

### 4.6.1 Setting

**a. Climate and Meteorology.** Daytime summer temperatures in the Castaic 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. It is also 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 Clean Air Acts regulate the emission of airborne pollutants from various mobile and stationary sources. The United States Environmental Protection Agency (USEPA) is the Federal agency designated to administer air quality regulation, while the California Air Resources Board (CARB) is the State equivalent in the California Environmental Protection Agency. These agencies have established ambient air quality standards for the protection of public health. Local air quality management control and planning is provided through regional Air Pollution Control Districts (APCDs) established by the CARB for the 14 statewide air basins. The CARB is responsible for control of mobile emission sources, while the local APCDs are responsible for control of stationary sources and enforcing regulations. Castaic is located in the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

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 and 2.5 microns in diameter (PM<sub>10</sub> and PM<sub>2.5</sub>), and lead (Pb) (refer to Table 4.6-1, following page). The local air quality management agency is required to monitor air pollutant levels to assure that air quality standards are met and, in the event they are not, to develop strategies to meet these standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in "attainment" or "nonattainment." The potential health effects of pollutants for which the South Coast Air Basin is in nonattainment are described following Table 4.6-1.



**Table 4.6-1 Current Federal and State Ambient Air Quality Standards**

Pollutant	Federal Standard	California Standard
Ozone	0.08 ppm (8-hr avg)	0.09 ppm (1-hr avg) 0.07 ppm (8-hr avg)
Carbon Monoxide	9.0 ppm (8-hr avg) 35.0 ppm (1-hr avg)	9.0 ppm (8-hr avg) 20.0 ppm (1-hr avg)
Nitrogen Dioxide	0.053 ppm (annual avg)	0.25 ppm (1-hr avg)
Sulfur Dioxide	0.03 ppm (annual avg) 0.14 ppm (24-hr avg) 0.5 ppm (3-hr avg)	0.04 ppm (24-hr avg) 0.25 ppm (1-hr avg)
Lead	1.5 $\mu\text{g}/\text{m}^3$ (annual avg)	1.5 $\mu\text{g}/\text{m}^3$ (30-day avg)
Particulate Matter (PM <sub>10</sub> )	50 $\mu\text{g}/\text{m}^3$ (annual avg) 150 $\mu\text{g}/\text{m}^3$ (24-hr avg)	20 $\mu\text{g}/\text{m}^3$ (annual avg) 50 $\mu\text{g}/\text{m}^3$ (24-hr avg)
Particulate Matter (PM <sub>2.5</sub> )	15 $\mu\text{g}/\text{m}^3$ (annual avg) 65 $\mu\text{g}/\text{m}^3$ (24-hr avg)	12 $\mu\text{g}/\text{m}^3$ (annual avg)

*ppm = parts per million*

*$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter*

*Source: California Air Resources Board, [ww.arb.ca.gov/aqs/aaqs2.pdf](http://ww.arb.ca.gov/aqs/aaqs2.pdf), October 26, 2006.*

**Ozone.** Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO<sub>x</sub>) and reactive organic gases (ROG).<sup>1</sup> Nitrogen oxides are formed during the combustion of fuels, while reactive organic gases are formed during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it is formed primarily between the months of April and October. Ozone is a pungent, colorless toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, persons with respiratory disorders, and people who exercise strenuously outdoors.

**Suspended Particulates.** Atmospheric particulate matter is comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. The particulates of primary concern are fine particulate matter less than 10 or 2.5 microns in diameter (PM<sub>10</sub> and PM<sub>2.5</sub>). These small particles have the greatest likelihood of being inhaled deep into the lungs. Short- and long-term exposure to Particulate Matter has been associated with increased mortality and cardiopulmonary disease in a number of epidemiological studies. Major man-made sources of PM<sub>10</sub> are agricultural operations, industrial processes, combustion of fossil fuels, construction, demolition operations, and entrainment of road dust into the atmosphere. Natural sources include wind blown dust, wildfire smoke, and sea spray salt. The finer PM<sub>2.5</sub> particles are

<sup>1</sup> Organic compound precursors of ozone are routinely described by a number of variations of three terms: hydrocarbons (HC), organic gases (OG), and organic compounds (OC). These terms are often modified by adjectives such as total, reactive, or volatile, and result in a rather confusing array of acronyms: HC, THC (total hydrocarbons), RHC (reactive hydrocarbons), TOG (total organic gases), ROG (reactive organic gases), TOC (total organic compounds), ROC (reactive organic compounds), and VOC (volatile organic compounds). While most of these differ in some significant way from a chemical perspective, from an air quality perspective two groups are important: non-photochemically reactive in the lower atmosphere, or photochemically reactive in the lower atmosphere (HC, RHC, ROG, ROC, and VOC). SCAQMD uses the term VOC, while the URBEMIS program uses ROG. For the purposes of this EIR, these two terms are used as equivalents.



derived from combustion processes, and are secondary pollutants formed by chemical processes in the atmosphere.

Carbon Monoxide. Carbon monoxide (CO) is a colorless, odorless, poisonous gas that is only found in high concentrations very near its source. The major local source of CO is automobile traffic with elevated concentrations usually only found near areas of high traffic volumes and congestion. The adverse effect of CO on human health is a function of its affinity for hemoglobin in the blood. At high concentrations, CO reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity, and impaired mental abilities.

**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 a federally designated nonattainment area for ozone. Current State nonattainment designations within this basin exist for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>.

The nearest air monitoring station to the project site is located in Santa Clarita, about 10 miles southeast of the project site. This station measures ozone, carbon monoxide, NO<sub>2</sub>, and PM<sub>10</sub>. Table 4.6-2 summarizes the annual air quality data for the local airshed from 2002 to 2004. 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. Table 4.6-2 indicates that between 2002 and 2004 the greatest number of exceedances for ozone occurred during 2003 when 35 days exceeded the Federal standard and 89 days exceeded the State standard. During 2004, exceedances of the Federal standard decreased by 63% and exceedances of the State standard decreased by 22%. For PM<sub>10</sub>, 2004 yielded no exceedances of the State or Federal standard; however, the State standard was exceeded during 2002 and 2003 by seven and 10 days respectively. The Santa Clarita Station does not monitor PM<sub>2.5</sub>, so the Reseda Station data is reported in Table 4.6-2.

No exceedances of the Federal PM<sub>2.5</sub> standard were recorded at the Reseda Station. Nitrogen dioxide and carbon monoxide standards have not been exceeded at the State or Federal level during the past three years.



**Table 4.6-2 Ambient Air Quality Data at the Santa Clarita Monitoring Station**

Pollutant	2002	2003	2004
<sup>a</sup> Ozone, ppm – Worst Hour	0.169	0.194	0.158
Number of days of State exceedances (>0.09 ppm)	81	89	69
Number of days of Federal exceedances (>0.12 ppm)	32	35	13
<sup>a</sup> Carbon Monoxide, ppm - Worst 8 Hours	1.74	1.71	3.70
Number of days of State exceedances (>20.0/9.0 ppm)	0	0	0
Number of days of Federal exceedances (>35.0/9.0 ppm)	0	0	0
<sup>a</sup> Nitrogen Dioxide, ppm - Worst Hour	0.086	0.120	0.090
Number of days of State exceedances (>0.25 ppm)	0	0	0
<sup>a</sup> Particulate Matter <10 microns, $\mu\text{g}/\text{m}^3$ Worst 24 Hours	61.0	72.0	36.0
Number of samples of State exceedances (>50 $\mu\text{g}/\text{m}^3$ )	7	10	0
Number of samples of Federal exceedances (>150 $\mu\text{g}/\text{m}^3$ )	0	0	0
<sup>b</sup> Particulate Matter < 2.5 microns, $\mu\text{g}/\text{m}^3$ Worst 24 Hours	48.8	47.5	56.2
Number of samples of Federal exceedances (>65 $\mu\text{g}/\text{m}^3$ )	0	0	0

Source: CARB, 2002, 2003, & 2004 Annual Air Quality Data Summaries available at <http://www.arb.ca.gov>

<sup>a</sup>Santa Clarita Monitoring Station, Los Angeles County

<sup>b</sup>Reseda Monitoring Station, Los Angeles County

**d. Sensitive Receptors in the Project Area.** Sensitive receptors most likely to be affected by the project include a mobile home community located approximately 60 feet northwest of the project area, and a single-family residence located approximately 300 feet west of the project area. A condominium development also exists north of the project area, with the closest residential unit at approximately 30 feet. The closest schools are Castaic Elementary and Castaic Middle School approximately 0.5 mile northeast of the project area on the east side of I-5. The closest hospital is located in Santa Clarita approximately 10 miles southeast of the project area.

## 4.6.2 Impact Analysis

**a. Methodology and Significance Thresholds.** Emissions estimates for this project were calculated using URBEMIS 2002 version 8.7, which was developed by CARB to evaluate construction emissions, operational emissions and trip emissions associated with new development (Appendix D). A significant adverse air quality impact occurs 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. Table 4.6-3 (following page) provides the significance thresholds that have been recommended by the SCAQMD for projects within the South Coast Air Basin.





LSTs have been developed for emissions within areas up to five acres in size, with air pollutant modeling recommended for activity within larger areas. Table 4.6-4 (following page) includes LSTs for projects of five acres in size in Source Receptor Area 13 (SRA-13), which is designated by the SCAQMD as the Santa Clarita Valley area and includes the community of Castaic. For the purposes of this EIR, it is assumed that construction activity at the project site would be concentrated within a five-acre area at any one time. Additionally, it should be noted that LSTs are not applicable to mobile sources such as cars on a roadway.

**Table 4.6-4 SCAQMD LSTs for Construction and Operation**

Distance from Receptor (feet)	Allowable emissions as a function of receptor distance in feet from a five acre site boundary				
	82	164	328	656	1,640
Pollutant	lbs/day				
Gradual conversion of NO <sub>x</sub> to NO <sub>2</sub>	310	310	326	358	446
CO	1,252	1,447	2,193	3,479	8,438
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	6	8	13	26	95
PM <sub>10</sub> (µg/m <sup>3</sup> )	12	38	102	167	232

Source: <http://www.aqmd.gov/ceqa/handbook/LST/LST.html#Appendix%20C>; May 2007  
 With Links to: 1) SRA/City Table; and 2) [Appendix C - Mass Rate LST Look-up Tables](#)

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

**Impact AQ-1** ~~Project construction would generate air pollutant emissions that exceed SCAQMD daily construction thresholds for ozone precursors NO<sub>x</sub> and VOC (=ROG).~~ **Project construction would also generate PM<sub>10</sub> emissions that exceed daily SCAQMD construction thresholds and LSTs for the area. LSTs for PM<sub>2.5</sub> would also be exceeded. Construction impacts are considered Class I, significant and unavoidable.**

The majority of construction related emissions result from grading due to use of heavy equipment, and during the building phase due to the evaporation of VOCs from architectural coatings. The ozone precursor NO<sub>x</sub> is a byproduct of diesel combustion, and VOCs are released during the finishing phase of construction upon application of paints and varnishes. The computer program URBEMIS calculates construction emissions based on grading (~~Phase I~~) and building construction (~~Phase II~~). No demolition scenarios were analyzed for this EIR because the project site is currently undeveloped.

During project grading (~~Phase II~~), the earth that underlies the site would be turned over and pushed around, exposing the earth to wind erosion and dust entrainment by onsite operating equipment. The proposed project would involve grading on about 29 acres, or about 61% of the 47.25-acre site. These 29 acres include 11.18 acres of single family housing, 5.21 acres of business professional office development and the grading associated with development of roads, and slopes. The cut-and-fill would be balanced on site with no import or export of



material. Typical grading activities would require a variety of heavy construction equipment, including bulldozers, excavators, backhoes, scrapers, graders and water trucks. The grading and site work will be done in a single phase, which is planned for completion in a six-month time period.

The construction scenario was intended to mimic worst-case scenario conditions and as a result assumes that project construction commences during the summer (June 2010-07) when ozone is most problematic. Additionally, it assumes that 124 diesel operated construction vehicles would all be working simultaneously throughout the six-month grading period eight hours/day, 22 days/month. The building phase assumes that 18 21 diesel operated construction vehicles are operating over a 14 month period to complete construction of the 70 residences and 70,000 square feet of office space<sup>2</sup>. Table 4.6-5 shows worst-case estimated daily emissions during the grading (Phase II) and building (Phase III) construction tasks.

**Table 4.6-5 Estimated Maximum Daily Air Pollutant Emissions During Construction**

Activity	Unmitigated Emissions (lbs/day)					
	VOC	NOx	CO	Exhaust PM <sub>10</sub>	Fugitive Dust PM <sub>10</sub>	PM <sub>2.5</sub>
Site Grading Off Road	28.69	180.63 *	238.09	6.55	572.86 *	64.46 *
Worker Trips	0.29	0.35	6.92	0.01	0.02	0.03
<b>Maximum Phase II Grading<sup>4</sup></b>	<b>28.98</b>	<b>180.98 *</b>	<b>245.01</b>	<b>6.56</b>	<b>572.88 *</b>	<b>64.49 *</b>
1st Year Building Construction	33.17	221.79 *	266.34	8.58	0.00	7.89
1st Year Worker Trips	0.48	0.28	5.90	0.01	0.09	0.09
2 <sup>nd</sup> Year Building Construction	33.17	213.51 *	271.61	7.90	0.00	7.27
2 <sup>nd</sup> Year Worker Trips	0.88	0.52	10.90	0.20	0.18	0.20
2 <sup>nd</sup> Year Architectural Coatings off-gas	75.83 *	0.00	0.00	0.00	0.00	0.00
3rd Year Asphalt Paving	4.63	24.76	34.31	0.68	0.00	0.63
3rd Year Asphalt Paving Worker Trips	0.02	0.01	0.23	0.00	0.00	0.00
<b>Maximum Phase III Construction<sup>2</sup></b>	<b>75.83*</b>	<b>222.07 *</b>	<b>277.06</b>	<b>7.90</b>	<b>0.09</b>	<b>7.89 *</b>
SCAQMD Thresholds	75	100	550	150	150	55
LSTs <sup>3</sup>	N/A	310	1,252	12	12	6

Source: URBEMIS 2002, Version 8.7; see Appendix D for calculations.

<sup>4</sup>Totals include emissions associated with site grading, and worker trips.

<sup>2</sup>Maximum daily emissions based on highest in either construction year 1, 2 or 3.

<sup>3</sup>LSTs are for a five-acre project in SRA-13 at a distance of 82 feet from the site boundary

\*Indicates exceedance of the daily significance threshold

2 The modeling was conducted for an earlier version of the project which included 90,000 square feet of commercial space and is thus considered conservative.



**Table 4.6-5 Estimated Maximum Daily Air Pollutant Emissions During Construction**

Activity	Unmitigated Emissions (lbs/day)					
	VOC	NOx	CO	Exhaust PM <sub>10</sub>	Fugitive Dust PM <sub>10</sub>	PM <sub>2.5</sub>
Mass Grading	11.42	96.24	45.97	4.66	644.58 *	138.90 *
Trenching	2.09	17.75	9.30	0.88	0.01	0.81
Asphalt	5.11	23.26	13.78	1.64	0.05	1.52
Building Construction	24.42	98.67	67.49	4.59	0.15	4.27
SCAQMD Thresholds	75	100	550	150	150	55
LSTs <sup>3</sup>	N/A	310	1,252	12	12	6

Source: URBEMIS 2002, Version 8.7; see Appendix D for calculations.

<sup>1</sup>Totals include emissions associated with site grading, and worker trips.

<sup>2</sup>Maximum daily emissions based on highest in either construction year 1, 2 or 3.

<sup>3</sup>LSTs are for a five acre project in SRA-13 at a distance of 82 feet from the site boundary.

\* Indicates exceedance of the daily significance threshold

The grading phase of construction is expected to generate a substantial amount of fugitive dust because of the 20 to 130 foot deep cuts and 30 to 80 foot deep fills that would involve equipment movement on bare earth for a six-month period. Approximately 572.88 644.58 lbs of fugitive dust/day is estimated to be produced during grading activities. This quantity of PM<sub>10</sub> would exceed both SCAQMD daily construction emission thresholds and the LST for SRA 13. In addition, PM<sub>2.5</sub>, and NOx would exceed SCAQMD daily construction emission thresholds, while PM<sub>2.5</sub> would also exceed the and LST thresholds.

Phase III emissions are associated with construction of the 70 residences and 70,000 square feet of business professional office use. This phase of construction is anticipated to exceed South Coast Air Quality Management District (SCAQMD) thresholds for emissions of VOCs, and NOx, while PM<sub>2.5</sub> would exceeded for LST. Maximum daily Phase III building construction emissions are expected to exceed the NOx SCAQMD threshold by approximately 122 lbs/day. VOC emissions are expected to exceed SCAQMD thresholds during application of architectural coatings, which is projected to generate about 75.83 pounds of VOC per day during the building phase (Phase III), assuming that application requires 2 months and commences upon completion of construction. This exceeds the SCAQMD's 75 pounds per day significance threshold for VOC by 0.83 lb/day. However, actual exceedance of the 75 pounds per day threshold is dependent on a number of factors such as the types of coatings utilized, the number of structures under application simultaneously, and the timing of the applications. For example if work with architectural coatings commences on portions of the project sequentially while construction is still in progress, rather than upon completion of all of the buildings as is assumed by the computer modeling program, the daily threshold may not be exceeded. However, other emissions from vehicles would also then contribute to the total amount of VOCs produced daily.

The nearest sensitive receptors with respect to the local significance thresholds (LSTs) are the residences located north and northwest of the project boundary. The closest residence lies



approximately 30 feet from the northern boundary of the project site. The LST thresholds are relative only to those emissions that occur within a five-acre area, such as localized onsite grading emissions or stationary source emissions, and not to offsite mobile emissions. Comparison of the site grading emissions with the LSTs for NO<sub>x</sub>, CO, and PM<sub>10</sub> (in terms of exhaust emissions) indicates that no additional LSTs would be exceeded.

Mitigation Measures. The following mitigation measures are recommended to reduce emissions associated with construction activities to the greatest extent feasible.

**AQ-1(a) Fugitive Dust Control Measures:**

- Water trucks shall be used during construction to keep all areas of vehicle movements damp enough to prevent dust from leaving the site. At a minimum, this will require three daily applications (start of workday, midday and at the end of the workday). Increased watering is required whenever wind speed exceeds 15 mph. Grading shall be suspended if wind gusts exceed 25 mph.
- The amount of disturbed area shall be minimized, active grading shall not exceed 7.25 acres per day, and onsite vehicle speeds shall be limited to 15 mph or less on all unpaved areas. Pave roads and shoulders as soon as feasible.
- Unpaved haul roads shall be watered three times per day.
- If ~~importation, exportation and~~ stockpiling of fill material is involved, earth with 5% or greater silt content that is stockpiled for more than two days shall be covered, kept moist, or treated with earth 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.~~
- After clearing, grading, earth-moving or excavation is completed, the disturbed area shall be treated by ~~watering, revegetation, or by~~ spreading earth binders (non-toxic soil stabilizers) according to manufacturer's specifications until the area is paved or otherwise developed. Staging and parking areas shall also be stabilized by paving or with soil stabilizers.
- ~~Any material transported offsite shall be securely covered to prevent excessive amounts of dust.~~
- Install wheel washers where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site on each trip.

**AQ-1(b) VOC Control Measure:**

- Low VOC architectural and asphalt coatings shall be used on site and shall comply with AQMD Rule 1113-Architectural Coatings. The VOC content of architectural coatings shall not exceed an average of 85 g VOC/liter (less water and exempt compounds) for residential units and 87.5 g VOC/liter (less water and exempt compounds) for commercial space pursuant to the VOC content determination



procedures in Rule 1113. Additionally, application of architectural coatings shall be limited such that no more than 20 residences and 45,000 square feet of commercial space shall be covered during any 20 day period. Documentation regarding this mitigation measure is contained in Appendix D.

**AQ-1(c) NOx Control Measures:**

- ~~Cooled Exhaust Gas Recirculation shall be required on all heavy duty diesel construction equipment during the grading and construction phases to reduce NOx emissions by 40% and PM<sub>10</sub> emissions by 90%;~~
- Equipment engines should be maintained in good condition and in proper tune as per manufacturer’s specifications;
- Schedule construction periods to occur over a longer time period (i.e. lengthen from 60 days to 90 days) during the smog season so as to minimize the number of vehicles and equipment operating simultaneously; and
- Use new technologies to control ozone precursor emissions as they become readily available.

**AQ-1(d) NOx, PM<sub>10</sub> and PM<sub>2.5</sub> Additional Control Measure:**

- The number and types of construction equipment shall be reduced such that horsepower of diesel equipment in simultaneous operation shall not exceed 2,108 horsepower during project grading and 2,618 horsepower during building construction. This would reduce project grading equipment to about nine pieces during grading activities and 14 pieces during building construction activities, depending on the type of equipment in use. Documentation regarding this mitigation measure is included in Appendix D.

Significance After Mitigation. The recommended mitigation measures would reduce construction-related emissions of VOCs, NOx, CO to below thresholds. However, these measures are not sufficient to reduce emissions of fugitive dust and PM<sub>2.5</sub> to below LSTs (see Table 4.6-6).

**Table 4.6-6 Estimated Mitigated Maximum Daily Air Pollutant Emissions During Construction**

	Emissions (lbs/day)					
	VOC	NOx	CO	Exhaust PM <sub>10</sub>	Fugitive Dust	PM <sub>2.5</sub>
Maximum Daily Emissions	52.00	97.66	34.54	0.94	183.33 *	19.33 *
Maximum Daily Emissions	19.60	98.67	67.49	4.74	65.90 *	18.05 *
SCAQMD Thresholds	75	100	550	150	150	55
<sup>1</sup> LSTs	N/A	310	1,252	12	12	6

Source: URBEMIS 2002 calculations. See Appendix D for calculations.

\* Indicates exceedance of a significance threshold.

<sup>1</sup>LSTs are specific to SRA 13 for a five-acre project with receptors located within 82 feet of the project boundary



The mitigated ~~183.33~~ 65.90 lbs/day that is projected to occur while grading in the northwest corner of the site would exceed the LST until grading occurred more than ~~656~~ 328 feet from the sensitive receptor, at which point allowable emissions would be ~~232~~ 102 lbs/day. Similarly, concentrations of PM<sub>2.5</sub> are anticipated to exceed the LST for this area until construction activities are 656 feet from the sensitive receptor, at which point the allowable emissions would be 26 lbs/day. Therefore it can be presumed that grading activity associated with construction of lots 44-47, lots 48-57, a portion of the park lot, "E" Court and "D" Court are anticipated to result in localized PM<sub>10</sub> and PM<sub>2.5</sub> emissions that would exceed the SRA 13 LSTs, resulting in a Class I, *unavoidably significant* impact.

To confirm this determination, modeling was conducted in SCREEN3 to assess project grading on 29 acres based on the PM<sub>10</sub> from exhaust and fugitive dust. The results yielded a determination that the concentration of PM<sub>10</sub> at the nearest sensitive receptor would exceed the 50 µg per cubic meter threshold by ~~229.8~~ 50 µg. The modeling results are contained in Appendix D.

**Impact AQ-2    Operation of the proposed mixed use development would generate air pollutant emissions; however, emissions are below SCAQMD operational significance thresholds. This is a Class III, less than significant impact.**

The proposed residential and commercial development would generate a long-term increase in vehicle trips to and from the project area as well as a long-term increase in the consumption of electricity and natural gas. As such, project operation would increase emissions of air pollutants that contribute to the degradation of regional air quality. Estimates of project emissions are shown in Table 4.6-7. As indicated, overall emissions would not exceed SCAQMD thresholds for VOC, NO<sub>x</sub>, CO and PM. The SRA 13 LSTs would not be applicable to the final development, because the Urbemis estimates are based on the entire development (residential and office comprising approximately 16 acres) and the majority of operational emissions are generated by vehicle trips, which are mobile and would not be concentrated within a five acre portion of the project area. Operational impacts are therefore considered less than significant.



**Table 4.6-7 Operational Emissions Associated with the Proposed Project (lbs/day)**

<b>Emission Source</b>	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>PM<sub>10</sub></b>
Vehicle	13.25	14.97	163.86	18.95
Area	7.71	1.50	4.30	0.02
<b>Total Emissions</b>	<b>20.96</b>	<b>16.46</b>	<b>168.15</b>	<b>18.96</b>
<u>Vehicle</u>	<u>10.49</u>	<u>14.40</u>	<u>132.13</u>	<u>1.40</u>
<u>Area</u>	<u>5.18</u>	<u>1.69</u>	<u>7.10</u>	<u>0.02</u>
<b>Total Emissions</b>	<b>15.67</b>	<b>16.09</b>	<b>139.23</b>	<b>1.42</b>
SCAQMD Thresholds	55	55	550	150

Source: URBEMIS 2002 calculations. See Appendix D for calculations.

Mitigation Measures. None are required. Nevertheless, the following mitigation measures are recommended to reduce the project's impact on air quality to the greatest extent feasible.

**AQ-2(a) Energy Consumption.** Onsite structures shall reduce energy consumption by at least 20% below current Federal guidelines as specified in Title 24 of the Code of Federal Regulations. Potential energy consumption reduction measures include, but are not limited to, the use of photovoltaic roof tiles, installation of energy efficient windows, and the use of R-45 insulation in the roof/attic space of all onsite structures.

**AQ-2(b) Shade Trees.** Shade trees shall be planted to shade onsite structures to the greatest extent possible in summer, reducing indoor temperatures, and reducing energy demand for air conditioning.

Significance after Mitigation. Project operational emissions are not expected to exceed SCAQMD significance thresholds (see Table 4.6-8). Nevertheless, the recommended mitigation measures would reduce project-related air pollutant emissions to the maximum degree feasible.



**Table 4.6-8 Mitigated Operational Emissions Associated with the Proposed Project (lbs/day)**

Emission Source	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>
Vehicle	42.73	14.26	156.09	18.05
Area	7.70	1.38	4.20	0.02
<b>Total Emissions</b>	<b>20.43</b>	<b>15.63</b>	<b>160.28</b>	<b>18.07</b>
<u>Vehicle</u>	<u>10.49</u>	<u>14.40</u>	<u>132.13</u>	<u>1.40</u>
<u>Area</u>	<u>5.16</u>	<u>1.37</u>	<u>6.92</u>	<u>0.02</u>
<b><u>Total Emissions</u></b>	<b><u>15.65</u></b>	<b><u>15.77</u></b>	<b><u>139.05</u></b>	<b><u>1.42</u></b>
SCAQMD Thresholds	55	55	550	150

Source: URBEMIS 2002 calculations. See Appendix D for calculations.

**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. In combination with the proposed project, buildout of the cumulative projects listed in Table 3-1 in Section 3.0, *Environmental Setting*, would involve construction of 80,000 residential units, 5,700,000 square feet of commercial space, and 29,500,000 square feet of industrial space. Emissions associated with this development, in combination with other development throughout the South Coast Air Basin, would contribute to the degradation of regional air quality. Although such development is generally envisioned and accounted for in the Air Quality Management Plan for the region, increased emissions associated with cumulative development could affect attainment of State and Federal air quality standards. In addition, this project's contribution of carbon dioxide and other greenhouse gases such as nitrous oxide (from vehicles and aerosol sprays) and hydrofluorocarbons (from refrigerants) would incrementally contribute to the problem of global climate change. Section 4.16 discusses this project's effects with respect to Global Climate Change. Cumulative impacts to regional air quality are considered significant.



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## 4.7 BIOTA

### 4.7.1 Setting

This section is based on a biological constraints analysis that was conducted by consultant EIP Associates (November 2003, Field Surveys May 2002). That study has been peer reviewed by Rincon Consultants, Inc., the product of which is this section of the CEQA document. The peer review included a field visit (March, 2005) with subsequent review and incorporation of EIP findings. This section assesses impacts of the redesigned project on special-status species and habitats. Information was also obtained from the oak tree report that was prepared for this project by a consulting arborist Trees, Etc., dated February 17, 2004, revised June 18, 2008. These reports are contained in Appendix E.

The proposed project consists of 47.25 acres located within the community of Castaic in unincorporated Los Angeles County, approximately 35 miles north of Los Angeles and immediately west of the Interstate 5 / Golden State Freeway (I-5) (Figure 2-1, *Regional Location*). Current site access is from The Old Road approximately 0.5 miles south of the Parker Road intersection off of I-5 (Figure 2-2, *Project Location*). The project site is bounded to the north by a high-density condominium project (Tr. 34365), to the east by The Old Road / I-5 and a commercial business (building materials yard), to the south by an approved 40-acre condominium development (Tr. #46798), to the west by mostly vacant land with one single-family residence, and to the northwest by a 115-unit mobile home park (see Figure 2-3). The proposed project would construct 70 single-family dwellings on 11.18 acres, with an additional 5.21 acres of commercial development, and 30.86 gross acres of open space (this includes roads and access easements). Access to the proposed subdivision would be from a new road off of The Old Road that would connect a series of internal cul-de-sacs. Improvements to The Old Road adjacent the project entrance are also proposed as part of a separate unrelated County Roads Department project.

The project site is located within the northwestern portion of the Castaic Valley (USGS 7.5 minute quadrangle Newhall (1973, photo revised 1980), Township 5N, Range 17W, Section 36). The project site is characterized by moderate to steep sloping ridges alternating with open canyons and level terrain, with elevations ranging from approximately 1,100 to 1,494 feet above mean sea level (msl). Some of the project area has been graded, but the majority of the site retains its natural topography. Figure 2-3 in Section 2.0, *Project Description* is an aerial photograph of the project site and the surrounding area that illustrates the area's topography, existing development, surrounding land uses and zoning.

Site hydrology is dominated by an unnamed ephemeral stream in the southeastern portion of the site that ultimately drains into Castaic Creek, a major tributary to the Santa Clara River. The Santa Clara River is the largest river system in southern California that remains in a relatively natural state, with a watershed area of 1,200 square miles. The river originates in the northern slopes of the San Gabriel Mountains near Acton and flows west to enter the Pacific Ocean at Ventura.



**a. Methodology.** A biological constraints analysis was conducted by EIP Associates (November 2003, Field Surveys May 2002) and peer reviewed (Field Survey March of 2005) by Rincon Consultants, Inc. to assess impacts of the project on special-status species and habitats. The May 2002 and March 2005 field surveys were coincided with the booming seasons for all but one of the special status plant species (Los Angeles Sunflower – see Table 4.7-1). Information on occurrences of special-status species in the vicinity of the project site was obtained from the California Department of Fish and Game’s (CDFG) Natural Diversity Data Base (CNDDDB, January 2005 and March 2007) and California Native Plant Society’s (CNPS) Electronic Inventory (January 2002 and April 2007). Information on the status of special-status plant and animal species potentially occurring on the project site was obtained from the CDFG’s *Special Vascular Plants, Bryophytes, and Lichens List* (January 2002, April 2007), CDFG’s *List of State and Federally Listed Endangered and Threatened Animals of California* (January 2002), and CDFG’s *Special Animals* (January 2002, February 2006). Additional background information on biological resources was derived from the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), the List of California Terrestrial Natural Communities Recognized by the Natural Diversity Data Base (CDFG, January 2002), and *The Jepson Manual of Higher Plants of California* (J.C. Hickman, Ed., 1993).

Based upon the results of the literature review and record searches, a list of special-status plant and animal species and habitats with the potential to occur on the project site was developed for verification in the field. General botanical and wildlife surveys were conducted by the project’s consultant, EIP Associates, on May 14, 2002 to describe the onsite vegetation and evaluate the potential of onsite habitats to support special status plant and animal species. The report is contained in Appendix E. A separate survey of the number, location, and health of oak trees on the site and within the development footprint was conducted by the arborist, Trees Etc. (February 17, 2004, revised June 18, 2008) and is also contained in Appendix E.

**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 include:

- 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
- Los Angeles County, including the Castaic Area Community Standards District (CSD) and the Oak Tree Ordinance

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 project site.

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 seven (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 of a listed 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 that candidate species 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.

California 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 the 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.

Senate Bill 1334 (2004) requires that a County with oak woodlands include an oak woodlands management plan developed pursuant to the Oak Woodlands Conservation Act, a provision that requires mitigation of any conversion of oak woodlands, and would require that the plan contain specified mitigation alternatives and procedures to minimize impacts to oak woodlands in specified areas. This bill states that counties must require a project significantly affecting oak woodlands to offset the loss of any oak trees destroyed. Oak woodlands are defined under this bill as those areas with an oak canopy cover of 10% or more on any individual site.

Los Angeles County. The Los Angeles County Oak Tree Ordinance (Section 22.56.2050; September 1982) was established to create favorable conditions for the preservation and propagation of all oak trees, native or not, within unincorporated Los Angeles County. The ordinance requires that a permit be obtained before engaging in any activity that would result in the cutting, destruction, removal, relocation, or encroachment into the protected zone of any oak with a single trunk exceeding eight inches in diameter 4.5-feet above mean natural grade, or of oaks with multiple trunks exceeding a combined diameter of 12 inches for the largest two stems.

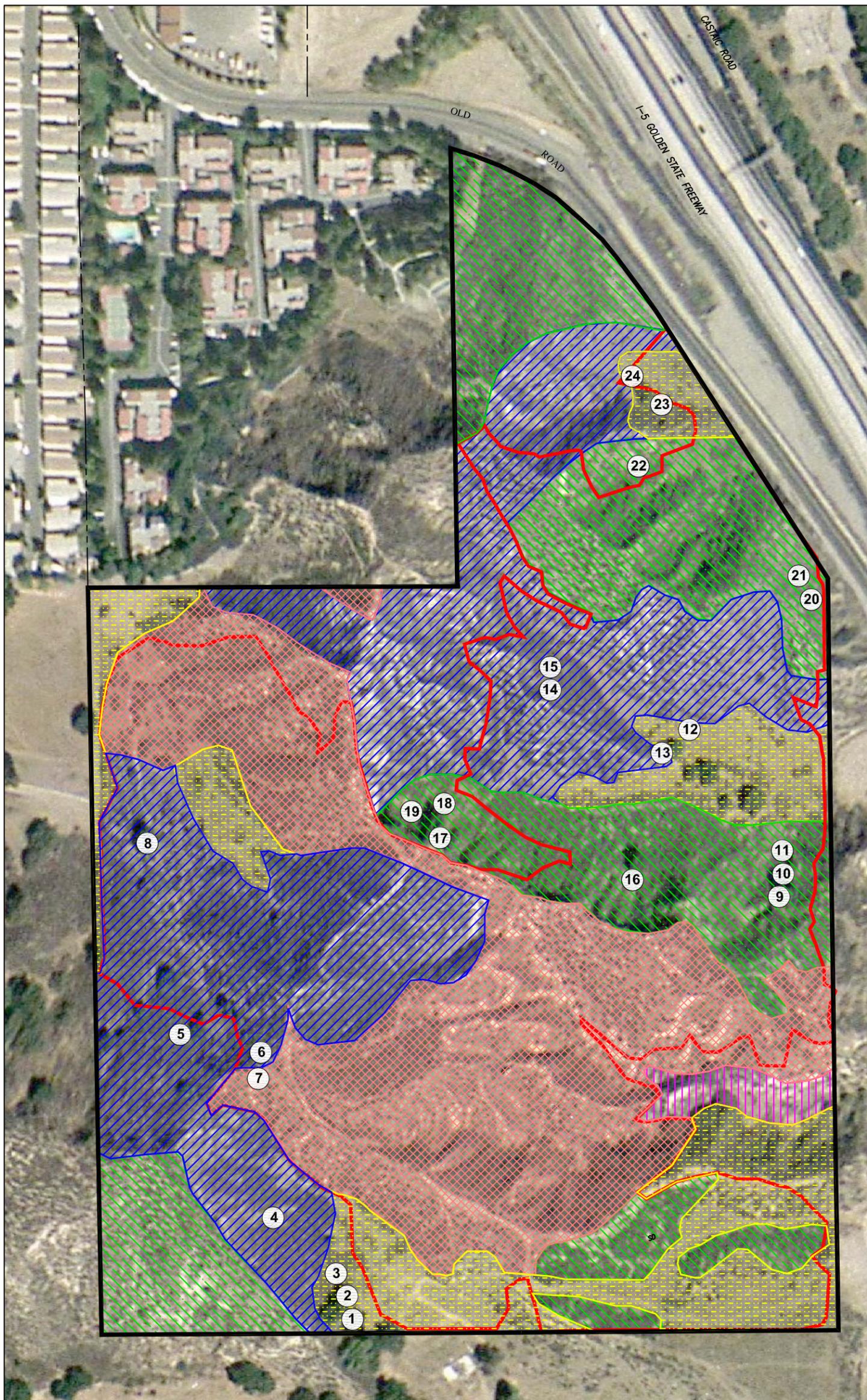
Certain specific findings must be made regarding the removal or relocation of heritage oaks. Standard conditions of the oak tree permit require the replacement / relocation of trees either onsite or offsite and a certification of compliance with permit conditions. Replacement and relocated onsite trees 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 County 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.

**c. Vegetation.** The project site supports five vegetation communities, or habitat types, as based upon Holland (1986) and shown in Figure 4.7-1:

- Chamise chaparral (9.47 acres)
- Cottonwood-willow riparian forest (0.35 acres)
- Mixed chaparral (16.62 acres)
- Annual grassland-sage scrub ecotone (6.65 acres)
- Coastal sage scrub (13.9 acres)

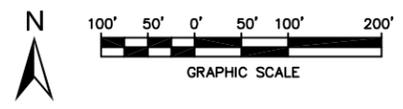
Chamise chaparral. The canopy in this community ranges from one to three meters (three to 12 feet) in height and is dominated by chamise (*Adenostoma fasciculatum*), interspersed with elements of the coastal sage scrub community such as black sage (*Salvia mellifera*), California





**LEGEND**

- |   |                   |   |  |
|---|-------------------|---|--|
|  | Project Site      |  | Coastal Sage Scrub                     |
|  | Grading Envelope  |  | Cottonwood Willow Riparian             |
|  | Chamise Chapparal |  | CA Annual Grassland/Sage Scrub Ecotone |
|  | Mixed Chapparal   |  | # Oak Trees                            |



Habitats, Oak Trees and  
Grading Envelope

Source: SR Consultants West, Inc., September 2003,  
 Kimley-Horn & Associates, Inc., April 2007.

Figure 4.7-1

buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), deerweed (*Lotus scoparius*), and thick-leaf yerba santa (*Eriodictyon crassifolium*). Buck brush (*Ceanothus cuneatus*), Our Lord's candle (*Yucca whipplei*), and scrub oak (*Quercus berberidifolia*) are also found within this community. These associated species are sparsely distributed and contribute little to the overall canopy of the community. Additionally, due to the density of cover, this community generally has very little herbaceous understory. This vegetation community is typically associated with dry, rocky (often steep) slopes with little soil. Chamise chaparral frequently occurs adjacent to oak woodlands although the underlying soils are much rockier. This community is adapted to repeated fires from which it recovers by stump sprouting.

Mixed chaparral. This is a structurally homogenous community dominated by shrubs with stiff evergreen leaves ranging from one to four meters (three to 12 feet) in height. Mixed chaparral in the project site is dominated by a combination of ceanothus species (*Ceanothus* sp.), chamise, black sage, California sagebrush, and California buckwheat. Associated species include toyon (*Heteromeles arbutifolia*), chaparral currant (*Ribes malvaceum*), coyote brush (*Baccharis pilularis*), big-berry manzanita (*Arctostaphylos glauca*) and other manzanitas (*Arctostaphylos* sp.), mountain mahogany (*Cercocarpus betuloides* var. *betuloides*), blue elderberry (*Sambucus mexicana*), thick-leaf yerbasanta, deerweed, and scrub oak.

Occasional coast live oaks (*Quercus agrifolia*) are scattered throughout this habitat type and are designated on Figure 4.7-1. The herbaceous understory consists of annual grasses including wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), foxtail brome (*B. madritensis*), cheat grass (*B. tectorum*), foxtail barley (*Hordeum jubatum*), bunchgrasses (*Festuca* sp.), and herbs such as black mustard (*Brassica nigra*) and composites. Infrequent occurrences of prickly-pear (*Opuntia* sp.) are found throughout this habitat type.

Coastal sage scrub. This community is dominated by low, soft-woody sub-shrubs with a canopy up to two meters tall. This community is found throughout the project site, growing on many of the southern-facing slopes and upper reaches of the canyons that dissect the project site. The canopy of coastal sage scrub is much less developed than the chaparral communities. Major components of the coastal sage scrub community on the project site are sagebrush, black sage, California buckwheat, and deerweed. Some areas were almost completely comprised of black sage. Associated species include thickleaf yerba santa, Our Lord's candle, and chaparral currant. Chaparral species including *Ceanothus* sp., chamise, and coyote brush can also be found here.

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. A single riparian area with an ephemeral (seasonal) water source is present at the bottom of a canyon along the eastern border of the project. The canyon drains the surrounding hill slopes and directs flow into Castaic Creek, a major tributary to the Santa Clara River.

The entire canyon was not surveyed, but cottonwood (*Populus fremontii*) and willows (*Salix* spp.) were observed along the margins. In addition, scrub oaks were common within the



canyon area. Other species associated with the canyon bottom were bush monkeyflower (*Mimulus aurantiacus*), blue elderberry, sticky eupatorium (*Ageratina adenophora*), dudleya (*Dudleya* sp.), and elegant fairyfan (*Clarkia unguiculata*). Uplands immediately adjacent to the riparian habitat are composed of common Chamise Chaparral inhabitants such as California sagebrush, black sage, and California buckwheat.

Stream courses (drainages) are 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 streambed alteration agreements. The Regional Water Quality Control Board (RWQCB) has water quality certification requirements under Section 401 of the Clean Water Act. The proposed project would not result in the removal of riparian vegetation due to prior modifications in site design that incorporated impact reduction measures that reduced riparian impacts from 0.35 acre in the original design to zero – this prior change in land development design was triggered by an initial biological constraint analysis by EIP & Associates (prior to the November 2003 report).

California Annual Grassland-Sage Scrub Ecotone. This habitat type includes several small areas in the project site that exhibit characteristics of both California annual grassland and coastal sage scrub and can be considered a transition zone between the two communities. Nonnative grass species such as wild oats, rip-gut brome, foxtail brome, cheat grass, and foxtail barley, are co-dominant with native coastal sage scrub species such as California sagebrush, black sage, and California buckwheat. Secondary species include deerweed and chaparral currant. This community is generally found in the flat areas of canyon bottoms and in previously disturbed areas near the project site boundary.

Oak Trees. There are 24 live oaks, which are scattered throughout the project site (see Figure 4.7-1), having diameters of at least 8" or larger for a single trunk and 12" in diameter for a multiple trunk. At this site, oak trees exist in all habitat types as scattered trees except within the chamise chaparral habitat (see Figure 4.7-1). Based on Holland (1986), California Wildlife Habitat Relationships (CWHR, 2005), and CNDDB (2007), the composition of onsite habitats more closely resemble those described above rather than any type of oak woodland, which is defined under SB 1334 as having canopy coverage of 10% or more. In addition, adjacent the site to the south and west are nine additional oak trees, which were mapped in the tree report (Trees Etc., 2008). Two of these trees are heritage oak trees (Op-1 and Op-5), which are located adjacent the southern boundary of the site.

**d. Common Wildlife.** Wildlife resources are a function of the quality, quantity, and diversity of the habitats present onsite. The EIP (2003) biological constraints analysis identified a total of 50 wildlife species that occurred on the project site (i.e., through direct observation, detection of vocalizations, or observation of sign). These species included two reptiles, 41 birds, and seven mammals.

Reptiles. Reptilian diversity and abundance typically varies with vegetation type and character. Many species prefer only one or two vegetation communities; however, most will forage in a variety of habitat types. Most species occurring in open areas use rodent burrows



and various objects lying on the ground for cover, protection from predators, and extreme weather conditions.

In addition to the western fence lizard (*Sceloporus occidentalis*) and the coastal western whiptail (*Aspidoscelis tigris stejnejeri*, a California Species of Special Concern) that were observed on site, several reptilian species are expected to occur within the site, based on habitat suitability. These include the side-blotched lizard (*Uta stansburiana*), southern alligator lizard (*Gerrhonotus multicarinatus*), striped racer (*Masticophis lateralis*), coachwhip (*Masticophis flagellum*), gopher snake (*Pituophis melanoleucus*), common kingsnake (*Lampropeltis getulus*), and western rattlesnake (*Crotalus viridis*).

Amphibians. The riparian association on the site (willow and cottonwood trees) provides suitable habitat for the western toad (*Bufo boreas*), Pacific slender salamander (*Batrachoseps pacificus*), and Pacific tree frog (*Hyla regilla*). However, none were observed during the surveys.

Birds. Birds were the most widely observed vertebrate taxon occurring on the site (Table A-2 of the Biological Constraints Analysis, contained in Appendix E). A total of 41 avian species were detected within the proposed project site. Some common species observed include common pigeon (*Columba livia*), mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), Costa's hummingbird (*Calypte costae*, a California Special Animal), European starling (*Sturnus vulgaris*) song sparrow (*Melothrus ater*), house finch (*Carpodacus mexicanus*), and California quail (*Callipepla californica*). The project site, as well as adjacent habitat, is used by raptors (birds of prey) for foraging. However, onsite cliffs lack edges and holes and are generally not considered adequate to provide nesting habitat for raptors. Raptors observed on the property included the red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), and the turkey vulture (*Cathartes aura*). Other raptor species that could potentially use the site include the barn owl (*Tyto alba*), Cooper's hawk (*Accipiter cooperii*), and red-shouldered hawk (*Buteo lineatus*).

Mammals. Evidence of mammalian activity within the site was common. A total of seven mammalian species were observed or detected within the project site. These species include mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), California ground squirrel (*Spermophilus beecheyi*), western gray squirrel (*Sciurus griseus*), Botta's pocket gopher (*Thomomys bottae*), deer mouse (*Peromyscus maniculatus*), and woodrat (*Neotoma sp.*). In addition to these species, the following species are expected to occur within the site, based on habitat suitability. Small mammals would include the western harvest mouse (*Reithrodontomys megalotis*), and California ground squirrel (*Spermophilus beecheyi*). Medium to large sized mammals expected to occur include the desert cottontail (*Sylvilagus audubonii*), striped skunk (*Mephitis mephitis*), western spotted skunk (*Spilogale gracilis*), Virginia opossum (*Didelphis virginiana*), and bobcat (*Lynx rufus*). In addition, several bat species may forage on the site, but are not expected to roost on the site due to lack of suitable roosting habitat such as caves, buildings and rock crevices.

Wildlife Movement. Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife



habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, would not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information (MacArthur and Wilson 1967; Soule 1987; Harris and Gallagher 1989; Bennett 1990). Corridors mitigate the effects of this fragmentation by: 1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; 2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and 3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Noss 1983; Simberloff and Cox 1987; Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories: 1) dispersal (e.g., juvenile animals from natal areas, or individuals extending range distributions); 2) seasonal migration; and 3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies, such as "wildlife corridor," "travel route," "habitat linkage," and "wildlife crossing" to refer to areas in which wildlife move from one area to another. To clarify the meaning of these terms and facilitate the discussion of wildlife movement in this analysis, these terms are defined as follows:

- **Travel route:** a landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another. It contains adequate food, water, and / or cover while moving between habitat areas and provides a relatively direct link between target habitat areas.
- **Wildlife corridor:** a piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and / or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species.
- **Wildlife crossing:** a small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These often represent "choke points" along a movement corridor.



- **Habitat Linkage:** Areas between existing habitat patches that, if made into suitable habitat, will increase movement between populations and will decrease the probability of extinction of the species by stabilizing population dynamics.

Within a large open space area in which there are few or no manmade or naturally occurring physical constraints to wildlife movement, wildlife corridors, as defined above, may not yet exist. Given an open space area that is both large enough to maintain viable populations of species and provide a variety of travel routes (canyons, ridgelines, trails, riverbeds, and others), wildlife would use these "local" routes while searching for food, water, shelter, and mates, and would not need to cross into other large open space areas. Based on their size, location, vegetative composition, and availability of food, some of these movement areas (e.g., large drainages and canyons) are used for longer lengths of time and serve as source areas for food, water, and cover, particularly for small- and medium-sized animals. This is especially true if the travel route is within a larger open space area. However, once open space areas become constrained and / or fragmented as a result of urban development or construction of physical obstacles, such as roads and highways, the remaining landscape features or travel routes that connect the larger open space areas can "become" corridors as long as they provide adequate space, cover, food, and water, and do not contain obstacles or distractions (e.g., manmade noise, lighting) that would generally hinder wildlife movement.

The site is not expected to function as an important regional wildlife corridor because it is bounded by existing developments to the north and by I-5 to the east which would act as barriers to wildlife movement. Per the Missing Linkages study (2000), the nearest missing link to the project area is #25, which is approximately 8 miles north of Castaic (Figure 6-1 in Linkage Report). Per Pendrod et al. (2005), the project area does not compose a significant part of the linkage design for the Sierra-Madre Castaic connection and the site does not contain any high value habitat linkages. However, the Missing Linkages study does indicate that the project site is within a corridor that could connect habitat on the eastern and western sides of I-5 in the event that I-5 is modified in the future to provide wildlife crossings. Although habitat suitability for mountain lion, one of 15 focus species in this study, is high, adjacent public lands provide sufficient habitat for this species. Potential core habitat for this species is onsite but the project site is not expected to comprise a significant portion of a single individual's home range (typical home range is from three to 25 square miles, 1,920 - 16,000 acres; Zeiner, et. al., April 1990). This species may forage onsite, but adjacent lands retained in open space provide a wide range of habitat for this species to flourish.

The project site is expected to provide resident wildlife species with local movement opportunities across the property as these wildlife species travel on and off the project site in search for food, water, and mates. While the project is located just east of a large amount of undeveloped land, the project site is not expected to currently function as a regional wildlife movement corridor because the project site does not link important wildlife habitat areas offsite.

**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. This includes vegetation, wildlife, and natural communities that are protected or considered



special-status by the United States Fish and Wildlife Service, California Department of Fish and Game, California Native Plant Society (CNPS), Audubon Society, and Los Angeles County.

Special-Status Plant Species. The literature review, database search, and field survey identified 13 special-status vascular plant species occurring within the region, eight of which could potentially occur at the site, but were not observed within the project boundary. Table 4.7-1 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 2003 biological constraints analysis for the project area included in Appendix E.

The **San Fernando Valley spineflower** (*Chorizanthe parryi* var. *fernandina*) (SFVS) could potentially be present in areas of low vegetative cover and shallow soils within mixed chaparral, coastal sage scrub, and annual grassland habitats on the project site. Prior to the rediscovery of this species in 1999 at the The Upper Las Virgenes Canyon Preserve (ULVCP, formerly 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 primarily the San Fernando Valley and Santa Clarita Valley and adjacent hillsides, with historic disjunct occurrences in the Ballona area (Marina del Rey), Elizabeth Lake, and "hills near Santa Ana." The May 2002 field visit was conducted during the blooming season (April to May), but no SFVS individuals were observed. 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), is listed as endangered under the California Endangered Species Act (CDFG August 2001), and is on the California Native Plant Society (CNPS) List 1B species. The nearest historical (1929) occurrence is approximately ¼ mile to the north between Parker Road and Sloan Canyon Road (CNDDDB 2006), with the nearest recent occurrence (2001) north of Castaic Creek near Castaic Junction, about three miles south of the site.

**Plummer's mariposa lily** is a CNPS 1B species. Outside of the blooming period, (May to July), this distinct genus (*Calochortus*) can often be identified by vegetative features such as leaves or residual bulb stalks. This species is known to occur in a variety of plant communities, including chaparral, valley and foothill grassland, cismontane woodland, and lower montane coniferous forest between 300 and 5,500 feet elevation. It has been documented within the San Gabriel, San Jacinto, Santa Ana, Santa Monica, and San Bernardino Mountains on USFS lands (USDA, 1999). It typically is found on rocky or sandy sites, usually with granitic or alluvial material, and could be present throughout the project area. The elevation (325 to 5,589 feet) requirements and habitat conditions are present for this species to occur in the project area. The closest occurrence is documented approximately three miles southeast of the site near Newhall (CNDDDB 2006). A limited field survey was conducted in May 2002, during the blooming season, and March 2005 just prior to the blooming season, and no individuals were observed onsite.

**Slender mariposa lily** is a CNPS List 1B species. This bulbiferous perennial herb in the Liliaceae family usually occupies shaded foothill canyons, often on grassy slopes within other



**Table 4.7-1 Likelihood of Occurrence of Special-Status Vascular Plants**

Species	USFWS	CDFG	CNPS	Habitat Requirements/ Blooming Period	Occurrence Potential
Mt Pinos Onion <i>Allium howellii</i> var. <i>clokeyi</i>	--	--	1B	Great basin scrub, pinyon and juniper woodland; Open slopes, sagebrush scrub, 4265-6069 feet. Blooming period April to June.	Not likely; No suitable habitat, above elevational range.
<i>Berberis nevini</i> Nevin's barberry	E	E	1B	Chaparral, coastal, and alluvial fan sage scrub; steep north-facing slopes or low sandy wash; 950 to 2,200 feet. Blooming period March to April	Potentially occurring, Low probability, high detectability due to size and structure, but was not observed during the field survey. Known six miles east of project site.
<i>Calochortus clavatus</i> var. <i>gracilis</i> Slender mariposa lily	--	---	1B	Shaded foothill canyons, often on grassy slopes within other habitat, chaparral, coastal scrub; 1,200 to 3,300 feet. Blooming period March to June.	Potentially occurring, as appropriate habitat and elevation onsite; known throughout San Fernando Valley; none observed.
<i>Calochortus plummerae</i> Plummer's mariposa lily	--	---	1B	Occurs on granitic or alluvial material within chaparral; less often in grassland, alluvial fan sage scrub, oak woodland, Ponderosa pine woodland; 325 to 5,589 feet. Blooming period May to July.	Potentially occurring, could occur in chaparral habitats and is within the elevation range of the project. Not observed during the site visit.
<i>Chorizanthe parryi</i> var. <i>fernandina</i> San Fernando Valley spineflower	PE	E	1B	Thin, mineralized soils, coastal scrub, margins of disturbed areas; 492 to 4,001 feet. Blooming period April to July.	Potentially occurring, known 1/4 mile north of project site (CNDDDB mar 2007).
<i>Dodecahema leptoceras</i> Slender-horned spineflower	E	E	1B	Chaparral, coastal scrub and cismontane woodland habitat on flood-deposited terraces and washes; 660 to 2508 feet. Blooming period April to June.	Not likely, project within elevational range, but lacks appropriate habitat (cryptobiotic crust in upper flood plains of major rivers).
<i>Erodium macrophylla</i> round-leaf filaree	---	---	1B	Cismontane woodland, valley and foothill grassland; 49-394 feet. Blooming period March – May.	Potentially present, but not seen onsite. Known at Castaic Mesa. Nearest occurrence two miles east of project site.
<i>Galium grande</i> San Gabriel bedstraw	---	---	1B	Open chaparral and low, open oak forest, rocky slopes; 1,400 to 5,000 feet. Blooming period January to July.	Potentially occurring, moderate habitat suitability. low probability as project outside known range.
<i>Harpagonella palmeri</i>	---	---	4	Dry sites in chaparral, coastal scrub, grassland; <1476 feet. Blooming period March – May.	Potentially present, but not seen onsite. Known at Castaic Mesa.



**Table 4.7-1 Likelihood of Occurrence of Special-Status Vascular Plants**

Species	USFWS	CDFG	CNPS	Habitat Requirements/ Blooming Period	Occurrence Potential
Palmer's grappling hook					Nearest occurrence two miles east of project site.
<i>Helianthus nuttallii</i> ssp. <i>parishii</i> Los Angeles sunflower	---	---	1A	Coastal salt and freshwater marshes and swamps; 33-5495 feet. Blooming period August – October.	Not likely; No suitable habitat, not within known range.
<i>Orcuttia californica</i> California orcutt grass	E	E	1B	Vernal pool, fresh water wetlands. Blooming period April – August. 49-2165 feet.	Not likely; Known in same quad as project, but no suitable habitat onsite.
<i>Opuntia basilaris</i> var. <i>brachyclada</i> Short-joint beavertail	--	---	1B	Chaparral, Joshua tree "woodland," Mojavean desert scrub, Pinyon and juniper woodland. Blooming period April – June. 1394-5905 feet.	Within elevational range and appropriate habitat onsite, but low probability as not seen onsite.
<i>Senecio aphanactis</i> Rayless ragwort	---	---	2	Chaparral, cismontane woodland, coastal scrub/alkaline; 49 to 2,624 feet. Blooming period January to April.	Not likely; Within elevational range, but no drying alkaline flats onsite.

**Federal (USFWS)**

E Endangered  
 T Threatened  
 PE Proposed Endangered Elsewhere  
 PT Proposed Threatened

SSC

**State (CDFG)**

E Endangered  
 T Threatened  
 PE Proposed Endangered  
 PT Proposed Threatened  
 Species of Special Concern

**California Native Plant Society (CNPS)**

1A Plants Presumed Extinct in California  
 1B Plants Rare, Threatened, or Endangered in California and Elsewhere  
 2 Plants Rare, Threatened, or Endangered in California But More Common  
 3 Plants About Which More Information is Needed - A Review List  
 4 Plants of Limited Distribution - A Watch List



habitats including chaparral and coastal scrub. It is generally found at elevations of 1,200 to 3,300 feet, and blooms between March and June. It is known mostly in the San Gabriel Mountains, Liebre Mountain, and the San Gabriel River, and Stokes Canyon in the Santa Monica Mountains (Jepson Online Exchange 2006). It was also noted in Osito Canyon, five miles to the east of the site, in 1997 (ibid). Occurrences are vulnerable to landfill expansion, development projects, sand and gravel mining, and off-road vehicle activity (USDA 1999). The closest occurrence is approximately 2.5 miles east of the project site (CNDDDB 2006). Though Field Surveys were conducted in May 2002, and March 2005, during the blooming season, no individuals were observed onsite.

**Nevin's barberry** is both State and federally listed as endangered. This species occurs in coastal sage scrub, alluvial scrub, and chaparral communities in the margins of dry washes in the foothills of the Transverse and Peninsular ranges. Plants are found growing on either steep north-facing slopes or low-grade sandy washes. Although once more widespread, the present day range of Nevin's barberry includes less than 30 occurrences in portions of Los Angeles, San Bernardino, and Riverside Counties. Ten of these are single plants last seen in the 1980s; seven are occurrences of less than 10 plants last seen in the 1970s or 1980s; 3 are plantings; and the largest is 134 plants, last seen in 1987. The closest occurrences are approximately 3.75 miles east of the project site and 3.75 miles south of the project site (CNDDDB, 2006). Loss of habitat continues to be a major threat to this species. Of great concern is the lack of reproduction and recruitment at most sites, and the very low number of individuals at most populations. The site provides moderately suitable habitat for this species but it was not observed during blooming season surveys, and as such has a low potential to occur.

Special-Status Wildlife. A review of the relevant literature was conducted by EIP (report dated November 2003) and verified by Rincon Consultants, Inc. in March 2005. This assessment includes data from CNDDDB (January 2005 and January 2007, see Figure 4.7-3), USFWS, Audubon Society, and other recognized authorities suggest that numerous special-status species may utilize the site based on suitable habitat and geographic range. Table 4.7-2 lists these species, their habitats, and the likelihood of their presence on the project site.

**Table 4.7-2 Special Status Wildlife Species Known to Occur in the Region of the Project**

Species	USFWS	CDFG	Occurrence Potential
<b>Amphibians</b>			
<i>Bufo microscaphus californicus</i> Arroyo toad	E	SSC	Low probability, lacks suitable hydrology
<i>Scaphiopus hammondi</i> Western spadefoot toad	SOC	SSC	Potentially occurring
<b>Reptiles</b>			
<i>Anniella pulchra pulchra</i> Silvery legless lizard	---	SSC	Potentially occurring near riparian zone in leaf litter
<i>Aspidoscelis tigris multiscutatus</i> Coastal western whiptail	SOC	SSC	Observed
<i>Clemmys marmorata pallida</i> Southwestern pond turtle	SOC	SSC	No suitable habitat



**Table 4.7-2 Special Status Wildlife Species Known to Occur in the Region of the Project**

Species	USFWS	CDFG	Occurrence Potential
<i>Diadophis punctatus modestus</i> San Bernardino ringneck snake	---	SA	Outside of range
<i>Phrynosoma coronatum blainvillei</i> San Diego horned lizard	---	SSC	Potentially present; High probability
<i>Salvadora hexalepis virgultea</i> Coast patch-nosed snake	---	SA	Potentially onsite
<i>Thamnophis hammondi</i> Two-striped garter snake	---	SSC	Potential, suitable habitat in riparian area
<b>Birds</b>			
<i>Accipiter cooperii</i> Cooper's hawk	---	WL	Suitable nesting habitat, potential foraging habitat
<i>Aimophila ruficeps canescens</i> Southern California rufous-crowned sparrow	SOC	SSC	Observed
<i>Asio otus</i> Long-eared owl (nesting)	---	SSC	Outside of range
<i>Calypte costae</i> Costa's hummingbird (nesting)	---	SA	Suitable nesting habitat, at edge of range; Observed onsite
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	---	E	No suitable habitat
<i>Dendroica petechia brewsteri</i> Western yellow warbler	---	SSC	No suitable habitat
<i>Elanus leucurus</i> White-tailed kite	---	FP	Small section of appropriate habitat (grassland) in southeast section of site
<i>Gymnogyps californianus</i> California condor	E	E	No suitable nesting habitat, potential foraging habitat
<i>Icteria virens</i> Yellow breasted chat	---	SSC	No suitable habitat
<i>Vireo bellii bellii</i> Least Bell's vireo	E	E	No suitable habitat
<b>Mammals</b>			
<i>Antrozous pallidus</i> Pallid bat	---	SSC	Potential, nearest occurrence ¼ mi north of project site
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	---	SSC	Not likely, as no caves or buildings onsite.
<i>Euderma maculatum</i> Spotted bat	---	SSC	No appropriate roosting habitat as no rock crevices onsite, may forage in riparian area
<i>Lasiurus cinereus</i> Hoary bat	---	SA	Potentially occurring, found 3 miles southwest
<i>Myotis evotis</i> Long-eared myotis	---	SA	Potential, appropriate habitat onsite
<i>Myotis thysanodes</i> Fringed myotis	---	SA	Not likely, as no caves or buildings onsite.
<i>Myotis volans</i> Long-legged myotis	---	SA	Potentially occurring, found 3 miles southwest
<i>Myotis yumanensis</i>	---	SA	Potential, wide range in California.



**Table 4.7-2 Special Status Wildlife Species Known to Occur in the Region of the Project**

Species	USFWS	CDFG	Occurrence Potential
Yuma myotis			
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	---	SSC	Suitable habitat, and nest seen onsite
<i>Puma concolor browni</i> Yuma Mountain lion	---	SSC	While mountain lion are present in area, only this subspecies from southeastern California is considered a SSC.
<i>Taxidea taxus</i> American badger	---	SSC	Potentially occurring
<b>Fish</b>			
<i>Catostomus santaanae</i> Santa Ana sucker	T	SSC	No suitable habitat
<i>Gasterosteus aculeatus williamsoni</i> Unarmored threespine stickleback	E	E	No suitable habitat
<i>Gila orcutti</i> Arroyo chub	---	SSC	No suitable habitat

**Federal (USFWS)**

E Endangered  
 T Threatened  
 PE Proposed Endangered  
 PT Proposed Threatened  
 SOC Species of Concern

**State (CDFG)**

E Endangered  
 T Threatened  
 FP Fully Protected  
 SSC Species of Special Concern  
 SA Special Animal  
 WL Watch List  
 PE Proposed Endangered  
 PT Proposed Threatened

Additional information on the life history and habitat preferences of these species is included in the 2003 biological constraints analysis for the project area included in Appendix E. Of the 33 species considered, one special-status bird (**Southern California rufous-crowned sparrow**), and one special-status reptile (**coastal western whiptail**) were observed within the project site. Each of these species is categorized as a State and / or Federal Species of Concern and were seen foraging in the chaparral, coastal sage scrub, and annual grassland sage scrub ecotones on the project site. **Cooper’s hawk** and the **white-tailed kite** may also nest in trees on or near the site.

**Costa’s hummingbird** is designated as a “Special Animal” by CDFG. It uses shrubs, trees, woody forbs, and sometimes vines for nesting approximately five feet off the ground. This species also generally occurs in arid scrub, in chaparral habitats, and at riparian edges. This species winters and summers in the southern half of Los Angeles County and because it was seen onsite, may be found nesting onsite.

An additional 17 species were identified as potentially present onsite. These include the **arroyo toad**, **western spadefoot toad**, **San Diego horned lizard**, **silvery legless lizard**, **coast patch-nosed snake**, **two-striped garter snake**, **hoary bat**, **western red bat**, **Yuma myotis**, **long-legged myotis**, **pallid bat**, **western mastiff bat**, **Townsend’s big-eared bat**, **pocketed free-tailed bat**, **California condor**, **San Diego desert woodrat** (unidentified woodrat nest observed), and **American badger**. There is no suitable nesting habitat for the condor (Table 4.7-2). The coast horned lizard prefers friable, rocky, or shallow sandy soils and areas where its primary food source, the native harvester ant, is abundant. This species could be found at clearings on the



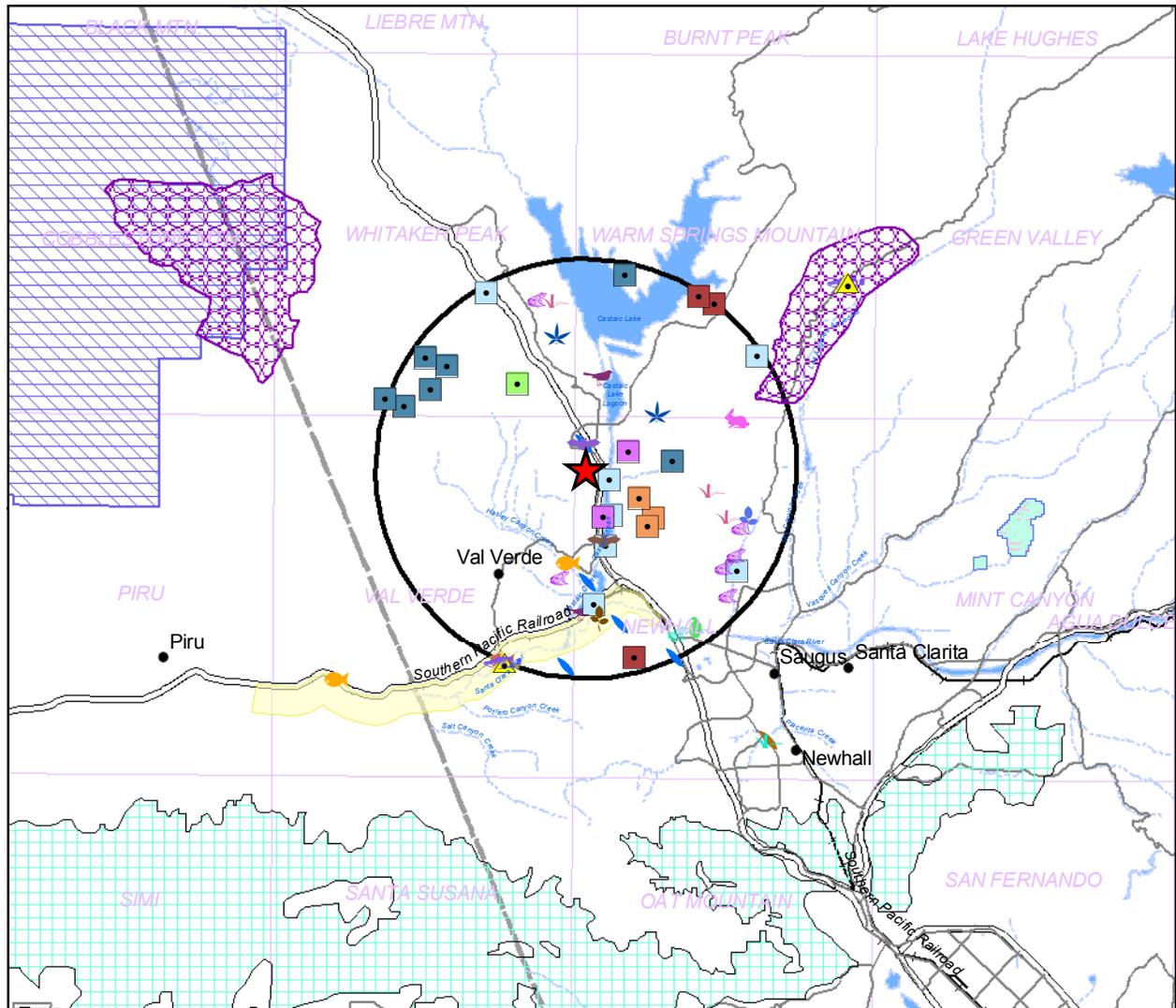
site where loose sandy soil and harvester ants are present, but has not been documented within 10 miles of the project site (CDFG 2006). Western spadefoot toad is an explosive breeder, requiring at least 3 weeks of ponded water in order to lay eggs and breed successfully. Suitable intermittent ponded habitat for breeding is not found within the site. The silvery legless lizard may be found in loose soils in moist areas or under oak tree duff, and suitable habitat for this species is limited within the site. Two-striped garter snake may occur in wet areas in the ephemeral creek, but this species is typically found near permanent water sources and it is unlikely to be present. Insufficient hydrology is present onsite for the arroyo toad, and it would only be likely as a migrant or post-breeding dispersal. All bat species could potentially be found foraging over the site and possibly roosting in suitable tree cavities or cliffs. No evidence of badger diggings were observed at the site and it has not been documented within five miles of the site (CNDDDB, March 2007). The CNDDDB search results are shown in Figure 4.7-2.

#### **4.7.2 Impact Analysis**

**a. Methodology and Significance Thresholds.** The Environmental Checklist Form in Appendix G of the State CEQA Guidelines (amended January 1, 2005), and the Los Angeles County Initial Study Checklist were reviewed in order to determine which issues should be considered when determining the level of significance of project related impacts on biological resources. Based upon these sources, the following thresholds were used to evaluate whether or not project development would have a significant impact on biological resources:

- a) A substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.*
- b) A substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.*
- c) A substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*
- d) Cause substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*
- e) Confliction with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*
- f) Confliction with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan.*





Sources: California Natural Diversity Database, March 2007, U.S. Fish and Wildlife Service, April 2009, Rincon Consultants, 2009, U.S. Bureau of the Census TIGER 2000 data, and ESRI, 2002.  
 Note: Markers represent approximate locations where species may be found. Critical habitat shown is that most recently available from U.S. FWS. Check with U.S. FWS or Federal Register to confirm.

**Legend**

- |   |   |   |
|---|---|---|
| AAAB01111, arroyo toad                        | CARE2320CA, Southern California Threespine Stickleback Stream | PDBER060A0, Nevin's barberry                |
| AAABF01030, western spadefoot                 | CTT32720CA, Riversidian Alluvial Fan Sage Scrub               | PDGER01070, round-leaved filaree            |
| ABNKC06010, white-tailed kite                 | CTT61310CA, Southern Coast Live Oak Riparian Forest           | PDPGN040J1, San Fernando Valley spineflower |
| ABPBW01114, least Bell's vireo                | CTT61330CA, Southern Cottonwood Willow Riparian Forest        | PDPGN0V010, slender-horned spineflower      |
| AFCJB13120, arroyo chub                       | CTT62400CA, Southern Sycamore Alder Riparian Woodland         | PMLILOD096, slender mariposa lily           |
| AFCJC02190, Santa Ana sucker                  | CTT63300CA, Southern Riparian Scrub                           | PMLILOD150, Plummer's mariposa lily         |
| AFCPA03011, unarmored threespine stickleback  | CTT81820CA, Mainland Cherry Forest                            | PMP0A4G010, California Orcutt grass         |
| AMACC07010, spotted bat                       | PDAST4N102, Los Angeles sunflower                             | CA Gnatcatcher FCH (12/19/2007)             |
| AMACC10010, pallid bat                        |   | CA Red-legged Frog PCH                      |
| AMAEB03051, San Diego black-tailed jackrabbit |   | California Condor                           |
|   |   | Least Bell's Vireo FCH (2/2/1994)           |
|   |   | Spreading Naverretia PCH                    |

Sensitive Elements Reported by the  
 California Natural Diversity Database

Figure 4.7-2

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

**Impact BIO-1 Project development would result in the direct permanent loss, and indirect degradation and fragmentation of coastal sage scrub habitat. This is considered a *significant but mitigable* impact (Class II).**

Approximately 13.9 acres, or 29%, of the 47.25 total acres onsite consist of coastal sage scrub. Cutting and filling to achieve the elevation grade necessary for onsite development would result in the subsequent conversion and loss of approximately 8.5 acres, or 61% 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.

Coastal sage scrub is considered a sensitive community by the CDFG and CNPS. The habitat on site is of high quality, and although it is outside of the existing and proposed critical habitat of the California gnatcatcher (*Polioptila californica californica*), the loss of significant portions of this habitat would be a potentially significant impact without mitigation.

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)** Temporarily disturbed areas shall be revegetated with native vegetation in the same proportions and species as the natural habitat removed. Preconstruction detailed surveys of vegetation on at least three (3) blocks of 50 x 50 meters on the site shall be used to determine the native coastal scrub vegetation of the site [also see mitigation measure BIO-1(c-d)]. These proportions may be modified by County Fire Department and County Public Works as needed for safety reasons. If the 80% coastal sage scrub vegetative coverage (plants typical of the removed coastal sage scrub community in proportion to natural coverages) is not met within three years, the monitoring effort shall be extended to five years. If not met at the end of five years, the monitoring effort shall be extended another five years and again tested at the end of five years for meeting success criteria. This extension process should continue until the success criteria are met. Annual monitoring reports shall be prepared and submitted to the County Director of Regional Planning that include qualitative and quantitative data regarding the success of the revegetation effort, comparison to performance criteria, and recommendations for the successful completion of the restoration effort.

A landscape plan that includes control of invasive non-native plants shall be submitted for review and approval by the County of Los Angeles Department of Regional Planning prior to the issuance of a



grading permit. The landscape plan shall limit irrigation to within Fuel Modification Zone A and shall utilize only locally indigenous plant species and varieties.

During grading and construction, a wheel well and undercarriage washing station shall be installed at project site entrances to serve the purpose of removing dust and plant parts from entering and exiting vehicles in order to prevent transport of invasive weed species onto and off of the site. The wheel washing station shall consist of a lined aggregate pit (2-3" aggregate), designed such that the washed seeds and plant parts filter through timbers and gravel onto a geotech cloth. At the end of construction, the pit shall be disassembled and back-filled, and the geotech cloth shall be carefully removed with all contents and taken to a disposal site and buried deeply so that the invasive plant parts and propagules will not spread to other areas.

Pressurized washing shall be done for all vehicles (1) before coming to the site, (2) upon entry, and (3) at the end of each day when grading an area with exotic plants, and (4) before moving the vehicle to another site. Vehicle operators shall fill out a log book kept in a waterproof container at each washing station that can be checked by the biologist in charge of biological mitigation.

- BIO-1(b)** Fuel modification shall occur within 100 feet of structures (Please refer to Figure 4.3-1, Fuel Modification Plan). Per the Los Angeles Fuel Modification Guidelines (LAFMG) for Projects Located in Fire Zone four for Very High Fire Hazard Severity Zones (LAFMG, January 1998), plant material within the initial 20 feet of backyards and modification within manufactured slopes will mainly consist of native groundcovers. Some native or existing vegetation may remain if spaced according to planting guidelines of the LAFMG, and shall be maintained free of dead wood, and plants shall be thinned sufficiently to reduce fuel load. Modification of fire hazard fuels beyond this zone shall consist of hand thinning of individual shrubs, clearing dead fuel, replanting with fire-retardant 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 by the California Native Plant Society, California Invasive Plant Council, other databases and DRP Biologist shall be utilized in the landscape plans. Only those plants deemed as "desirable" by LAFMG shall be utilized in landscaping plans, and those deemed "undesirable" shall not be utilized. Irrigation tolerant species that are not native to the area may be minimally utilized as long as the species are not deemed "undesirable."



**BIO-1(c)** The 8.5 acres of removed coastal sage scrub shall be replaced mitigated at a ratio of 1:1, combining planting and protection of coastal sage scrub. Fuel modification zones shall not be included as mitigation areas. This Mitigation areas shall be set aside and protected in perpetuity from further development, and shall be contiguous with other coastal sage scrub. In the event that the California Department of Fish and Game (CDFG) becomes a responsible agency under the California Endangered Species Act pursuant to additional field work conducted under Mitigation Measures BIO-4(b-c) and/or BIO-5 (a-b, & d) the CDFG shall retain the right to supersede these coastal sage scrub mitigation requirements through modification or addition pursuant to nexus. Covenants, Conditions & Restrictions (CC&R's) and/or deed restrictions or conservation easements shall be developed to protect this area the mitigation area, and adequate fencing shall separate all preserved lands from developed areas in order to prevent pets, vehicles, and people from impacting the area.

If coastal sage scrub habitat is restored onsite on manufactured slope or non-native grassland habitat areas that are outside the fuel modification zones in accordance with mitigation measure BIO-1(a & d), the plantings shall be monitored for at least three years to determine if the restoration plantings have been successful. Success criteria shall be developed as part of the planting plans and shall be no less than 80% vegetative coverage by native plants at the conclusion of the restoration effort. If the 80% coastal sage scrub vegetative coverage (plants typical of the removed coastal sage scrub community in proportion to natural coverages) is not met within three years, the monitoring effort shall be extended to five years. If not met at the end of five years, the monitoring effort shall be extended another five years and again tested at the end of five years for meeting success criteria. This extension process should continue until the success criteria are met. Annual monitoring reports shall be prepared and submitted to the County Director of Regional Planning that include qualitative and quantitative data regarding the success of the revegetation effort, comparison to performance criteria, and recommendations for the successful completion of the restoration effort.

If there is not sufficient suitable replacement habitat remaining onsite and outside of the fuel modification zones, the applicant shall either purchase and set-aside the residual amount of habitat needed with suitable conservation easements or restrictive covenants as necessary to provide for long term preservation, or shall acquire mitigation credits from a suitable bank. If mitigation credits are acquired from a



bank, the applicant shall provide evidence of same to the County Department of Regional Planning prior to site occupancy.

- BIO-1(d)** Revegetation and landscaping plans for the ~~graded road~~ restoration and revegetation areas on the project site shall be reviewed and approved by the County before issuance of a grading permit. Plant species, seed mixes, weed suppression, planting methodology, and irrigation schedule shall be prepared by a qualified biologist or landscape architect and shall utilize locally indigenous species from onsite habitats. No species identified as invasive by the CNPS, California Invasive Plant Council, other databases and Los Angeles County Department of Regional Planning Biologist or staff shall be utilized in the landscape plans. The plan shall be reviewed and approved by Department of Regional Planning.

Significance After Mitigation. Mitigation would reduce the project's direct and indirect impacts on coastal sage scrub on the project site to a less than significant level.

- Impact BIO-2** **Although direct modification of the ephemeral stream in the southern portion of the site would not occur, construction of the proposed project could result in indirect impacts to the channel and its associated habitat. This would be a Class II or significant but mitigable impact.**

No jurisdictional waters of the State or U.S. are within the project site, but an ephemeral stream channel does exist at the southeast portion of the property, which is intended to remain undisturbed under the proposed development footprint. However, this channel could potentially convey silt and pollutants resulting from project construction and later residential use into Castaic Creek, degrading water quality. In addition, construction work could potentially cause indirect impacts to riparian vegetation along the edge of the channel, affecting wildlife utilization of the habitat. Although no direct impacts are expected, the following mitigation measures are intended to reduce indirect impacts to a less than significant level.

Mitigation Measures. The following measures shall be implemented to avoid degradation of water quality and riparian habitat within an adjacent ephemeral stream channel:

- BIO-2(a)** The project shall include and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP shall require that stormwater runoff be prevented from flowing over unprotected slopes and that silt fencing shall be trenched in 100 feet from the outer limits of riparian vegetation and left in place during construction. Disturbed areas shall be stabilized as quickly as possible, using biotechnical techniques.
- BIO-2(b)** Construction and operation of the proposed project shall avoid contamination of the ephemeral drainage by incorporating the following provisions:



1. California Stormwater Best Management Practices (BMPs) for Construction Activity, prepared by the California State Stormwater Quality Task Force, shall be incorporated into the construction plans. BMPs for Municipal Activities shall be incorporated into a long-term site management program. When implemented, BMPs would reduce operation-related impacts from sedimentation and contaminant loading to an insignificant level.
2. Locally indigenous species with minimal water and fertilizer requirements shall be selected for public landscaping. Use of nitrogen fertilizers in landscaped areas is not needed. Watering shall be kept to the minimum necessary to maintain new landscaping. Temporary drip irrigation shall be used only until native landscaping is established. Irrigation water from public maintenance areas shall be retained onsite by setting timers such that excess surface flow to the local watershed does not occur. Splash pads at the bottom of manufactured slope drainages shall include a sand and gravel sump at least four feet in depth to serve as a low flow percolation pit.

Significance After Mitigation. Implementation of the above mitigation measures will reduce impacts to water quality and riparian habitats to a less-than significant level.

**Impact BIO-3 The proposed project may cause the direct loss of special-status plants identified as List 1B or two species by the California Native Plant Society (CNPS). This is a Class II, significant but mitigable, impact.**

Five (5) CNPS special-status plant species, San Gabriel bedstraw, Plummer's mariposa lily, slender mariposa lily, Palmer's grappling hook and round-leaved filaree have potential to occur within the project site because of potentially suitable habitat and known occurrences within 10 miles of the project site, but were not observed during site surveys. However, since the May 2002 surveys occurred on a single day as a general biological survey, they were not considered definitive to determine absence. The California Department of Fish and Game considers the loss of any listed, proposed, or CNPS List 1B or List two species as a potentially adverse impact under the California Environmental Quality Act (CEQA). Therefore, potential impacts to the slender and Plummer's mariposa lilies, San Gabriel bedstraw, round-leaved filaree would be potentially significant, but mitigable. Rayless ragwort is a CNPS List two species with no suitable habitat on site (drying alkaline flats), and therefore the potential impacts of the proposed project on this species would be less than significant. Palmer's grappling hook is classified on CNPS List four, a "watch" list, and its population levels are considered sufficiently large that adverse impacts to this species if present, would not be considered significant under CEQA criteria (see Section 4.7.2(a) above).



Mitigation Measures. The following mitigation measures would reduce potential impacts on special-status plants to a less than significant level:

- BIO-3(a)** Prior to grading, a qualified biologist shall be retained by the applicant as the biological monitor subject to the approval of the County of Los Angeles. That person shall ensure that impacts to biological resources (inclusive of special-status plants) are avoided or minimized, and shall conduct pre-grading focused field surveys for special-status plant species that may be affected and / or eliminated as a result of grading and / or site preparation activities. The biological monitor shall be authorized to stop specific grading activities if violations of mitigation measures or any local, State, or Federal laws are suspected.
- BIO-3(b)** Pre-grading focused surveys shall be conducted in the appropriate season to determine presence or absence of any special-status plants. If no specimens are found within the development footprint or fire clearance zone, then no additional mitigation is required.
- BIO-3(c)** In the event special-status plants are identified within the development or fire clearance areas, no grading permit shall be issued until a mitigation plan has been reviewed and approved by the Los Angeles County Department of Regional Planning biologist or staff. The plan may include, but not be limited to, the following mitigation actions in order of preference:
- Grading plans shall be modified or fuel modification zones adjusted to avoid sensitive plant populations that are identified by the focused field survey, if feasible.
  - If avoidance is not feasible, any identified special-status plants shall be re-established onsite in a suitable habitat using the following:
    - 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.
    - Documentation of past successful habitat creation and transplantation for the species shall be included.
    - A performance standard of equal replacement of plants and habitat shall be required. In addition, revegetation of special plants will be considered successful at three years if the percent cover and species diversity of the restored and / or created habitat areas are similar to percent cover and species diversity of adjacent existing habitats, as determined by quantitative testing of existing, restored and created habitat areas.
    - Harvesting and propagation techniques shall be specified.



- Monitoring effort shall be identified as at least five years. The responsible agent and frequency shall be specified. The monitoring plan will include:
  - 1) Qualitative monitoring (i.e, photographs and general observations.)
  - 2) Quantitative monitoring (i.e., randomly placed transects),
  - 3) Performance criteria as approved by the County.
  - 4) Monthly reports for the first year and bimonthly reports thereafter and;
  - 5) Annual reports which will be submitted to the County for 3 to 5 years, depending upon the performance of mitigation site.
- Long-term preservation of the site will be outlined in the conceptual mitigation plan to ensure the mitigation site is not impacted by future development.
- Contingency planning (if the effort fails to reach the performance criteria, the needed remediation steps shall be identified).
- Irrigation method / schedule (how much water is needed, where and for how long).
- Weed control.
- If no suitable habitat remains onsite, the applicant shall identify a suitable offsite location for re-establishment of sensitive populations following the same methodology as for onsite re-establishment.

**BIO-3(d)** Earth-moving equipment will avoid maneuvering in areas outside the identified limits of grading in order to avoid disturbing open space areas that will remain undeveloped. Prior to grading, the construction boundary limits will be marked by the construction supervisor and the project biologist. These limits will be identified on the grading plan. The applicant will submit a letter to the County of Los Angeles verifying that construction limits have been flagged in the field. No earth-moving equipment will be allowed outside the construction boundary.

Significance After Mitigation. Impacts to special-status plants would be less than significant with the above mitigation measures.

**Impact BIO-4** Development of the proposed project could potentially affect the San Fernando Valley spineflower (SFVS), slender-horned spineflower, and Nevin's barberry if present onsite. Potential impacts to this species would be considered Class II, *significant but mitigable*.

The SFVS, which was distributed historically primarily through the San Fernando Valley and Santa Clarita Valley areas, was thought to be extinct until rediscovered at ULVCP 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 an endangered species on August 23, 2001. Additionally, as noted earlier, it was historically found in the Castaic Valley area and has been documented at the Valencia Commerce Center approximately three miles south of the site (CNDDDB March 2007).

Nevin's barberry and the slender-horned spineflower are both listed as endangered under State and Federal law and are List 1B species per the CNPS. Neither species was observed, although there is suitable habitat for Nevin's barberry (chaparral and coastal scrub). However, the probability that Nevin's barberry exists on site is low because it is readily detectable due to size and structure and was not observed during previous surveys. Suitable habitat for the slender-horned spineflower (cryptobiotic crusts on the upper floodplain terraces in chaparral, scrub, and cismontane woodland habitat) is lacking at the site and its presence is considered unlikely.

Mitigation Measures. The following mitigation measures are required for SFVS and Nevin's barberry:

**BIO-4(a)** A survey for the San Fernando Valley spineflower (SFVS) and Nevin's barberry shall be conducted by a qualified biologist in all chaparral, coastal sage scrub, annual grassland, and disturbed areas prior to and where ground disturbance is anticipated. If neither species are found, no further mitigation is required. In the event the SFVS or Nevin's barberry are discovered onsite, mitigation measures B-4 (b-c) shall be required.

**BIO-4(b)** In the event the SFVS is discovered onsite, the current and anticipated future onsite distribution of the species shall be mapped by a qualified biologist. The California Department of Fish and Game and / or United States Fish and Wildlife Service shall be formally notified and consulted depending on the listing status of the species found. A preservation and management plan shall be prepared for the SFVS and Nevin's barberry by a qualified biologist and shall include, but not be limited to, the following:

- The project shall provide a buffer between development and any listed endangered plant 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.
- Stormwater runoff, irrigation runoff, and other drainage from developed areas shall not pass through areas populated by listed endangered plants.
- Listed endangered plants shall not be artificially shaded by structures or landscaping within the adjacent development areas.
- Pesticide / herbicide use shall not be permitted within 100 feet of areas containing listed endangered plants.



- A qualified biologist shall be retained by the applicant as the biological monitor subject to the approval of the County of Los Angeles. That person shall ensure that listed endangered plants are avoided during construction. After project completion, a monitoring agency shall be identified and the frequency and extent of monitoring shall be determined.

The plan shall be reviewed and approved by the Department of Regional Planning prior to issuance of a grading permit.

**BIO-4(c)** If avoidance is not feasible and mitigation is required for impacts to listed plant species, a Memorandum of Understanding (MOU) shall be prepared in coordination with CDFG. The MOU should be developed by a qualified plant ecologist and would include an analysis of take, mitigation measures, and an Adaptive Management Plan (AMP) to identify strategies for responding to changed circumstances, and a monitoring plan. Specifically, the MOU should identify the number of plants to be replanted, the methods that will be used to preserve this species in this location, and methods to ensure successful mitigation for impacts to listed plant species. The required level of success for SFVS and potential Nevin's barberry shall be defined at a minimum as a demonstration of three consecutive years of growth of a population equal to or greater than that which would be lost due to the project. The mitigation plan should include but not be limited to:

- Preserving appropriate topsoil within the development envelope as a seed bank to promote revegetation at a relocation site;
- Salvage operations to relocate perennial species to a suitable mitigation site on the undeveloped areas of the property;
- Collecting seeds of special-status plant species in the immediate vicinity of the project site, to ensure that the genetic integrity of the local landscape remains intact;
- Sowing the collected seed into a designated suitable mitigation site.
- Determination of necessary irrigation requirements and irrigating the mitigation plantings if necessary until they become established; and
- Maintaining and monitoring restoration/planting sites for a minimum of five (5) years to determine mitigation success/failure, and implementing remedial measures to satisfy mitigation objectives.



A Federal “incidental take” permit under Section 10(b) of the Federal ESA may also be required. If “take” permits or other agreements are required, the applicant shall provide DRP with a copy of such signed agreements prior to grading.

Significance After Mitigation. Direct and indirect impacts to listed endangered plants would be less than significant with the above mitigation.

**Impact BIO-5 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 4.7-2, several special-status animals are known to occur within the greater Castaic 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.

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.

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. Chaparral, coastal sage scrub, and annual grassland habitats such as occur on the project site are known to be utilized by the following special-status species: coast horned lizard, coastal western whiptail, and Southern California rufous-crowned sparrow. Cooper’s hawk and California condor may also forage in these habitats, although nesting habitat for the condor is lacking. 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.

Due to the small size of the project and the large amount of adjacent habitat held in public land, the impact to western spadefoot toad, coast patch-nosed snake, and American badger would not be considered significant. The project is not expected to impact silvery legless lizard, two-striped garter snake, and arroyo toad because the riparian area will not be impacted and these



species are not likely to be present at the site. Nonetheless, mitigation measures would reduce impacts to these species if onsite.

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 west, project development could impact this species due to construction related mortalities. Additional adverse effects to the southern California rufous-crowned sparrow may occur due to the incremental loss of sage scrub habitat, as it is a ground nester.

The San Diego desert woodrat, a California species of special concern, has the potential to occur onsite as appropriate habitat is present and a woodrat nest was seen onsite (unknown if nest was occupied by the species of concern or other, more common woodrat species). This subspecies has been seen about 11 miles southeast (California Department of Fish and Game, December 2005). San Diego desert woodrats generally select cactus, dead yuccas, and rock crevices for nest sites, whereas large-eared woodrats (*Neotoma macrotis*), a “common” wildlife species, select large shrubs, and their nests are gumdrop-shaped. It is possible, but not likely, that these animals would overlap within a site of this size. However, the absence of San Diego desert woodrats cannot be determined without initiating a trapping program. Large-eared woodrats and San Diego desert woodrats have been found together in Placerita Canyon, about 12 miles to the southeast (Hovore, May 2006). The potential impact of the project to the San Diego desert woodrat could result in the loss of a maximum of four individuals if they occur at the site at maximum density (Zeiner, et al., 1988). However, there are approximately 70,000 acres of available coastal sage scrub and 400,000 acres of available mixed chaparral for this species in Los Angeles County (FRAP data, California Department of Forestry, 2002), of which the 39.64 acres of available habitat onsite (chaparral and coastal sage scrub) accounts for 0.008%. Generally, loss of habitat would be considered significant if it constitutes more than approximately 0.1-1% of the regional supply of suitable habitat. Given that the site acreage would constitute less than 0.1%, this impact is considered adverse, but not significant even if the San Diego desert woodrat is present onsite. Nonetheless, implementation of mitigation measures BIO-5(a-c) included below would further reduce the impact to this population.

Indirect impacts to biological resources could arise from harassment of wildlife by humans and pets resulting from the proposed project. The project may increase the frequency of human / wildlife encounters, especially deer, coyote, and mountain lion. The project may also increase the availability of trash and litter, and this could potentially have effects on black bear, California condor, and mesopredators in the area. Litter attracts species such as California condor, raccoon, and possum. Deer could browse on planted landscape vegetation, which could lead to subsequent attraction of mountain lion. Coyotes frequently roam residential streets adjacent to natural spaces in search of food resources such as garbage, edible plants, and small pets.



Between 25,000 and 30,000 black bears are now estimated to occupy 52,000 square miles in California (CDFG, 2008a and CDFG, July 1998). Since 1980, only two brown bear attacks have occurred in Los Angeles County (CDFG, 2008; [http://www.dfg.ca.gov/news/issues/bear/bear\\_incidents.html](http://www.dfg.ca.gov/news/issues/bear/bear_incidents.html)), one at a remote campsite in the San Gabriel Mountains and the other at a tree farm in La Verne. Bear density in Southern California is probably less than 0.25 bears per square mile (Ibid). Over half of the suitable black bear habitat in California is in public ownership of which an estimated 10 percent is managed as either wilderness or park. Current ownership patterns allow large blocks of habitat to remain undeveloped and core areas within these blocks where bears encounter few humans. Furthermore, black bears typically inhabit rugged lands and conversion projections indicate that only 1 percent of existing black bear habitat is expected to be lost each decade (FFRAP 1989 in CDFG, 2008; <http://www.dfg.ca.gov/wildlife/hunting/bear/habitat.html>). The chance of a bear encounter associated with this development is remote.

California condor critical habitat lies approximately nine miles from the project site. Whitaker Peak, a commonly known condor “hotspot,” is also nine miles northwest of the project site. The primary foraging habitat for the California condor is the undeveloped portions of Los Padres and Angeles National Forests, with most of the birds found near the release sites in Monterey, Ventura, Santa Barbara, and San Luis Obispo counties. It is unlikely that condors would utilize the site for roosting or foraging as they do not frequent metropolitan areas on a regular basis (Posey, 2008). However, condors frequently fly over the Castaic area while traveling to areas within their range (Posey, 2008). Utility and telecommunications towers on ridgetops also attract condors (Posey, 2008). The regional high voltage powerline corridor is on the east side of the freeway along the Castaic Valley floor and is not known to be attractive to condors.

Mountain lions are uncommonly seen in the mountains of the Angeles National Forest and other contiguous native habitat in Los Angeles County. Although they are a Specially Protected Mammal in California and cannot be hunted, seven mountain lion Depredation Permits were issued in Los Angeles County from 2000-2009 (CDFG, 2008b). It has become increasingly common for mountain lions to prey on pets and livestock as development intrudes into mountain lion habitat (Ibid).

Although coyote hunting has occurred for over 200 years, its range has increased from the Great Plains to its current range of Central America to the Arctic. The coyote is extremely adaptable and is a true scavenger. As coyotes are given access to human food and garbage, more coyotes are seen near populated areas and their behavior may change. They may lose caution and fear, cause property damage, and threaten human safety. As these coyotes are now a public safety hazard, their lives may be shortened as a result (CDFG, 2008c).

Although indirect impacts to biological resources may occur associated with this development, the level of these effects would be similar to that which already occurs at existing urban / wildland interfaces at the site, namely the residential uses to the north of the site and the commercial use to the east.

Mitigation Measures. Multiple mitigation measures included in this document would reduce impacts to habitats onsite to the extent feasible, and thus to special-status wildlife



species that are potentially present within these habitats. Measures BIO-1(a) and (b) require minimization of impacts to coastal sage-scrub habitats within fire clearance zones, and revegetation of landscape areas with native coastal sage-scrub species. Mitigation measure BIO-7(a) would minimize impacts to oaks and create a mitigation plan for oak replacement onsite. These measures would mitigate direct and indirect impacts to habitats onsite.

The following additional mitigation measures would reduce significant impacts to the following special-status species potentially affected by project development: coast horned lizard, and the coastal western whiptail.

**BIO-5(a)** Pre-construction surveys shall be conducted if vegetation clearing and construction activities are proposed during CAGN breeding season (beginning January 15th). Prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub, a survey would be conducted to locate gnatcatchers within 100 feet of the outer extent of projected soil disturbance activities and the locations should be clearly marked and identified on the construction/grading plans. A biological monitor will also be present at the initiation of vegetation clearing to provide an education program to the construction operators regarding the efforts needed to protect the CAGN and other special-status species. Fencing or flagging would be installed around the limits of grading prior to the initiation of vegetation clearing.

A qualified monitoring biologist as approved by the jurisdictional agencies shall be onsite during any clearing of coastal sage scrub. The developer will notify USFWS/CDFG at least fourteen (14) calendar days prior to the clearing of any habitat determined by the pre-construction survey to be occupied by gnatcatcher to allow USFWS/CDFG to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist would flush CAGN and other special-status species (such as loggerhead shrike) from occupied habitat areas immediately prior to brush clearing and earth-moving activities.

Coastal sage scrub identified for protection and located within the likely dust drift radius of construction areas would be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.

**BIO-5(ab)** Not more than two weeks prior to ground disturbing construction within coastal sage scrub, chaparral, and annual grassland habitats, a preconstruction survey for the coast horned lizard, coastal western whiptail, 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 appropriate



habitat within a nearby known preserve. These species shall be translocated as close to the site as possible in order to maintain the species' microhabitat to the greatest extent possible. During grading and vegetation clearing, wildlife escape routes shall be allowed and cornering wildlife shall be avoided to the greatest extent possible (eg. using flagging rather than silt fencing to demarcate site boundaries).

**BIO-5(bc)** Prior to grading, a qualified biologist shall be retained by the applicant as the biological monitor subject to the approval of the County of Los Angeles (see also BIO-3(b) above). During earthmoving activities, the biological monitor shall be present to relocate any vertebrate species that may come into harm's way to an appropriate offsite location of similar habitat.

**BIO-5(ed)** ~~Before implementation of this project~~ Prior to any vegetation clearance or grading, trapping is recommended required using live traps. If trap-and-release protocols determine the presence of San Diego desert woodrat, these any captured animals would be relocated to safe, public land retained in open space land use designations with suitable habitats. If live-trapping at identified woodrat stick nests does not capture the occupant, a silt fence shall be constructed to isolate the stick nest from the development area, with the base of the silt fence either buried or sandbagged to prevent animals from entering the project area from underneath the fence. The stick nest would then be removed by hand by a biologist to remove the occupant(s) and allow their escape to adjacent undisturbed habitat. A similar silt fence shall be placed at the edge of the grading envelope and remain in place and maintained until completion of ground disturbance activities. The monitoring biologist(s) shall acquire appropriate approvals from the California Department of Fish and Game as necessary to perform the salvage activities.

Significance After Mitigation. Application of the above mitigation measures in combination with the proposed open space areas as part of the project will reduce impacts to special-status animals to a less than significant level.

**Impact BIO-6** **Site development has the potential to disturb trees that may be used by raptors as foraging habitat and by migratory birds as nesting habitat. This is considered a Class II, significant but mitigable, impact.**

No special-status species of raptors were identified as potentially nesting onsite due to the lack of appropriate habitat for the individual species; however, the oak trees and cottonwood-willow habitat may provide foraging and nesting habitat for common raptors such as red-tailed hawk and other common bird species. Project development is not expected to significantly impact bird species that only forage at the site or occur as transient winter visitors



such as California condor (see additional discussion under impact BIO-5), which has not been observed onsite. However, Cooper's hawk and long-eared owl could be found nesting onsite.

Raptors and their nests are protected under California Fish and Game Code Section 3503.5, and all other bird nests are protected under Section 3503. It is unlikely that the loss of nesting habitat potentially associated development would adversely affect raptor populations in the area as similar nesting and foraging habitat is available in offsite areas. However, construction activity, including tree removal, could potentially disturb active nests, which would be a violation of Fish and Game Code and so is considered a significant, but mitigable impact. The Federal Migratory Bird Treaty Act has been incorporated into the California Fish and Game Code, and both protect nesting birds, eggs and young.

Mitigation Measures. The following measures are intended to mitigate potentially significant impacts relating to the presence of nesting birds or raptors, and to ensure compliance with the Migratory Bird Treaty Act and California Fish and Game Code:

**BIO-6(a)** The developer shall contract with a qualified biologist to conduct nesting bird surveys prior to construction activities between the months of March and September. A copy of the contracts and reports for these services shall be submitted to CDFG and the County Biologist for review and approval prior to issuance of a grading permit.

**BIO-6(b)** Project-related activities likely to have the potential of disturbing suitable bird-nesting habitat shall be prohibited from February 1 through August 31, unless a biological monitor acceptable to the Director of Planning surveys the project area prior to disturbance to confirm that disturbance to habitat will not result in the failure of nests onsite or immediately adjacent to the area of disturbance. Disturbance shall be defined as any activity that physically removes and/or damages vegetation or habitat, any action that may cause disruption of nesting behavior such as noise exceeding 90 dBA from equipment, or direct artificial night lighting. Surveys shall be conducted on the subject property within 300 feet of disturbance areas (500 feet for raptors) no earlier than seven (7) days prior to the commencement of disturbance. If an active nest is discovered onsite or can be reasonably deduced to exist immediately adjacent offsite (in cases where access to adjacent properties is prevented), the project biologist shall demarcate an area to be avoided by construction activity until the active nest(s) is vacated for the season and there is no evidence of further nesting attempts. This demarcated area will incorporate a buffer area surrounding the active nest that is suitable in size and habitat type to provide a reasonable expectation of breeding success for nesting birds. Limits of avoidance shall be demarcated with flagging or fencing. The project proponent shall record the results of the surveys and recommended protective



measures described above and submit the records to the Department of Regional Planning to document compliance with applicable State and Federal laws pertaining to the protection of native birds.

Significance After Mitigation. With implementation of the above measures, potential impacts to nesting birds and raptors would be reduced to a less than significant level.

**Impact BIO-7 The proposed project would directly remove 13 healthy oak trees of the 24 total within the project site. Impacts to oak trees are considered Class II, significant but mitigable.**

Oak trees were inventoried in two reports for the project. The preliminary survey was contained in the EIP Biological Constraints Analysis (2003), but is superseded by the Trees Etc. report (2008), both of which are contained in Appendix E.

The oak tree survey performed by “Trees etc” (2008) identified 24 native oak trees within the project area and nine additional oak trees adjacent to the project (for a total of 33 oak trees) that met the standards for protection (trunk diameter in excess of eight inches for single-stem trees, or combined diameter of the two largest trunks in excess of 12 inches for multiple-stem trees) under the Los Angeles County Oak Tree Ordinance and Protected Tree Permit Guidelines (Section 22.56.2050). Oaks were inventoried as to species, health, and aesthetics, tagged, and the driplines measured at a minimum of four compass directions. The results of this report are included in Appendix E.

Of the 24 oak trees within the proposed project area all are coast live oaks (*Quercus agrifolia*) and all meet the criteria for protection under the County’s Oak Ordinance (Trees Etc., 2008). The location of mapped trees and the limits of grading are shown on Figure 4.7-1. As noted above, there are also nine oak trees offsite close to the boundaries of the project which have been documented in the oak tree survey. The oak trees do not qualify as oak woodlands pursuant to Senate Bill 1334, because the canopy coverage is less than 10% of the site area (see Figure 4.7-1). All trees are relatively healthy with a typical amount of dead wood. Although the initial study (Los Angeles County, November 2003) notes three heritage trees (trunk diameter greater than 36 inches) shall be removed, the revised project plans will not remove any heritage oak tree (Trees Etc., 2008). The updated oak tree report indicates that there are two heritage oak trees located adjacent the southern boundary of the site, but that no heritage oak trees are located onsite or would be affected by project development.

Up to 20 Other oaks on the site and adjacent to the site (OP-9, located adjacent the western boundary) are located in close proximity to grading and could be inadvertently damaged during construction if precautionary measures are not implemented. However, standard tree protection measures required by the County would avoid impacts to these trees and their root zones. The “protected zone” is defined as the area at least five feet beyond the dripline or 15 feet from the trunk, whichever distance is greater, when viewed from above (Trees Etc., 2008).

Impacts to oak trees, as detailed above, have been reduced via the modification of an original site plan. The original plan would have resulted in the loss of, or damage to, 16 of coast live



oaks and three scrub oaks. Additional protection will be afforded by a set-aside of undisturbed and revegetated open space.

Mitigation Measures. The project is required to obtain a permit from the County for the removal of onsite oak trees and comply with the provisions of the permit. In addition, the following measure is required to offset the loss of oak trees under CEQA.

**BIO-7** For oak trees that are affected by project implementation, an oak tree mitigation program shall be developed pursuant to the County's oak tree preservation ordinance. This mitigation program shall include, but not be limited to:

- A 2:1 replacement ratio for each oak removed. Per the Los Angeles County Oak Tree Ordinance (Los Angeles Code Part 16, 22.56.2180): "Required replacement trees shall consist exclusively of indigenous oak trees and shall be in the ratio of at least two to one. Each replacement tree shall be at least a 15-gallon size specimen and measure at least one inch in diameter one foot above the base. Replacement trees shall be properly cared for and maintained for a period of two years and replaced by the applicant or permittee if mortality occurs within that period, where feasible replacement trees should consist exclusively of indigenous oak trees and certified as being grown from a seed source collected in Los Angeles or Ventura Counties. Replacement trees shall be planted and maintained on the subject property and, if feasible, in the same general area where the trees were removed."
- Identifying specific protective measures for protecting and maintaining all oaks within potential encroachment areas (up to 20 oaks encroached upon);
- 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 100% survival for at least 2 years (Los Angeles Code Part 16, 22.56.2180.A.6.b);
  - 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). Irrigation shall be kept to a minimum, preferably outside the drip zone, and must never wet the trunk to prevent oak root rot and the development of



- favorable conditions for the Argentine ant. Soil mycorrhizal inoculations shall also be used for transplanted oak trees;
- 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 oak trees removed as a result of project implementation shall be replaced with in-kind native oak tree specimens obtained from regional (i.e., Castaic Valley) stock.

Significance After Mitigation. The recommended mitigation measures, in combination with the requirements of the oak tree permit that the County will require, would mitigate impacts relating to the direct removal of oak trees.

**Impact BIO-8 Project development could result in the elimination of bat roosts. This is considered a *significant but mitigable impact* (Class II).**

The hoary bat, Western red bat, Yuma myotis, and long-legged myotis (all Special Animals), as well as pallid bat, Western mastiff bat, Townsend's big-eared bat, and pocketed free-tailed bat (Species of Special Concern) were seen approximately three miles southwest of the project site during 2006 surveys (Impact Sciences 2006). Although this project site does not provide suitable roosts within rocks, bats can roost in trees and within cliff crevices. Thus, the absence of any bat species can not be confirmed without specific surveys utilizing bat detection devices or surveys specifically for these crepuscular / nocturnal mammals. Should active bat roosts be present, construction-related activity could result in the direct loss or abandonment of active roost sites. Implementation of mitigation measure BIO-8 included below would reduce impacts to bats to below a level of significance.

Mitigation Measures. The following measures shall be implemented to address the potential removal of bat roosts within the site.

- BIO-8** No earlier than 20 days prior to any grading activity that would occur during the breeding season of native bat species potentially utilizing the site (April 1 through August 31), a field survey shall be conducted by a qualified biologist (retained by the applicant and reviewed by the County) to determine if active roosts of special status bats such as hoary bat, Western red bat, Yuma myotis, long-legged myotis, pallid bat, Western mastiff bat, Townsend's big-eared bat, and pocketed free-tailed bat are present in areas of the projects site that contains suitable roosting habitat such as large tree hollows and large cliff faces. If active maternity roosts are found, construction within 200 feet shall be postponed or halted, at the discretion of the biological monitor, until the roosts are vacated and juveniles have fledged, as determined by the biologist. Implementation of this measure would ensure that no loss of active maternity roosts of special status bat



species will occur and, therefore, will reduce impacts on bat species to a less than significant level.

**Significance After Mitigation.** Mitigation would reduce the project's direct and indirect impacts on sensitive bat populations on the project site to a less than significant level.

**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. The proposed project will result in 11.18 acres of single-family housing, 5.21 acres of commercial development on a 47.25-acre property. Cumulative development projects in the Santa Clarita area (approximately 80,000 residences and 35,200,000 square feet of commercial / industrial development) will continue to encroach upon currently undeveloped land.

The project site is partially isolated by residential development on the north and south, and commercial use and I-5 to the east, which also presents a significant migratory barrier to most vertebrate species and prevents the property from functioning as a significant wildlife corridor. However, as previously discussed on page 4.7-11, the project area is located in an area that could become a corridor in the future if wildlife crossings are constructed to link the project vicinity with the property along the eastern side of I-5. It is noted that the design of the tract map includes open space surrounding the commercial and residential development on the periphery of the project site (see Figure 2-4). These open space areas including lots 72, 73, and 74 in combination with offsite areas to the north and to the west could serve to provide a connection from The Old Road to the ridgeline that extends westward offsite (see Figure 2-3, 2-4 and Figure 4.9-1). Nevertheless at present and under current conditions, I-5 presents a substantial barrier to east-west wildlife mobility. However, those species now present on the 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.

The cumulative effect of impacts resulting from the proposed project depends on the proximity of subsequent approved or proposed projects. The proposed project is located in a pocket of natural lands bounded directly to the north and east by suburban development, with additional residential development planned for to the south and already present approximately 2,500 feet



to the south. While the impacts of this project to wildlife corridors and wildlife habitat may not be significant alone, the effects of this and other similar projects in the area may impose a significant cumulative impact on wildlife corridors and the habitat of species such as mountain lion, California condor, and raptors. These species' habitat and range are slowly being reduced by development, creating a fragmented, checkerboard pattern of suitable habitat, leading to increased human/wildlife interaction and less available contiguous habitat for these species.

Mitigation measures have been proposed that will reduce some direct and indirect impacts to sensitive habitats, and listed or special-status plants and animals to a less than significant level. Regional programs, such as the designation and protection of nearby 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.

The primary effects of the proposed project, when considered with other projects in the region, would be the cumulative direct loss of vegetation associations and wildlife habitat. Specifically, past, present, and probable future projects in the vicinity of the proposed project are anticipated to permanently remove plant and wildlife resources within development areas. In addition, wildlife populations within the surrounding open space patches or larger areas of habitat that are fragmented would be subject to increased risks of local extirpation. No specific mitigation is currently available to offset the cumulative loss of habitats in the region.



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## 4.8 ARCHAEOLOGICAL and HISTORICAL RESOURCES

### 4.8.1 Setting

**a. Archaeological Overview.** At present, the archaeological sample of the Upper Santa Clara River Valley Region is not sufficient to determine the period in which people first occupied the area. However, some believe that people were occupying the area by 2000 B.C. This period is recognized as the Early Period where some changes in the subsistence economy and technology occurred, including a broadening of the ecological zones which were exploited. By 1000 B.C., the Middle Period began, continuing until approximately A.D. 500. 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.

At Vasquez Rocks, a village consisted of several single-family residences in separate locations, combining to form a village unit. At Escondido Canyon and to the east, it appears that a village was more centralized or spatially concentrated. Seasonal, special use sites for resource procurement and production were commonly occupied by small family units throughout the area. During this time, chlorite schist disk beads, commonly occurring in the mortuaries and in the burial practice of cremation, suggest that the population was ancestral to the Shoshonean groups (Tataviam, Serrano, Gabrielino, and Fernandeno) that occupied the region when the Spanish arrived in A.D. 1769.

The period from A.D. 750 until the Spanish arrived is referred to as the Late Period. During this time, significant changes in the social and economic systems occurred. There was an increase in the number of sites in the area, which some researchers believe was the result of a population increase. The Late Period has been characterized as a time when there were more specialized sites in terms of their location and function, and an amplification of nearly all aspects of the cultural system. Other aspects of the existing culture during the Late Period, such as pictograph styles, suggests that two ethnic components may have been occupied the region. Existing information points toward a culture more like the Chumash than Shoshonean by the end of the Late Period.

There were probably two dialects in the Upper Santa Clara Valley, one being Chumash related to the Ventureno, with the term "Alliklik" probably applied to this dialect; and the other, "Tataviam," a language showing some Takic linguistic affinities. Ventureno Chumash may have been spoken with regional variants throughout a territory extending from Ventura and Malibu, to Tejon Pass and into the southernmost corner of the San Joaquin Valley.

The following placenames exist in the region:

<i>Alalehue</i>	Mission period village on the Santa Clara River between Santa Paula and Fillmore.
<i>Aliwolhojoy</i>	"one that falls" - A waterfall in Upper Santa Paula Canyon.
<i>Awha'y</i>	"moon"; A Mission period village in what is now Ojai (probably upper Ojai).



<i>Chi'ap ishti'in</i>	"house of the dogs"; Place in hills east of Santa Paula and south of Santa Clara River.
<i>Ka'alishaw Ka'o</i>	"hot water" - Hot springs at Sulphur Mountain on the Santa Clara Creek.
<i>Ka'alushyohoch Ka'o</i>	"muddied water"- Mud Creek (may have been a village)
<i>Kach'antuk</i>	Mission period village located somewhere southwest of Santa Paula.
<i>Kamulus</i>	"the juniper" - A village at what is now Camulos
<i>Kanaputeknan</i>	A historic village near the mouth of the Santa Clara River.
<i>Kashtu</i>	"the ear" - a village located at Piru on the Santa Clara River.
<i>Kawach'iwshmu</i>	"archery-match place" - Area on Santa Paula Creek north of Mud Creek.
<i>Max'aw</i>	A village near Sespe at Fillmore.
<i>Maxaxal</i>	"new village"- Village on the Santa Clara River near Sespe.
<i>Mupu</i>	A village on Santa Paula Creek. It may mean, "hole in the ground", or "cave".
<i>S'apk'anil</i>	A place just south of Santa Paula (a possible village location).
<i>S'eqp'e</i>	"knee-cap"- Mission period village on Sespe Creek near Fillmore.
<i>Shimiya</i>	A village in the western end of Simi Valley.
<i>Sis'a</i>	"the eyelash" - Mission period village on Sisar Creek.
<i>Sisxulkuy</i>	"one is seated on it" - Mission period village at Wheeler Canyon.
<i>Siyopyop</i>	"much tar" - Now Canada de la Brea near Ojai.
<i>Waha'as</i>	"ominous" - San Cayetano Peak, a shrine mountain west of Sespe Creek.

Based on extant information, the region was inhabited by the Alliklik or Tataviam. They occupied the Upper Santa Clara River Valley from Piru Creek on the west; the Tehachapi Mountains on the north; the Porter and Ritter Ridges on the east; and the San Gabriel and Santa Susana Mountains on the south. "Castaic," is a corruption of the Chumash word "Kashtuk," which means "our eyes." The term was the name given by the Chumash to a small body of water east of present-day Lebec. The Spanish called it "Castac," as did the Mexicans. With the arrival of the Americans, the spelling changed to "Castaic."

**b. Historic Overview.** The arrival of the Spanish and subsequent Missionization Period from A.D. 1769 to A.D. 1830 brought a general decline and disruption to the aboriginal systems in the area. In A.D. 1769, the Spanish under Gaspar de Portola entered the Upper Santa Clara River Valley, passing the village of Chagayabit near the present-day Magic Mountain Amusement Park. In A.D. 1797, the Spanish established Mission San Fernando Rey de Espana, beginning the conversion of the native population. By A.D. 1810, the Indian cultures were absorbed by the Mission system, with a rapid decline in the indigenous population. After the desecularization of the Missions, the new Mexican government obtained capital by disposing former Mission lands. Until the time of the Goldrush and ultimate statehood, agricultural activities and cattle grazing were major economic activities in the region.

The discovery of gold in Placerita Canyon in 1842 brought new interests to the region. Miners came for instant wealth and the San Gabriel Mountains provided the location. Gold and silver mining brought miners who dug, drilled, and blasted the local landscape. The frantic rush was over by the 1870s leaving denuded hillsides, crumbling shafts and tunnels over a large area. During this time, gold and silver discoveries were made in Soledad Canyon, along the east fork



of the San Gabriel River, in Big Santa Anita Canyon, in Big and Little Tujunga Canyons, on the slopes of Old Baldy, and along Lytle Creek.

The Soledad Mining District was organized in the 1860s and the town of Soledad quickly sprung up. It was later changed to Ravenna (Soledad City). Soledad was a quartz or lode mining district. San Francisco business interests provided the investment capital in this area for the development of the Soledad mines. Shortly thereafter, the boom became a bust and further investments were withdrawn. Mexican miners continued to exploit the local deposits and found additional copper and gold bearing veins. The advent of the Southern Pacific Railroad (1875-1876) brought new changes and growth to the area.

Gold and copper mining continued in the general area from 1877-1900 until a change in the world price of copper, caused by competition from the new mining in Chile, forced them to close. After the demise of the gold, silver and copper mining industry prevailed in the area. During 1910, the Ridge Route was completed through Newhall and the Newhall Highway Tunnel was constructed to avoid the 29% grade at Beale's Cut. During late November 1915, the Ridge Route was completed over Tejon Pass and Castaic was founded. The region continued to be exploited for its mineral resources including oil, ore, copper, silver and titanium. The most extensive and systematic prospecting in the area was done by E.I. du Pont de Nemours & Company, beginning from 1927-1938.

A County jail near Castaic was begun around 1938 consisting of prison dormitories, two bath and wash houses, two latrines, one water heating building, one officer's bath unit, one officer's dormitory, an administration building, a cooks' house and a kitchen and a dining room. The jail facilities were located on a 1,200 acre ranch formerly owned by A.L. Dunn and known as "The Wayside Farms,". It was acquired by the County in 1938 under a lease agreement with an option to purchase before May 3, 1943 at a price of \$148,000. Aside from the buildings, workmen erected two 50,000-gallon water tanks, built sewage and water systems and installed an electrical distribution system. Sheriff Eugene Biscailuz and County Jailer Clem Peoples planned to use the prisoners housed onsite in the cultivation of farm produce for use at County institutions.

**c. Records Search Results.** A records search performed on February 8, 2005 by Archaeologist Wayne Bonner at the South Central Coastal Information Center, California State University Fullerton indicated that no prior prehistoric or historic archaeological sites or isolates have been previously recorded within the boundaries of the project area. In addition, the following results are applicable for a ½-mile radius of the project area:

- No prehistoric or historic archaeological sites or isolates have been recorded.
- Four studies have been conducted: Dillon 1993; Sylvia 2000; Science Applications International Corporation 1996; and G. Romani 1983.
- One study (G. Romani 1983) encompassed the northern 1/3 of the project area with negative results.
- No National Register of Historic Places are identified (1979-2004 and supplements to date).
- No California Register of Historic Resources exist (1992, with supplemental information to date).



**Section 4.8 Archaeological and Historical Resources**

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- No California Historical Landmarks is listed (1995, with supplemental information to date).
- No California Points of Historical Interest are noted (1992, with supplemental information to date).
- No State Historic Resources Commission issues are presented (1980-present. Minutes from quarterly meeting).

Historical maps on file at the Geography Department Map Reference Center, California State University Northridge, the Bureau of Engineering, Ventura County Government Center, and the Ventura County Museum of History and Art (VCMHA) were consulted as follows:

- 1874-1903 Township-Range Plat Survey maps;
- 1888 Map of the County of Los Angeles;
- 1900 Sectional and Road Map of Los Angeles County;
- 1903 edition of the Camulos USGS topographic map (surveyed in 1893 and 1900-1901)
- 1903 edition of the Santa Susana USGS topographic map (surveyed in 1900);
- 1908 Topographic Map of the Los Angeles Aqueduct and Adjacent Territory;
- 1936 15-minute USDA Forest Service Vegetation map surveyed between 1928-1934;
- 1940 edition of the Castaic USGS topographic map (surveyed in 1929, 1931, 1936).

**d. Field Investigation Results.** A field reconnaissance entailing the inspection of topography that could reasonably be expected to contain cultural resources was performed for project area on February 10, 2005.

The entire project area was examined for surface indications of cultural resource remains. Rodent burrows, stream cuts, and cleared areas were likewise inspected. The results of this survey indicated that:

- Roughly 75% of the project area showed signs of disturbances resulting from prior terracing, access road construction, disking, vegetation clearance and major erosion and deposition from existing drainages.
- The parcel is dominated by narrow canyons that drain into broad floodplain areas on the south, southeast, eastern and northwestern edges of the project area.
- A majority of the central portion of the project area contains steep-facing, highly eroded slopes, and narrow ridgelines. The southeastern portion of the project site intersects a mesa that has been denuded of vegetation and has been graded flat in the past.
- The large mesa areas have been denuded of vegetation, and the easternmost mesa overlooking I-5, and near the Castaic Masonry Supply yard, has been graded flat in the past.
- The existing road network was impassable from the northwest and east due to recent, severe rains, which washed out or buried the roads entering the property.
- Ground surface visibility was good-to-excellent throughout. In areas, where grass cover was dense, rodent disturbance and erosional cuts allowed an unhindered visual inspection of ground surfaces.
- The project area is dominated by decomposing sandstone and granite, and the drainages within the property consisted of extensive alluvial deposition or undercutting due to recent rains.



- Land use surrounding the project area consists of commercial properties on the east and residential properties on the north and northwest. Areas to the west and south are relatively undisturbed by recent development.

The Phase I archaeological study indicated that no significant prehistoric or historic archaeological resources were encountered within the project area. Sufficient disturbances have occurred in the past to compromise the integrity of roughly 75% of the parcel. A prior study (G. Romani 1983) of the northern 1/3 of the project area also yielded negative results and the resurvey of this area concurred with the prior findings. The remains of two structures dating to post-1940 completely lacked the necessary evaluation criteria under CEQA to warrant a determination of significance, or require additional evaluation efforts including archaeological monitoring.

#### **4.8.2 Impact Analysis**

**a. Methodology and Significance Thresholds.** Recently approved legislation expands CEQA for the protection of California's traditional tribal cultural places. A cultural place is a landscape feature, site or cultural resource that has some relationship to particular tribal religious heritage or is an historic or archaeological site of significance or potential significance. This legislation is known as Senate Bill 18 (SB 18), which requires that local governments consult with federally and non-federally recognized tribes during preparation of general plans, specific plans or amendments to such plans. However, since this project consists of a subdivision and zone change, and does not include a general plan or specific plan amendment, consultation with local tribes is not necessary. However, if a general plan amendment were necessary, SB 18 compliance would be required.

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. Furthermore, the impact is significant if the project would:

- Cause a substantial adverse change in the significance of a historical resource; or*
- Cause a substantial adverse change in the significance of an archaeological resource; or*
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;*  
*or*
- Disturb any human remains, including those interred outside of formal cemeteries.*

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

**Impact CR-1**    **The proposed project would not disturb any known archaeological or historical 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 the previous archaeological investigations in the area nor the surveys conducted as part of this study identified any significant or



potentially significant surface remains of a prehistoric or historic archaeological nature. 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. The proposed grading activity would have the potential to disturb as-yet undetected areas of prehistoric archaeological significance. Therefore, archaeological resource impacts are considered potentially significant.

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)** Ground disturbance shall be monitored for the presence of archaeological materials. 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. If the coroner determines the remains to be those of Native American ancestry, the Native American Heritage Commission shall be notified.

Significance After Mitigation. With implementation of the above measures, impacts to archaeological resources would be less than significant.

**c. Cumulative Impacts.** Cumulative development projects in the Santa Clarita area (approximately 80,000 residences and 35,200,000 square feet of commercial/industrial development) will continue to encroach upon currently undeveloped land. Such development would potentially disturb areas with known and 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 project area should be reduced to a less than significant level.



## 4.9 VISUAL QUALITIES

### 4.9.1 Setting

**a. Visual Character of the Site Vicinity.** The community of Castaic is experiencing substantial growth (refer to Figure 3-1) with approximately 70 projects within a five-mile radius undergoing developmental review at this time. The surrounding region is similar to the project site in topographic complexity, and vegetative diversity, with relatively sparse development concentrated along the flanks of the I-5 corridor. Major visual components of the surrounding landscape include Castaic Lake and Lagoon and a predominance of undeveloped bluff tops and rolling hills trending into ridges and canyons. The landscape is flecked with urban development such as the Castaic Sports Complex, the Castaic Truck stop, and clusters of residential development tucked into canyons and valleys.

**b. Visual Character of the Project Site.** The project site is an irregularly shaped parcel that borders The Old Road and I-5 in the community of Castaic, in Los Angeles County. The parcel is currently undeveloped and appears to be in a predominantly natural state due to vegetation that has naturalized within disturbed areas. There are several trails and dirt access roads running through the property, and steep ridges and canyons dominate the visual character of the site with elevations ranging from approximately 1,100 feet to 1,494 feet. A Primary Significant Ridgeline (as delineated in the Castaic Area Community Standards District - CSD) is present on western and northeastern portions of the site and runs from near the southwest corner in a northeasterly direction toward the northern portion of the site (refer to Figure 4.9-1).

The project site is visible from The Old Road and I-5, which follow the northeast and eastern boundaries of the project site. The project site is visible when traveling both north and south bound on these roads. Figure 4.9-2 shows existing views of the project site from Northbound I-5 and Figure 4.9-3 shows existing views of the project site from Southbound I-5 (refer to Figure 4.9-7 for viewing locations). From this vantage, the viewer sees a green and beige patchwork of vegetation and eroded slope faces and canyons trending upward and back, toward the western edge of the project site. In the foreground view, when traveling northbound, the viewer sees the building materials yard business, which is located immediately to the east of the site, in between the project site and The Old Road. The typical view of this commercial / industrial business consists of multiple stacks of various building and landscaping supplies, and a row of equipment on display for sale such as forklifts, trucks and other related items (see foreground view of Figure 4.9-2).

The CSD-designated Primary Significant Ridgeline intersects the western boundary of the project site at elevation 1,494 (see Figure 4.9-1). This peak is the highest point on the property, and the Primary Significant Ridgeline continues off the property and into the westerly background gradually trending upward in elevation to heights in excess of 1,800 feet (see Figure 4.9-1). In the foreground within the western portion of the project site, the Primary Significant Ridgeline abruptly descends 100 feet over a planar distance of approximately 200 feet into a saddle area. The saddle area elevations at various points are called out on Figure 4.9-1, indicating the lower elevations of this segment of the ridgeline. This saddle segment with elevations of over 100 feet below the peak of 1,494 is over 900 feet long (see below for a



discussion of the ridgeline's profile). At the northern end of the saddle, the ridge trends gradually upwards again (offsite) to a secondary peak of 1,365 and back onto the northern corner of the project site at a peak of 1,350. Overall, it appears that only a relatively small tail-end portion of the designated significant ridgeline is within the project area (see Figure 4.9-1); furthermore, this tail-end of the ridgeline on the site has also a relatively lower elevation as compared to the main body of the ridgeline.

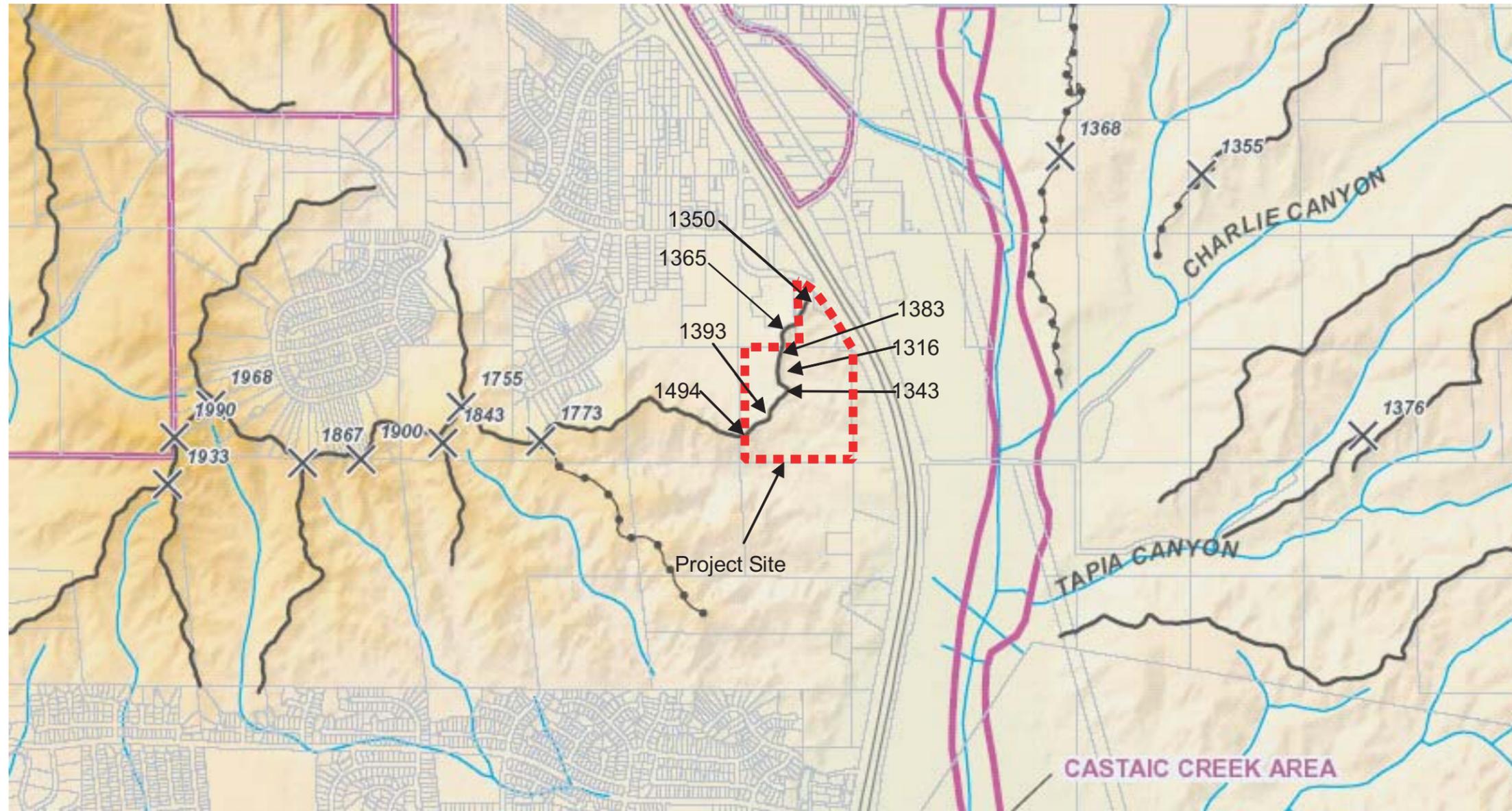
Figure 4.9-1 shows that the Primary Significant Ridgeline in the west portion of the site may be viewed as having two distinct segments of northeasterly and northerly bearings. The ridgeline does not form a straight line in either of these two segments, and substantial elevation variation is noticeable along the ridgeline. Figure 4.9-4, Section A-A (at the bottom of the graphic) shows the overall profile impression of the CSD Primary Significant Ridgeline at the project site. The path of Section A-A through the project site is shown at the top of Figure 4.9-4, which approximately follows the two distinct segments of the ridgeline as it traverses the west portion of the site. Section A-A includes the peak at elevation 1,494 near the southwest corner of site (left end of ridge profile in Figure 4.9-4), and the secondary peak at elevation 1,385 to the north (right end of the profile). The 900-foot saddle section in between the two peaks is also indicated in Section A-A. The two peaks are approximately 1,300 feet apart along Section A-A. The saddle area (visible in the center of Section A-A) exhibits a drop in elevation between 100 to over 175 feet relative to the peak of 1,494 feet, with the lowest elevation at 1,272 feet. Figure 4.9-4 shows that the prominence of the ridgeline in effect dies out in the saddle area, indicating an apparent ridgeline discontinuity. On site visual observations (see reference to site photos below in Figure 4.9-5) support the assertion of a ridgeline discontinuity at the saddle section. As shown in Figure 4.9-4, and as will be discussed in detail below in Section 4.9.2.b, the project's access roadway "C" Street, crosses the ridgeline at elevation 1,320 feet in the saddle section, minimizing the necessary grading and the associated visual impact.

The northeastern segment of the Ridgeline on the project site (Figure 4.9-1) not shown as part of the profile in Figure 4.9-4, remains unaffected by the development's footprint. The northeastern portion of the site contains right of way / slope easement for The Old Road. This northeastern corner of the site contains the northernmost end of the Primary Significant Ridgeline with a peak at elevation 1,350 (Figure 4.9-1). The peak descends approximately 170 feet to elevation 1,180 over a planar distance of 315 feet. From the road, the viewer sees a relatively steep hill.

While the footprint of the project would not affect this portion of the site, this northern view is expected to change with The Old Road improvement project, which is planned by Los Angeles County. The Old Road improvement project would utilize approximately 80 feet of right-of-way and will require that the front portion of the existing hill be cut back to accommodate the proposed road widening. However, the bulk of this hillside northeast of the proposed project would remain intact and would continue to act as a natural buffer, which would generally block the views of the project from the north.

Views of the site are provided in photos of Figures 4.9-5 and 4.9-6. Photos 1 and 2 depict the saddle portion of the CSD delineated Primary Significant Ridgeline as it is viewed from the northwestern corner of the site and the western boundary of the site. The profile of the Ridgeline in these photos correspond to the Section A-A profile shown in Figure 4.9-4, and the

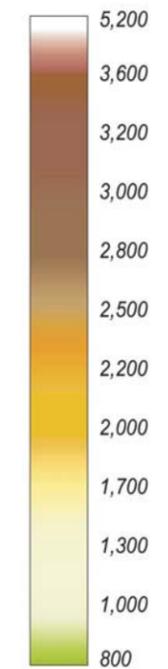




**LEGEND:**

- Castaic CSD Boundary
- Subarea Boundary
- Town Council Boundary
- Parcel Boundary
- City Boundary
- Forest Boundary
- Significant Water Bodies
- Significant Ridgelines
  - Primary Ridgeline
  - Secondary Ridgeline
  - Freeways
  - Streams
  - X Elevation Points

Elevation (in feet)\*



Source: Los Angeles County Dept. of Regional Planning, December 8, 2004.

**NOTE: CRITERIA USED TO IDENTIFY SIGNIFICANT RIDGELINES**

The process of identifying significant ridgelines for protection in the Castaic Area CSD included the following steps:

A number of Castaic Area residents and staff carried out extensive field research. Assisted by the results of the elevation studies and tools such as GIS maps, aerial photos and USGS maps, the ridgelines shown on this map were selected. The involvement of the residents and their choices was in recognition of the fact that, along with objective technical information ultimately, the residents of the communities of Castaic must have a strong voice in the selection process.

Two categories of significant ridgelines have been identified and are shown on this ridgeline map: Primary and Secondary.

Criteria used to identify significant primary ridgelines include:

1. Consensus by community representatives.
2. Visual dominance, including height, as characterized by a silhouetting appearance against the sky.
3. Visual dominance due to proximity and visibility from an existing community.
4. Visual dominance of the District due to their elevation in relation to the hillside or mountain terrain of which they are a part.
5. Environmental significance for the adjacent communities if they serve to connect park or trail systems.

Significant secondary ridgelines must meet the following criteria:

1. Consensus by community representatives.
2. They are smaller in size and often a feature or branch of a primary ridgeline.
3. They silhouette with another, larger primary ridgeline as a backdrop.
4. They serve as a significant, natural backdrop separating Castaic Area communities.
5. Visual dominance due to proximity and visibility from an existing, adjacent community.
6. Environmental significance for the adjacent communities if they serve to connect park or trail systems.

**ADDITIONAL NOTES:**

\* A transparent hill shading layer has been overlaid with the elevation layer to illustrate the topography of the area. The hill shading may make some of the elevation colors darker. Highest elevation within the proposed CSD: 3,904 feet. Lowest elevation within the proposed CSD: 817 feet.

Elevation data was derived from a digital elevation model (DEM) produced by Intermap, Inc. for the County of Los Angeles in 2001. The DEM was created using IFSAR technology with 5 meter posting.

Parcels are derived from the Assessor's Office database.

Street network data was derived from the Thomas Bros. database and reproduced by permission by Thomas Bros. Maps. Stream data was also taken from Thomas Bros. data, which originated from USGS. The positions of the streams may not correspond to their true positions on the ground.



Primary Significant Ridgelines Figure 4.9-1



Image Source: *Interacta*, 2005

Existing View from I-5 Northbound

Figure 4.9-2  
County of Los Angeles  
Department of Regional Planning



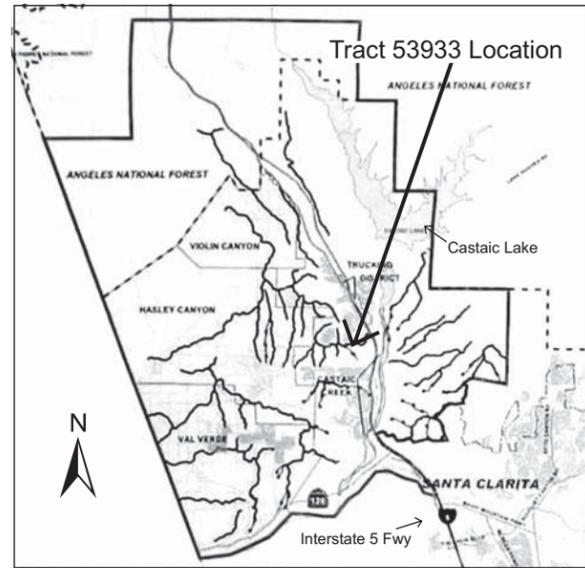


*Image Source: Interacta, 2005*

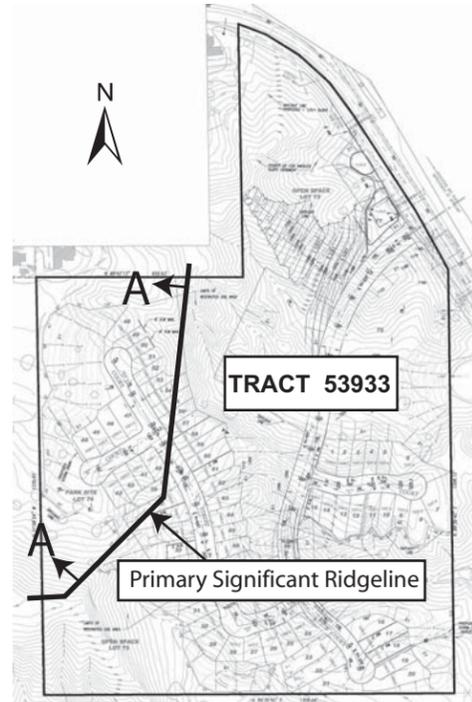
Existing View from I-5 Southbound

Figure 4.9-3  
County of Los Angeles  
Department of Regional Planning

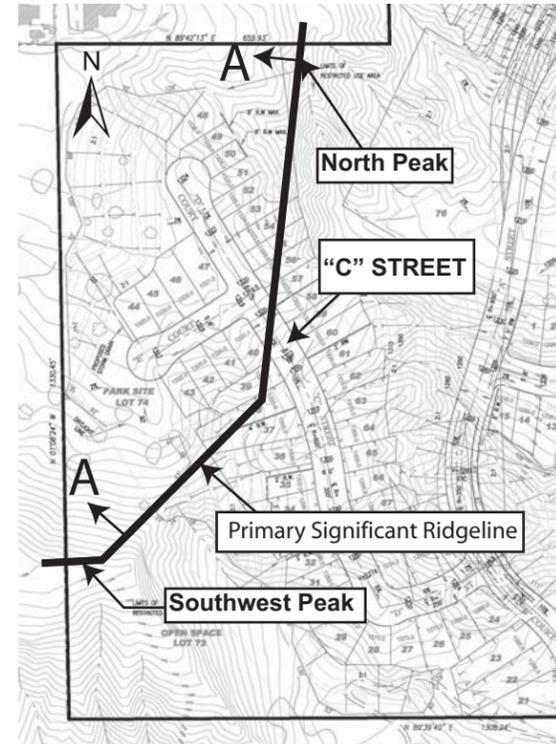




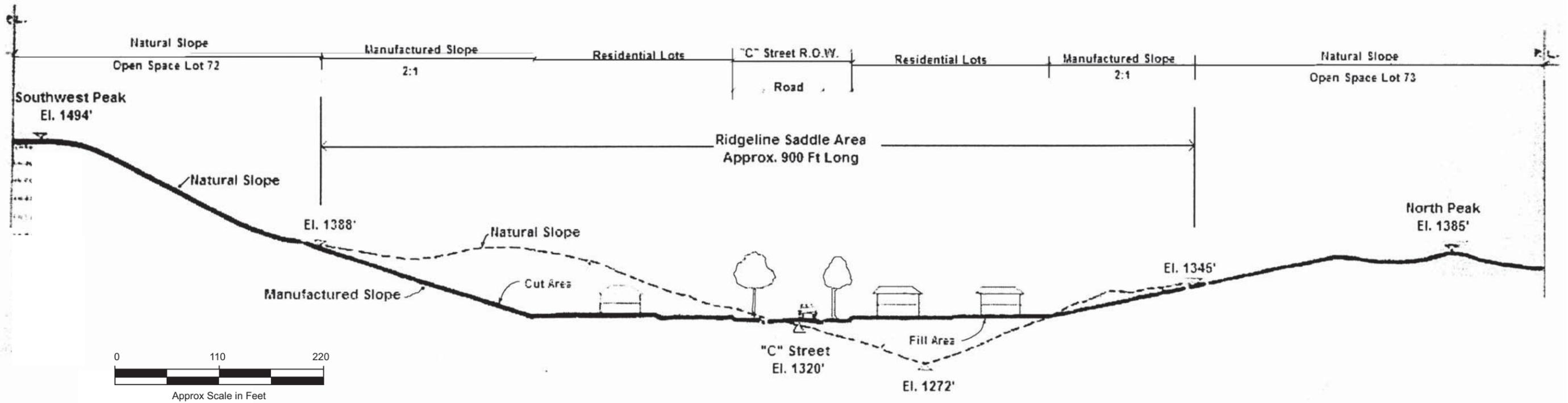
Maps of all Castaic Area Significant Ridgelines  
 (See Community Standards District - CSD)



Portion of Primary Significant Ridgeline A-A  
 Located on West side of Tract 53933



Western Portion of Tract 53933  
 Location of Ridgeline A-A Peaks & "C" Street



Section A-A  
 Ridgeline Profile

Ridgeline Profile

photos show also the rapid descent of the Ridgeline's elevation into the saddle area. Photo three shows an area of the site that currently contains an abandoned building pad. This area corresponds to proposed lot no. 75, which is planned to be developed with office / professional space. This photo was taken from The Old Road. The northern portion of the building supply yard is shown in the foreground within the chain link fenced area. Photo four shows a hill that would be partially removed as a result of widening of the Old Road. Photo five shows the approximate southern boundary of the project site and views eastward across I-5, which are typical of the surrounding area. The left side of Photo five shows a hilltop level area, which would become the project's "B" Court (residential lots 16 to 23).

Photo six was taken from a location south of the center of the site looking eastward and shows the hilltop that would form the southerly side of "C" Court and residential lots 7-15. Photo seven, looking west from a location near the center of the site, in the foreground shows the saddle area of the CSD delineated Primary Significant Ridgeline (see Figure 4.9-5, Photos one & two and Figure 4.9-4), and the ridgeline's ascension offsite to more significant elevations in the back right area of the photo. The area indicated within the white dashed lines is proposed to contain "C" Street and adjacent residential lots; the black dashed line in the photo traces the CSD's Primary Significant Ridgeline, entering the site in a westerly direction and changing course rather abruptly to the northeast (also see Figures 4.9-1 & 4.9-4). Photo eight shows a view from the saddle area looking northwest over the mobile home community and adjacent residential developments.

**c. Regulatory Setting.** The project area is located within Los Angeles County in the unincorporated area of Castaic. The site is governed by the County of Los Angeles and the development is subject to provisions of Title 22- Planning and Zoning of the Los Angeles County Code, the Santa Clarita Valley Area Plan (SCVAP). Within Title 22, amendments have been made that specify development guidelines for smaller geographic regions within County jurisdiction. The Castaic Area Community Standards District (CSD) was adopted on November 30, 2004 and became effective December 30, 2004. Additionally, the project site is designated as a Hillside Management Area, and is subject to the County of Los Angeles Hillside Design Guidelines. The CSD provides the requirements concerning setbacks, lighting, architectural style, landscaping, and other items. The CSD was specifically designed for the Castaic region and is intended to protect the rural character, unique appearance, and natural resources of the Castaic Area Communities. This CSD also includes policies that are designed to protect ridgelines that are considered significant in terms of visual quality. These ridgelines are designated as "Primary" and "Secondary" ridgelines and are delineated on the CSD Significant Ridgeline Map (see Figure 4.9-1). The CSD Ordinance 2004-0069, Section 2.D.6 states that "*no development, grading, construction, or improvements shall be allowed...within a 50-foot radius from every point on the crest of a primary ridgeline*". The Hillside Design Guidelines are intended to preserve significant natural features in hillside areas through the use of creative design techniques that emphasize curvilinear development schemes and incorporation of natural elements.

All of the planning documents and development standards discussed above are incorporated by reference and are available for review at the County of Los Angeles Department of Regional Planning, and on the County of Los Angeles website (<http://planning.lacounty.gov/>).



Consistency with applicable policies of the CSD and Hillside Design Guidelines is discussed in Section 4.15, *Land Use*.

#### **4.9.2 Impact Analysis**

**a. Methodology and Significance Thresholds.** Individual viewers react to viewsheds and aesthetic conditions differently. Consequently, the assessment of aesthetic impacts is inherently subjective in nature. This assessment evaluates the existing onsite visual resources against the proposed development, and analyzes the nature and significance of the anticipated change. The project site was observed and photographically documented, as was the surrounding area. To assess the potential change in visual conditions associated with the project; this analysis included the development of a three-dimensional graphic model that was based on the existing topography overlain with the grading plans and tentative tract map. Representative sample graphic models of several different size homes and commercial structures were developed based on the proposed development and site specific zoning allowances and were then added to the project site model. The model representation was then finished by adding vegetation intended to reflect the anticipated landscaping for the site. The photographic simulations are intended to accurately represent the land design, including the layout, scale of development, and overall appearance of the proposed development. These photo simulations are not intended to include all of the architectural, landscaping and other details of the project. However, it is noted that prior to recordation of the final tract map, the architectural, landscaping and any other land design details, are required to meet the standards of Los Angeles County and the CSD.

To develop the photo simulation for the project, photographs of the project site were taken from north and southbound I-5 at locations deemed to be the most prevalent view based on the viewer's natural tendency to look forward and slightly to the side, and images of the proposed development were then imposed into these views. The viewing locations are shown in Figure 4.9-7. Furthermore, to help gauge the visual effect of the project on the CSD-designated Primary Significant Ridgeline, which traverses the western portion of the site, reference is also made to the above-mentioned profile of the ridgeline illustrated in Figure 4.9-4 (Section A-A). This ridgeline profile helps to visually compare the manufactured (graded) and natural slopes along the ridgeline in a low elevation saddle area (elevation 1,320 feet) located between two ridgeline peaks of 1,494 feet and 1,385 feet.

For this analysis, an aesthetic impact is considered significant if it can be determined that:

- *The change would adversely affect a viewshed from a scenic designated highway*
- *An existing identified visual resource is obstructed*
- *A CSD delineated Primary or Secondary Significant Ridgeline would be modified so as to alter its significance*
- *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*



**Section 4.9 Visual Qualities**

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**Photo 1:** Looking SE from NW corner of site - The saddle segment of CSD's Primary Significant Ridgeline seen in the back (continues to photo 2). Foreground in the site's level NW area to be raised to create "D" & "E" courts. The hill to the left and added fill will act as natural and enhanced buffers blocking the project from line of sight of existing condos to the north.



**Photo 2:** Looking south from NW corner of site – area viewed is adjacent to Photo 1 to the left. Project site is left of fence.



**Photo 3:** Looking west toward the project site from The Old Road adjacent the northeastern boundary of the site. View is of area to be developed as business/professional space. An abandoned building pad is visible at the center of the photo.



**Photo 4:** Looking NW from The Old Road. The toeslope of this peak would be sliced off during The Old Road widening project. The applicant would then grade this hill to form part of the project site entrance and access road.

Site Photos

Figure 4.9-5





**Photo 5:** Looking SE from the project site. The area extending left (east) would become “B” Court, and the area extending to the right would become “D” Street.



**Photo 6:** Looking east toward I-5 from the project area. Ridge to the left would be graded and widened on the backside to form “C” Court. The canyon, visible in the center of the photo, contains riparian habitat, and would be preserved as Open Space Lot 71.



**Photo 7:** The approximate area of “C” street is shown within the white dashed lines, and would extend outward past the right edge of the photo. The CSD delineated Primary Significant Ridgeline is shown in black. The portion extending from the center to the bottom right delineates the saddle area.



**Photo 8:** Backside view from “C” Street (saddle area), looking northwest toward existing mobile home park and residences. This down-sloping area would be raised by graded soil to build “D” and “E” Courts (refer to Photo 1 & 2).

## Site Photos

Figure 4.9-6



**b. Project Impacts and Mitigation Measures.** The proposed project has the potential to alter views from I-5, The Old Road, and the Castaic Creek Trail (LA County Trail System Map). In addition, it would introduce new sources of light and glare, and accommodate structural development and grading in an area that is addressed by Castaic Area Community Standards District requirements and the Hillside Design Guidelines. The following discussion reviews these conditions and identifies and describes impacts and mitigation measures.

**Impact VIS-1**    **The proposed project involves substantial grading and would alter views of the site from potentially sensitive viewing locations including I-5, a County-designated scenic highway. The project would also alter views from other public viewing locations including The Old Road and from the Castaic Creek Trail (located on the east side of the freeway). Given the incorporated design features, the alteration of views of the site is considered a Class III, less than significant impact.**

Figure 4.9-7 shows the viewing locations from I-5, and Figures 4.9-2 and 4.9-3 show the existing visual conditions at the site. Visual simulations showing development of the proposed project at the site from viewing locations along I-5 are illustrated in Figures 4.9-8 and 4.9-9. The hilly terrain of the project site acts as a natural buffer to generally block views of the proposed development from the public areas to the north and south. Views along the I-5 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 County of Los Angeles. Additionally, the Castaic Creek Trail is located east of the project site (see Figure 4.9-10). The CSD-designated Primary Significant Ridgeline Section A-A profile, as shown in Figure 4.9-4 is also used as an aid to illustrate the effect of the project's footprint on the ridgeline views.

*Modified Slopes.* Portions of cuts and fills within the subdivision would be visible for brief periods when motorists are traveling along I-5 and The Old Road. However, the topography and multiple elevations within the project site help to shield many of the cuts from public view. Additionally, the project would be required to replace cut slopes and fill slopes with native vegetation as is shown on Figure 4.9-8 and 4.9-9. Table 4.9-1 contains an analysis of the visibility of modified slopes from public viewing areas.

Several modified slopes would be visible from areas of higher elevation east of I-5; however, the public viewing areas are located predominantly below the project site (I-5 and the Castaic Creek Trail adjacent Castaic Creek) and a viewer would need to be looking upwards toward the project site past foreground development that includes the Castaic Sports Complex and I-5.

*Northbound I-5 Views.* Because of the hilly topography along the western edge of I-5 in the vicinity of the project site, the northbound I-5 viewer would not see the project until the vehicle was opposite the building materials yard business located to the east of the project site (see Figure 4.9-7 and 4.9-8). The viewer would then see the project peripherally to the left, and longer if looking leftward. In the foreground, the viewer sees the storage yard of the building material yard business located immediately to the east of the project site, typically with multiple stacks of building and landscaping supplies, equipment on display for sale, and other related items. Further away from the view, in the center, is the valley in the project's Open Space lot 71,



**Table 4.9-1 Modified Slope Visibility**

Location	Approx. area (square feet)	Height of modified slope (feet)	Visible from		
			The Old Road	I-5	Proposed Castaic Trail
North of Lot 77	1,200	20	No, 20 feet lower and too close	No, blocked by structures and topography NB & SB, 20 feet lower	Possibly
West of Lot 77	24,375	150	No, 20 feet lower, too close	SB, No, blocked by topography and structures, 20 feet lower, <b>NB, Yes</b> may be slightly visible from south of project area above structures, but not within direct field of view.	Possibly
North of Lot 75	13,500	45	<b>Yes, SB</b> No, NB	<b>Yes, SB</b> No, NB, shielded by topography	Possibly
East edge of Lot 75	12,750	50	No, SB, behind view field No, NB, obscured by building supply yard	No, SB, behind view field No, NB, obscured by building supply yard	Possibly
West of "C" Court below residential lots 60-67	15,120	60	No, too close, behind building supply yard	No, SB, behind field of view <b>Yes, NB</b> , portion between road elevation and pad elevation (shown on Fig. 4.9-7)	Possibly
West of Open Space Lot 71	14,400	60	No, too close, behind building supply yard	No, SB, behind field of view Yes, NB at back of canyon below road	Possibly
East of Residential Lots 16-20	12,960	60	<b>Yes, NB</b> above building supply yard No, SB, unless looking directly right	SB, No, behind field of view <b>NB, Yes</b> , above building supply yard, see Figure 4.9-8	Possibly
South end Park Site Lot 74	18,000	100	No, topography blocks, too close	SB, No, behind field of view <b>NB, Yes</b> , above lot 67 (refer to Figure 4.9-8)	Possibly
North end of Park Site Lot 74	30,720	80	No, backside of development	No, backside of development	No, backside of development

which is proposed to remain undisturbed, as there is an unnamed ephemeral stream together with a riparian habitat present at the base of this valley. Near the center foreground of the simulation from left to right, as seen by the viewer, are residential lots 68-70, and 67-59 located on project's "C" Street. At the right center of the image are residential lots nine, eight, seven and six (left to right). As shown, the residential lots in the northbound view would all be partially blocked from the view by the Castaic Area Community Standards District-required row of trees at the top of the slope overlooking I-5, and also by a sound barrier wall.



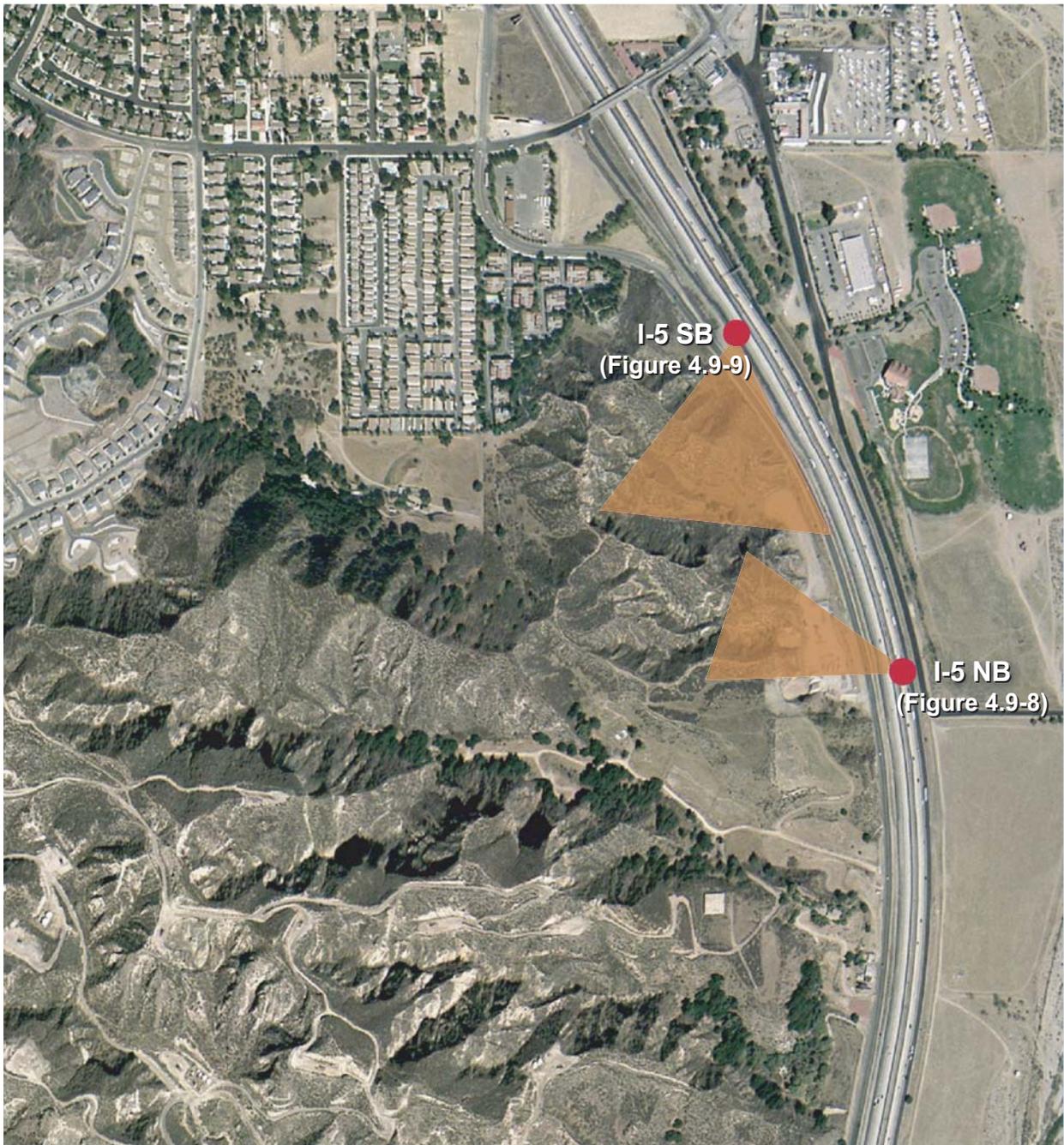


Image Source: Interacta, 2005

I-5 Viewing Locations

Figure 4.9-7



*Image Source: Interacta, 2005*

Visual Simulation from I-5 Northbound

Figure 4.9-8  
County of Los Angeles  
Department of Regional Planning



The majority of the landscape from this view would be in native vegetation from Open Space or revegetated graded slopes (see Table 4.9-1 for manufactured slope visibility). A 150-foot tall modified slope would be partially visible to vehicles opposite the project site entrance while traveling NB. This slope is part of the hill that forms a natural visual buffer to viewing locations northward. The top of the manufactured cut slope would be at elevation 1,320 and the natural slope would continue to ascend to a peak at elevation 1,355. This cut slope would back up to the CSD designated Primary Significant Ridgeline peak that would remain unchanged in the northeastern corner of the property. This slope is located behind and between the business / professional lots 77 and 76. The slope has been designed to follow the contour of the hill and would be revegetated with native plant materials.

Three other modified slopes ranging in heights from 60 to 100 feet in height would be visible from NB I-5. These include a 60-foot tall fill slope beneath residential lots 60-67 above the canyon open space lot 71. This area is visible above the building supply yard in Figure 4.9-8 immediately beneath the residential structures, sound wall and associated landscaping. This area also follows the natural contour and would be revegetated with native plant materials. A manufactured fill slope beneath residential lots 16-20 would be 60 feet high and would be adjacent to the southern portion of the building supply yard. This area is contoured to follow the natural curve of the existing hill and would be revegetated with native plant materials. Additionally, a graded slope at the backside of the project area where the park site is proposed would be visible from NB-I-5. This area, once revegetated would blend in with the backdrop of the ascending slope.

While not all architectural features or the landscaping details are intended to be included in the photo simulations, it is noted that the final design would incorporate Mediterranean style of architecture for the buildings, drought tolerant landscaping, contour grading and a range of other design details in line with the Hillside Design Guidelines and the CSD. As recommended by the *Noise Study* for the project (Section 4.4, *Noise Hazard*) a 6-foot tall solid block sound barrier wall would be necessary for certain residential units that are exposed to I-5, to reduce the exterior ambient noise levels to within an acceptable range. These residential lots with a sound barrier wall are located on lots 1-8, 16-21, 60-67 and 70 (Figure 4.9-8) behind the visible row of trees. As required by the CSD, this row of trees is provided by the project for all the residential lots near the hillside and facing The Old Road / I-5 (the public right of ways). Per the CSD, these would be 15-gallon non-invasive trees, planted within 10 feet of the top of the slopes, spaced a maximum of 15 feet apart. All landscaping features are subject to the County of Los Angeles requirements, and would be required to meet the provisions of locally adopted ordinances and codes including those identified in the CSD and Hillside Management Plan.

Near the back left of the Northbound simulation (Figure 4.9-8) is the highest visible peak of the CSD-delineated Primary Significant Ridgeline. The Ridgeline shows a rapid descent towards the center of the photo and then disappears from the view hidden behind the foreground topographical features. Essentially, a comparison of the before and after images shows the proposed topographic modification concentrated in the lower elevations along the bluff tops as seen from NB I-5. This modification includes creating level buildable areas for development of the residential units with incorporation of revegetation on disturbed slopes and CSD standard landscaping within the residential and commercial project components. Project development



does not appear to substantially degrade views from public viewing areas east of the project as shown in Figure 4.9-8. Additionally, project development does not appear to alter the significance of the ridgeline as the portion of the ridgeline that would be bisected by development is not visible from NB I-5 in the existing photo due to the hilly topography and lower elevation of the CSD designated portion which contains the saddle area.

*Southbound I-5 Views.* Figure 4.9-3 shows a view of the project from I-5 as it exists now, and Figure 4.9-9 shows a simulation of the proposed development. For the southbound I-5 viewer, topography blocks views of most of the residential components of the project and the CSD-designated Primary Significant Ridgeline in the western portion of the project site. However, the viewer would see the office buildings located in the foreground. The Freeway is at a lower elevation (approximately 20 feet) and the office buildings would be seen behind the foreground chain-link fence, which is outside the project boundaries between The Old Road and the I-5. From this location, the southbound viewer would only see the office structures on lots 77 and 75, with ascending slopes forming a visual backdrop to these structures if the viewer continues to look right as passing. The hillside to the north of Lot 77, as well as the northern section of Lot 77, are not in the scope of this view because the hillside itself is blocking views of the commercial component until the viewer is at the location in which the photo was shot (refer to Figure 4.9-7). The project's development footprint would not affect this northeastern hillside, which also contains the northernmost tip of the CSD-designated Primary Significant Ridgeline (see Figure 4.9-1). However, this northeast hillside would be affected by the grading required for The Old Road widening as part of Los Angeles County's road improvement project. Additionally, a cut slope would remove portions of this hillside below the peak at 1,350 feet. However, the southbound viewer is not likely to see this cut because the viewer would need to look to the far right while passing. The bulk of this hillside and the highest peaks of the Primary Significant Ridgeline in this area would remain intact after widening of The Old Road, and the revegetated hillside would continue to block views of the project site from locations northward. A second cut slope fronting The Old Road at its intersection with "A" street would extend approximately 45 feet to the office building proposed at lot 75. This cut slope is shown as contoured to follow the natural curve and is shown in Figure 4.9-9 with native plant materials.

For the southbound viewer, the worst-case scenario post project views of the site would be substantially different from its current undeveloped state. However, it must be noted that The Old Road widening project as proposed by the Los Angeles County would in any case alter this same southbound view due to the hillside grading that would be required to widen the road. The proposed office buildings, which would be visible adjacent The Old Road (Figure 4.9-9), would have a Mediterranean style of architecture (see Figure 4.2-6). Office building design specifications would be in line with the requirements of the Castaic Area Community Standards District, with regard to maximum height, lighting, signage and other features (Section 4.15, Land Use contains additional analysis of consistency with CSD requirements and Hillside Design Guidelines). The office buildings' design would also be compatible with the architectural style of the residential element of the project (Figure 4.2-5), and the styles used in the Castaic / Santa Clarita Valley area. The final lot-specific building designs are subject to approval of Los Angeles County Department of Regional Planning, and the Los Angeles County Planning Commission, which would further help to ensure consistency with visual





*Image Source: Interacta, 2006*

Visual Simulation from I-5 Southbound

Figure 4.9-9



resource protection policies. As mentioned above, the County's The Old Road widening project would require grading of the project site's northeast hillside. The County already has a slope easement along the project's entire frontage on The Old Road, including the northeast section. As such, given The Old Road widening project, the project's footprint is not expected to significantly impact views of the site from the southbound sensitive viewing locations in the immediate project vicinity.

*The Old Road.* From The Old Road while traveling southbound, a modified slope north of Lot 75 that is 45 feet high would be visible in the foreground between The Old Road and the commercial structure (see Figure 4.9-9). This slope would be located at the entrance to the project at the intersection of "A" Street with The Old Road, but appears to blend in with the natural landscape as the manufactured slope is curvilinear and the area would be revegetated with native plant materials. Additionally, a modified slope beneath residential units 16-20 would also be visible from The Old Road, but is more likely to be visible when traveling NB. This slope is also curvilinear and would be revegetated with native plant materials. A portion of this slope is shown at the far left in Figure 4.9-8 above the southern end of the building materials yard.

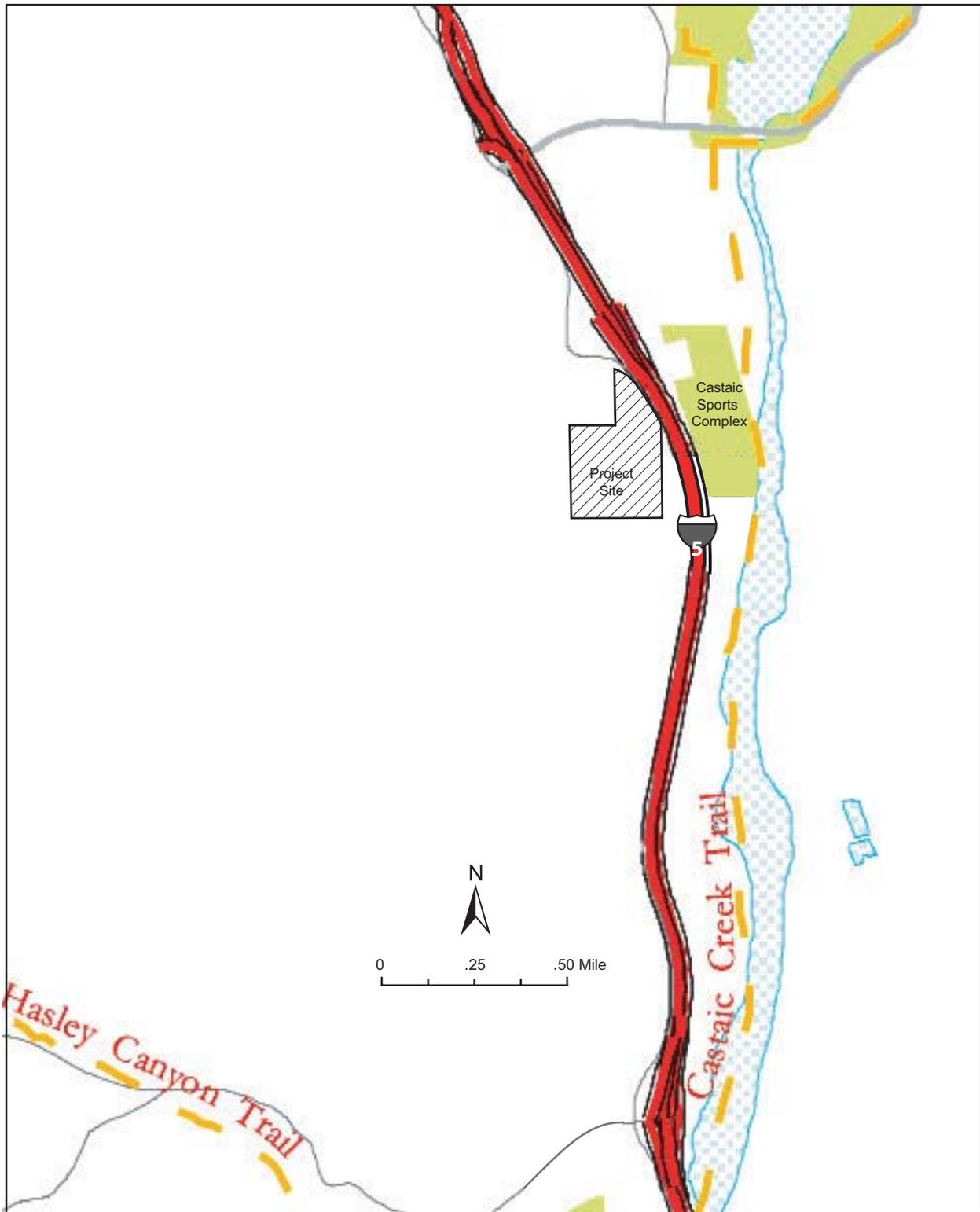
*Castaic Creek Trail.* The project site is located in the viewshed for the Castaic Creek Trail (Figure 4.9-10). The trail is located on the eastern side of I-5 and follows the creek. The Santa Clarita Sports Complex is located between the Castaic Creek Trail and I-5. Therefore, the viewer would see the Sports Complex in the foreground. Elevations at the creek east of the project site are approximately 1,110 feet above mean sea level. The creek is located approximately ½ mile east of the project site and at that distance, the project site would compose only a very small portion of the viewshed, to which the substantially higher mountains extending westward from the project site would form the backdrop. In addition, as previously mentioned, the viewer would see the Santa Clarita Sports Complex in the foreground. The development of 70 residences and three office buildings that are nestled amidst hills in association with similar developments located further south along I-5 is not anticipated to be significant and adverse.

Mitigation Measures. Implementation of project specific design measures in accordance with locally adopted land use plans and policies (including the CSD & SCVAP) together with design measures that have been incorporated into subdivision are expected to reduce the project's impact on visual resources to less than significant. In particular, incorporation of design features has aimed at minimizing any visual impact on the CSD-designated Primary Significant Ridgeline, and at implementing all the recommended features of Los Angeles County Regional Planning's Hillside Design Guidelines. No further mitigation is necessary.

Significance After Mitigation. Compliance with locally adopted ordinances (Castaic Area Community Standards District and Santa Clarita Valley Area Plan / Hillside Management Plan) and land use policies would ensure that proposed land design, landscaping and structures result in a high quality aesthetic environment that is generally compatible with the surrounding area. Immediately following construction, the proposed development would be anticipated to require some time for revegetation to naturalize and for landscaping components to mature; however, this impact would be temporary and occurs with all similar developments.



Section 4.9 Visual Qualities



-  Project Site
-  Trail
-  I-5
-  Water Source

Source: City of Santa Clarita Planning, June 2002.

The project would be generally consistent with locally adopted visual resource protection policies and its impact on local visual resources would be less than significant.

**Impact VIS-2 The proposed project would produce new sources of light and glare that have the potential to adversely affect adjoining land uses. Light and glare impacts are considered Class II, significant but mitigable.**

The project site currently contains no nighttime lighting sources. This is consistent with the rural nature of the property, and with its adjacency to the undeveloped lands to the south and west, although a condominium development has been approved for the property to the south (approved Tentative Tract 46798). Nighttime lighting already exists to the north and northwest in the residential areas, and to the east at I-5 and adjacent to I-5 at the County's Castaic Sports Complex.

Site-specific lighting plans would be developed at the final tract map stage. It is anticipated that lighting would be implemented within both the commercial and residential components of the proposed development. Site illumination would be needed for vehicular and pedestrian movement, and onsite security. The introduction of new lighting into a previously unlighted area would extend the light glow of the urban area further into currently rural areas onsite and to the west and if not properly designed has the potential to create nuisance effects on adjoining residential uses. In addition, the lighting of the proposed commercial uses has the potential to adversely affect proposed residential uses that would sit at a higher elevation looking down upon the commercial uses.

New sources of glare would be introduced to the area with paving, building surface treatments, windows and parked automobiles. Glare could affect existing residents in the area, as well as motorists on I-5. These new sources of light and glare have the potential to adversely affect views of the site and existing and proposed land uses adjoining the proposed development.

Mitigation Measures. The following mitigation measures are recommended to reduce adverse aesthetic effects associated with lighting and glare.

- VIS-2(a)** Exterior lighting shall incorporate mission bell shaped posts to prevent offsite illumination and glare upon adjacent parcels, public areas, environmentally sensitive areas, and the night sky. The posts shall be placed the maximum distance apart and include the minimum lumens allowed by the Los Angeles County Department of Public Works.
- VIS-2(b)** Any security lighting shall be screened such that lighting globes are not visible from a distance of more than 20 feet. Security lighting shall be activated by motion detectors.
- VIS-2(c)** 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. Prior to final tract map approval of all plan details, including lighting for the site would be subject to the review and approval of the County of Los Angeles Department of Regional Planning, approval by the Los Angeles County Planning Commission, and must be found in compliance with the requirements of the CSD. Although the proposed project would permanently increase overall nighttime lighting and daytime glare levels in the area, implementation of the recommended measures would reduce lighting and glare impacts to a level considered less than significant.

**Impact VIS-3 The proposed project is located in the CSD and also within an area that is within the SCVAP / Hillside Management Area. Further, the project involves development that would bisect a CSD-designated Primary Significant Ridgeline. As a result there is the potential for the project to result in visual resource policy inconsistencies that could result in adverse visual effects. Given the design of the subdivision and subsequent review and design measures that would be required as part of the development plan approval process, this is considered a Class III, less than significant impact.**

The proposed subdivision has been designed to comply with CSD and SCVAP / Hillside Management Plan by clustering the proposed development, implementing appropriate density transfers, minimizing grading, contour grading, utilizing curvilinear streets, using natural and enhanced buffer zones, and providing open space areas, which appear to be substantial (over 60% of the site). The proposed site layout and design avoids modification of the prominent physical features and the peaks of the CSD-designated Primary Significant Ridgeline on the site. As mentioned above, overall it appears that only a relatively small tail-end portion of the designated significant ridgeline is on the project's site, while the majority of the ridge extends westward (see Figure 4.9-1); furthermore, this tail-end of the ridgeline on the site has also a relatively lower elevation when compared with the main body of the ridgeline.

As described above (Section 4.9.2.a, *Impact Analysis*, and Impact VIS-1 of Section 4.9.2.b), Figure 4.9-1 shows that the Primary Significant Ridgeline in the west portion of the site may be viewed as having two distinct segments of northeasterly and northerly bearings. Figure 4.9-4 shows the profile of the Primary Significant Ridgeline, along a Section A-A, which approximately aligns with the two distinct segments of the ridgeline as it traverses the west portion of the project site. Section A-A encompasses the peak of 1,494 feet near the southwest corner of site and the secondary peak of 1,385 at the north. In between these two peaks a saddle section exhibits a drop in elevation between 100 to over 175 feet relative to the peak of 1,494 feet. This saddle segment spans a distance of about 900 feet along the ridgeline (see Figure 4.9-4, Section A-A). The two peaks are approximately 1,300 feet apart along Section A-A.

Figure 4.9-4 in effect shows that the prominence of the ridgeline dies out in this low-elevation section as there is essentially an elevation discontinuity along the saddle area. On site visual observations also support this assertion of a ridgeline discontinuity – see Photos 1, 2 & 7 in



Figure 4.9-5 and 4.9-6. The proposed access road, "C" Street, essentially connects the two residentially-designated areas on opposite sides of the Ridgeline (see Figure 4-15.1), and provides access to the project's park site. As seen from the profile of Section A-A in Figure 4.9-4, "C" Street crosses the ridgeline near the lowest elevation (1,320 feet) of the saddle section. The natural slope in the saddle area is shown by a dashed line and the proposed manufactured (graded) slope of the saddle is indicated by a solid line. By comparing the natural and manufactured slope lines in the saddle area, it is apparent that the project's land design has preserved the higher elevations and the peaks of the Primary Significant Ridgeline. By locating "C" Street near the trough of the saddle, the required grading and the visual impact have been minimized to the greatest extent feasible. As discussed above for the northbound visual simulation (see Impact VIS-1), views of the site and those of the Primary Significant Ridgeline would be kept largely unaltered by the project's design.

The Primary Significant Ridgeline section extending into the northeast corner of the project site (see Figure 4.9-1) would be affected by the grading needed for The Old Road widening planned by the Los Angeles County, and not by the proposed project's footprint. However, views of the project from the north would continue to remain essentially blocked by the hilly topography, which would be largely preserved. The hillside shown to the left of Photo one in Figure 4.9-5, which would be undisturbed by the project, together with an added fill area, would act as a combination of natural and enhanced visual / acoustic buffer zones, which would generally continue to block the line of view from the existing condominium project to the north (Tr. 34365). However, any views of the Primary Significant Ridgeline for the residents of the existing condominium development would remain unaltered. The elevation differences between the project site and the west property (80 feet), and between the project and the proposed condominium development to the south (approved Tentative Tract 46798) (60 feet), also serve to act as natural buffers, effectively reducing visual impacts to these adjacent residents, while preserving views of the crest of the Primary Significant Ridgeline within Open Space Lot 72. Views of the proposed development would also be blocked from the southwest through Open Space dedication from Lot 72, which includes the crest and peak at elevation 1,494 of the Primary Significant Ridgeline.

By preserving the higher elevation areas in open space through clustering, density transfers and minimized grading, the project appears to be consistent with the Castaic Area Community Standards District, Hillside Management Area Plan and Hillside Design Guidelines. In addition, subsequent final tract map development plans would be subject to the approval of the Los Angeles County Department of Regional Planning and approval by the Los Angeles County Planning Commission, which would further help to ensure that future lot-specific designs remain consistent with locally adopted plans and policies including the Santa Clarita Valley Area Plan and the CSD.

The proposed project would bisect a saddle area that contains a segment of a CSD designated Primary Significant Ridgeline; however, the finished grade of this saddle area would be 60 feet lower than the peak of the Ridgeline that occurs to the north and 170 feet lower than the peak that occurs to the southwest. Additionally, these peaks would be preserved in Open Space as Lots 72 and 73. The portion of the ridge that the project would bisect is not currently visible from I-5 or areas eastward, from the north, from the south, or from the southwest, because the



existing topography shields these views. The saddle area is currently only visible from the backside (west) at the location of the existing mobile home development and at the location of a single family residence west of the property. Once constructed, the project would be elevated approximately 80 feet above these existing viewers, and the peaks of the ridgeline would remain preserved in perpetuity. Thus, the project would not be considered to have a substantial adverse impact to the CSD-designated Primary Significant Ridgeline.

Mitigation Measures. Implementation of project specific design measures in accordance with locally adopted land use plans and policies (including the CSD & SCVAP) together with design measures that have been incorporated into subdivision are expected to reduce the project's impact on visual resources to less than significant. In particular incorporation of design features have aimed at minimizing any visual impact on the CSD-designated Primary Significant Ridgeline, and at implementing all the recommended features of Los Angeles County Regional Planning's Hillside Design Guidelines. No further mitigation is necessary.

Significance After Mitigation. Compliance with locally adopted ordinances (CSD and SCVAP / HM) and land use policies would ensure that proposed land design, landscaping and structures result in a high quality aesthetic environment that is generally compatible with the surrounding area. The project would be generally consistent with locally adopted visual resource protection policies and its impact on local visual resources would be less than significant.

**c. Cumulative Impacts.** The proposed project, in combination with approximately 70 other projects, would continue to transform the aesthetic character of the Castaic area from rural to more suburban. This would be most noticeable in hillside areas adjoining the freeway and other major road corridors. Individual projects have the potential to result in significant visual impacts both alone and from a cumulative perspective. The aesthetic impacts of individual development projects can normally be mitigated through careful site design, avoidance of significant visual features, and appropriate building and landscape standards. Therefore, while anticipated increased urbanization of the Santa Clarita Valley and Castaic area would result in a significant change in the area's visual character, this change is consistent with land use planning policies for the area. In order to minimize the potentially adverse cumulative impacts on visual resources, individual projects would be required to comply with locally adopted plans, policies and development standards.



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## 4.10 TRAFFIC AND ACCESS

### 4.10.1 Setting

This section is based on a traffic report that was prepared by ATE, Inc. for this project as approved by the Los Angeles County Department of Public Works (DPW) Traffic and Lighting Division (September 2006). The traffic report and mitigation was reviewed and approved by Caltrans (2005 and 2008). Access to the site is proposed via a new roadway connection to The Old Road. Frontage improvements would include the widening of The Old Road to conform to the roadway realignment project currently under design by the County for the roadway. The project is anticipated for completion late in 2010. Caltrans and DPW traffic study approvals are contained in Appendix F along with the traffic study (ATE, September 2006).

**a. Existing Street Network.** Figure 4.10-1 shows the study-area street network and the following text provides a brief description of the roadways that were identified by County staff for analysis in the traffic study.

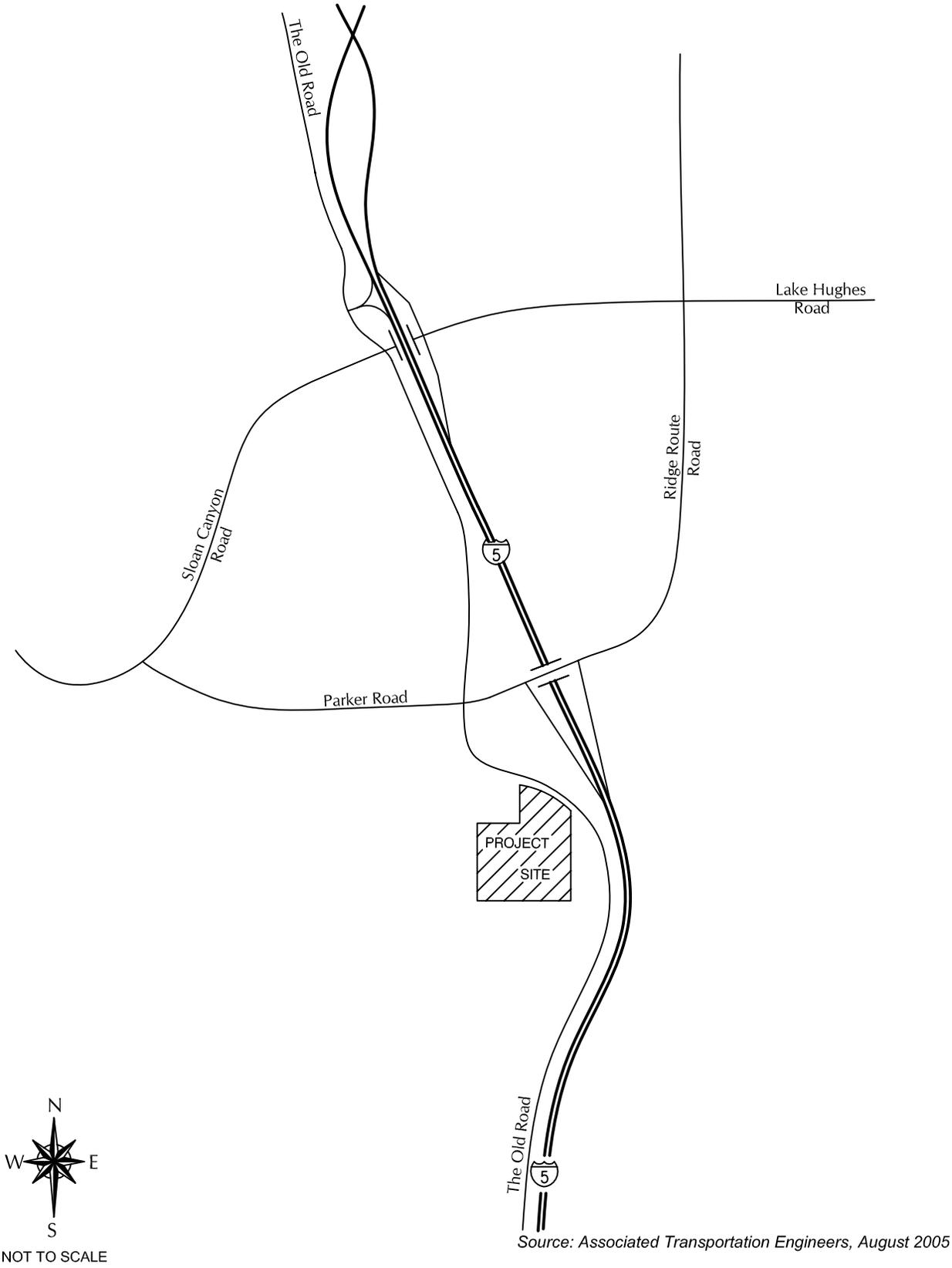
Interstate 5 / Golden State Freeway (I-5) is a major north-south interstate commuter and transportation route used for international and interstate travel and movements of goods. Within Los Angeles County it extends from the Orange County line to the Kern County line and is known as either the Santa Ana or the Golden State Freeway. The freeway contains eight travel lanes in the Castaic area. Regional access to the project area is provided via the interchange with Sloan Canyon Road-Lake Hughes Road and the half-diamond interchange with Parker Road. The on- and off-ramp intersections with I-5 in the study-area are currently controlled by stop-signs.

Parker Road extends in an east-west direction from Sloan Canyon Road to I-5. This two-lane collector provides a connection between the residential areas located west of I-5 and the freeway, and the commercial uses east of the I-5. The Parker Road / The Old Road intersection is controlled by stop signs on all approaches.

The Old Road is classified by the County as a Secondary Highway with a right-of-way of 80 feet. It extends as a frontage arterial parallel to I-5 from Valencia Boulevard in Santa Clarita until it terminates north of Victoria Road in Castaic. The roadway contains two travel lanes between Hillcrest Parkway and Lake Hughes Road. South of Hillcrest Parkway the roadway widens to four travel lanes. The posted speed limit is 55 mph between Parker Road and State Route 126, except for the segment just north of the project site, where the roadway contains a horizontal S-curve and the advisory speed limit is 30 mph. Access to the site is proposed via one access road on The Old Road located approximately 0.2 mile south of Parker Road. Figure 4.10-2 illustrates the tentative tract map, site access and The Old Road widening along the project's frontage. The project is scheduled to be completed in 2008.

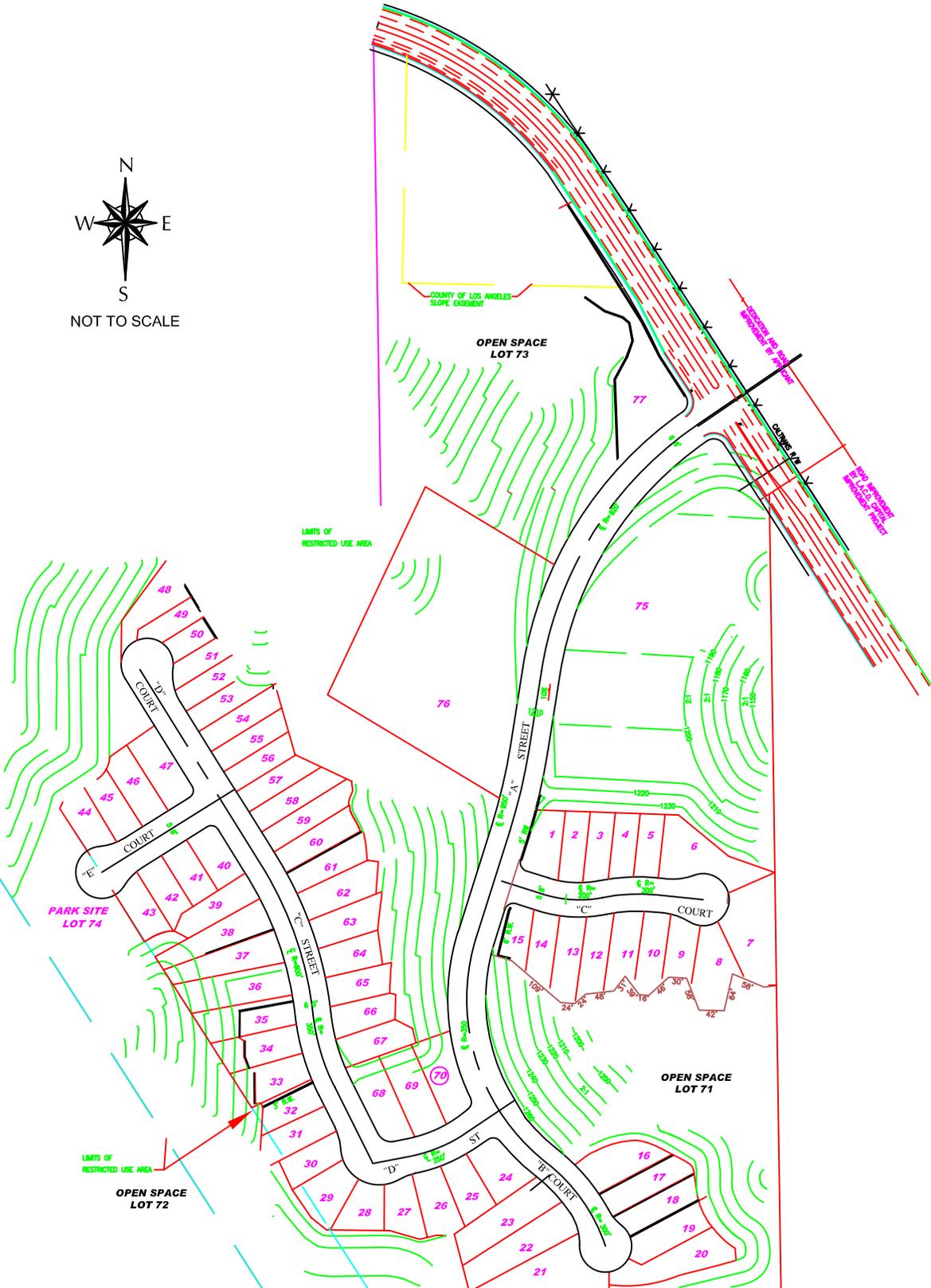
**b. Roadway Network Improvements.** Several roadway and intersection improvements that would affect traffic flows within the Castaic area are proposed or under design. The following





Existing Street Network/  
Project Site Location

Figure 4.10-1



Source: Associated Transportation Engineers, January 13, 2006

Tentative Tract Map

Figure 4.10-2

text summarizes these projects. Additional diagrams and text from original documents are contained in the technical appendix to the traffic report (Appendix F).

I-5 / Hasley Canyon Road Interchange. Caltrans and the Los Angeles County have developed an improvement project for the I-5 / Hasley Canyon Road interchange, which is located approximately 1.5 miles south of the project site. The improvements include replacing the Hasley Canyon Road overcrossing, modifying the existing ramps and widening the local roads to accommodate the future traffic volumes resulting from residential and commercial growth north of State Route 126, such as the Valencia Commerce Center and the Newhall Ranch. This project is expected to be funded by The Los Angeles Metropolitan Transportation Authority (MTA) and the County Bridge and Thoroughfare District (B&T) funds. No implementation schedule is currently available.

The Old Road. The County has developed a project to improve The Old Road from Hillcrest Parkway to the I-5 Southbound Ramps / The Old Road intersection just north of Lake Hughes Road. This project includes the realignment and widening of the roadway to four travel lanes and a median two-way left-turn lane. Additional road right of way and slope easement dedication for street widening and construction of retaining/slough walls may be required as part of the road widening improvements. All road improvements shall comply with Public Works' standards. The widened roadway segment would connect to the existing four-lane segment that extends from State Route 126 to Hillcrest Parkway. County staff has indicated that the project is currently under preliminary design. Figures showing the preliminary roadway design are included in the Technical Appendix (see Appendix F for the Traffic and Circulation Study). Within the study-area, the widening would result in modification of the intersections with Parker Road (widened northbound and southbound approaches) and Sloan Canyon Road (widened northbound and eastbound approaches). Construction would be facilitated as frontage improvement projects by future developments along The Old Road and through funding by Caltrans and the Castaic Bridge and Thoroughfare District (B&T)<sup>1</sup> funds.

I-5 High-Occupancy Vehicle (HOV) and Truck Climbing Lane Improvements. The California Department of Transportation (Caltrans) is initiating an Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) for the I-5 HOV/Truck Lanes project (Carlos Montez, 2008). The project proposes to add one HOV lane in each direction on I-5 from the State Route 14 (SR-14) interchange at the southern project limit north to Parker Road, from post mile (PM) R45.4 to PM R59.0, a distance of approximately 13.6 miles. The project also proposes to add truck lanes from the SR-14 interchange to Calgrove Boulevard (northbound) and to Pico Canyon Road/Lyons Avenue (southbound) (LSA Associates, Inc. 2007). These improvements are expected to: 1) Improve the person and goods throughput on the project segment of I-5 by focusing on the provision of HOV and truck climbing lanes; and 2) Reduce existing and forecasted traffic congestion on the project segment of I-5 (LSA Associates, Inc. 2007). These improvements were not accounted for in the traffic study, but are described here

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<sup>1</sup> Report on the Castaic Bridge and Major Thoroughfare Construction Fee District, Department of Public Works, County of Los Angeles.



as a new development that would further improve future traffic conditions in the vicinity of the project.

**c. Existing Traffic Volumes and Levels of Service.** Because traffic flow on urban street networks is most restricted at intersections, a detailed analysis of traffic conditions must examine the operational characteristics of critical intersections during peak flow periods. In rating an intersection's operating condition, "Levels of Service" (LOS) "A" through "F" are used, with LOS "A" indicating very good operations and LOS "F" indicating poor operations (more complete definitions are contained in the Technical Appendix (Appendix F)).

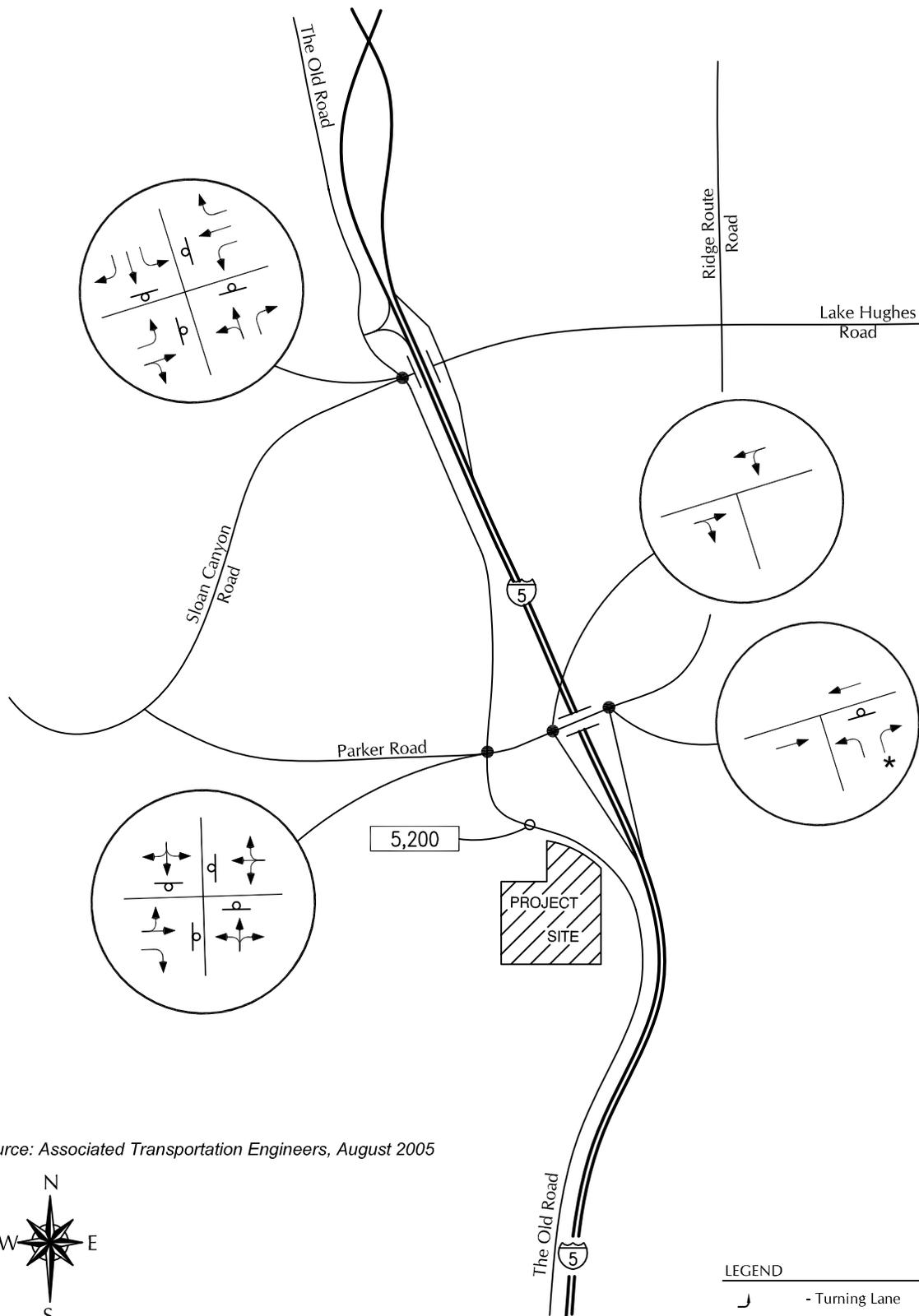
Figure 4.10-3 shows the location, control and lane configuration of the intersections that were identified by County staff for inclusion in the study. The A.M. and P.M. peak hour turning counts were collected at the study-area intersections in March of 2005 and are included in the Appendix F for reference. The existing A.M. and P.M. peak hour traffic volumes are illustrated in Figure 4.10-4.

Intersections were evaluated by two different methodologies. The County requires that the *Intersection Capacity Utilization* (ICU) method be used to analyze signalized and unsignalized intersections, whereas the Highway Capacity Manual (HCM) method is commonly utilized to evaluate "STOP" sign controlled intersections. The ICU method is used to calculate the level of service and takes a sum of the critical movements volume to saturation flow rates. The primary output from ICU is analogous to the intersection volume to capacity ratio. The ICU method derives a numerical value that corresponds to a given LOS. LOS can range from "A" to "F". LOS definitions follow.

<u>LOS</u>	<u>V/C Ratio</u>	<u>HCM (2000)</u>
A	0.00 - 0.60	Less than or equal to 10 seconds
B	0.61 - 0.70	10.1 to 20 seconds
C	0.71 - 0.80	20.1 to 35.0 seconds
D	0.81 - 0.90	35.1 to 55.0 seconds
E	0.91 - 1.00	55.1 to 80 seconds
F	> 1.00	> 80 seconds

The unsignalized intersections included in this study are analyzed using the ICU method per County methodology; however, the HCM method calculations and definitions are included in the technical appendix (Appendix F) for reference. Table 4.10-1 lists the existing A.M. and P.M. peak hour levels of service for the study-area intersections. Level of service calculation worksheets are included in Appendix F. Table 4.10-1 indicates that the study-area intersections currently operate at LOS "A" during the A.M. and P.M. peak hours when calculated using the ICU method.





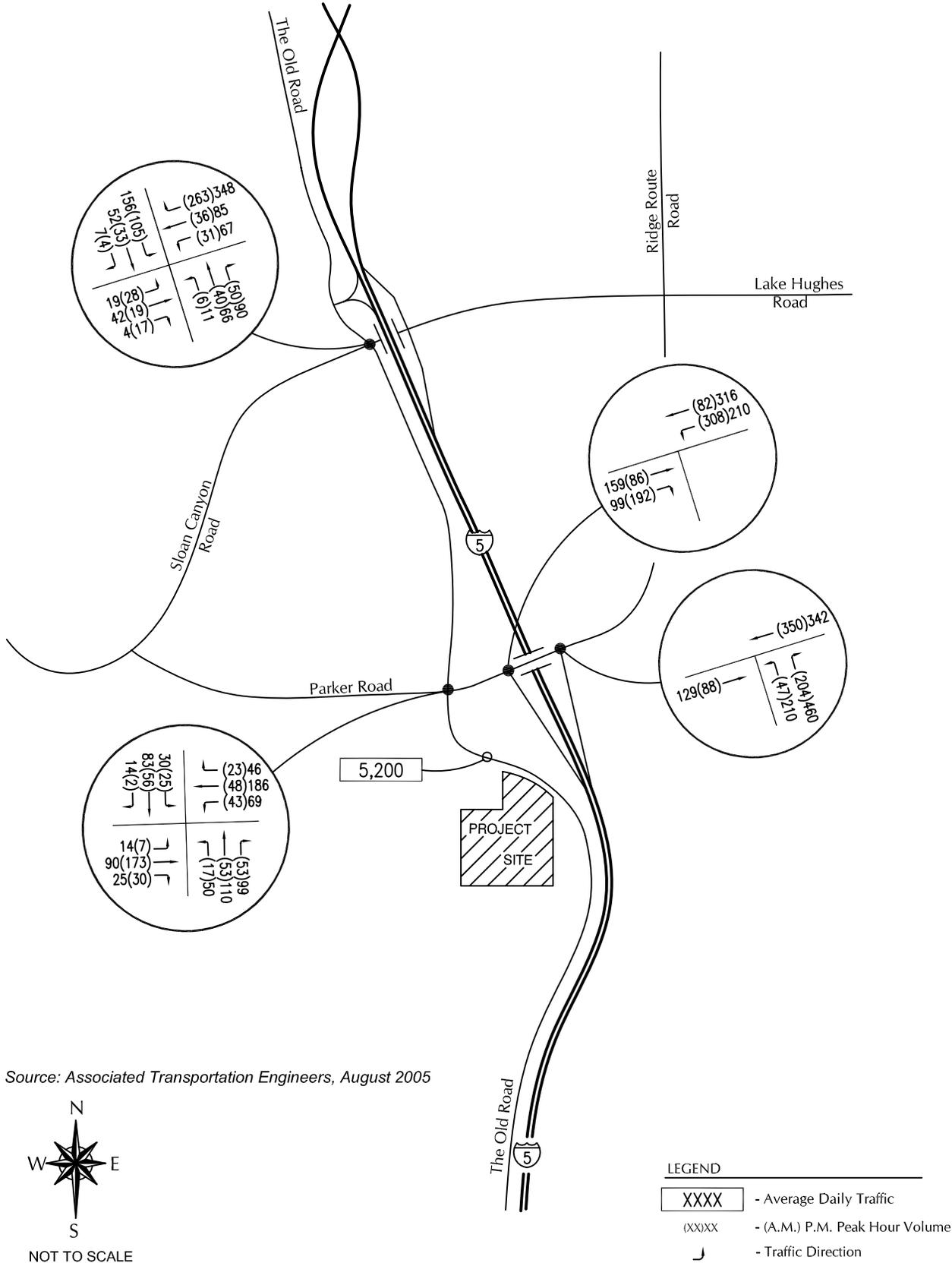
Source: Associated Transportation Engineers, August 2005



LEGEND	
J	- Turning Lane
*	- Right-Turn has Dedicated Receiving Lane
d	- Stop Sign

Study-Area Intersections

Figure 4.10-3



Existing Traffic Volumes

Figure 4.10-4

**Table 4.10-1 Existing A.M. and P.M. Peak Hour Intersection Levels of Service**

Intersection	Control	Existing A.M. Peak Hour ICU/LOS	Existing P.M. Peak Hour ICU/LOS
The Old Road/Sloan Canyon Road	All-Way Stop	0.31/LOS "A"	0.38/LOS "A"
The Old Road/Parker Road	All-Way Stop	0.36/LOS "A"	0.59/LOS "A"
I-5 Southbound On-Ramp/Parker Road	Yield	0.47/LOS "A"	0.57/LOS "A"
I-5 Northbound Off-Ramp/Ridge Route Road	One-Way Stop	0.45/LOS "A"	0.31/LOS "A"

**d. Year 2008 Traffic Volumes and Levels of Service.** The project is expected to be occupied in the Year 2008<sup>2</sup>. Traffic volumes for the Year 2008 were developed using the County's ambient growth rate for the Castaic area, which is 4.6% per year. This rate accounts for area wide increase in traffic due to the combined effect of continuing development, intensification of existing developments, and other factors. It should be noted that the average annual growth rate for the unincorporated Santa Clarita Valley was 3.4% between 1990 and 2000, and is projected at 4.3% from 2000 to 2030<sup>3</sup>. Therefore, the actual annual growth rate for the Castaic area may be somewhat lower than analyzed in the traffic analysis.

The resulting Year 2008 traffic volumes are illustrated in Figure 4.10-5. Levels of service were calculated for the study-area intersection assuming the Year 2008 traffic conditions. Table 4.10-2 shows the level of service calculation results. Worksheets showing the level of service calculations are included in the Technical Appendix.

**Table 4.10-2 Year 2008 A.M. and P.M. Peak Hour Intersection Levels of Service**

Intersection	Year 2008 A.M. Peak Hour ICU/LOS	Year 2008 P.M. Peak Hour ICU/LOS
The Old Road/Sloan Canyon Road	0.34/LOS "A"	0.42/LOS "A"
The Old Road/Parker Road	0.40/LOS "A"	0.66/LOS "B"
I-5 Southbound On-Ramp/Parker Road	0.52/LOS "A"	0.63/LOS "B"
I-5 Northbound Off-Ramp/Ridge Route Road	0.49/LOS "A"	0.49/LOS "A"

Table 4.10-2 indicates that the study-area intersections would operate at LOS "B" or better during the A.M. and P.M. peak hours under Year 2008 conditions.

#### 4.10.2 Methodology and Significance Thresholds

**a. Methodology.** The Los Angeles County analysis methodologies were used in this study to assess the project's potential impacts. The traffic scenarios required are summarized in the County's Traffic Impact Analysis Report Guidelines<sup>4</sup>, and are listed below:

<sup>2</sup> Project occupancy currently anticipated for 2010.

<sup>3</sup> Santa Clarita Valley General Plan Technical Background Report, Land Use and Urban Form, EIP Associates, 2004.

<sup>4</sup> Traffic Impact Analysis Report Guidelines, County of Los Angeles, 1997



- (a) Existing traffic;
- (b) Existing traffic plus ambient growth to the year the project will be completed (pre-project);
- (c) Traffic in (b) plus project;
- (d) Traffic in (c) with the proposed mitigation measures (if necessary);
- (e) Traffic in (c) plus the cumulative traffic of other known developments; and
- (f) Traffic in (e) with the proposed mitigation measures (if necessary).

**b. Significance Thresholds.** The County of Los Angeles impact significance thresholds were applied to the study-area intersections. The traffic impact thresholds are discussed below.

Intersections. For intersections, the impact is considered significant if the project related increase in the volume to capacity (V / C) ratio equals or exceeds the threshold shown in Table 4.10-3.

**Table 4.10-3 County of Los Angeles  
 Intersection Impact Threshold**

Pre-project Intersection LOS	Pre-project V/C	Project V/C Increase
LOS "C"	0.71-0.80	0.04 or more
LOS "D"	0.81-0.90	0.02 or more
LOS "E" / "F"	0.91 or more	0.01 or more

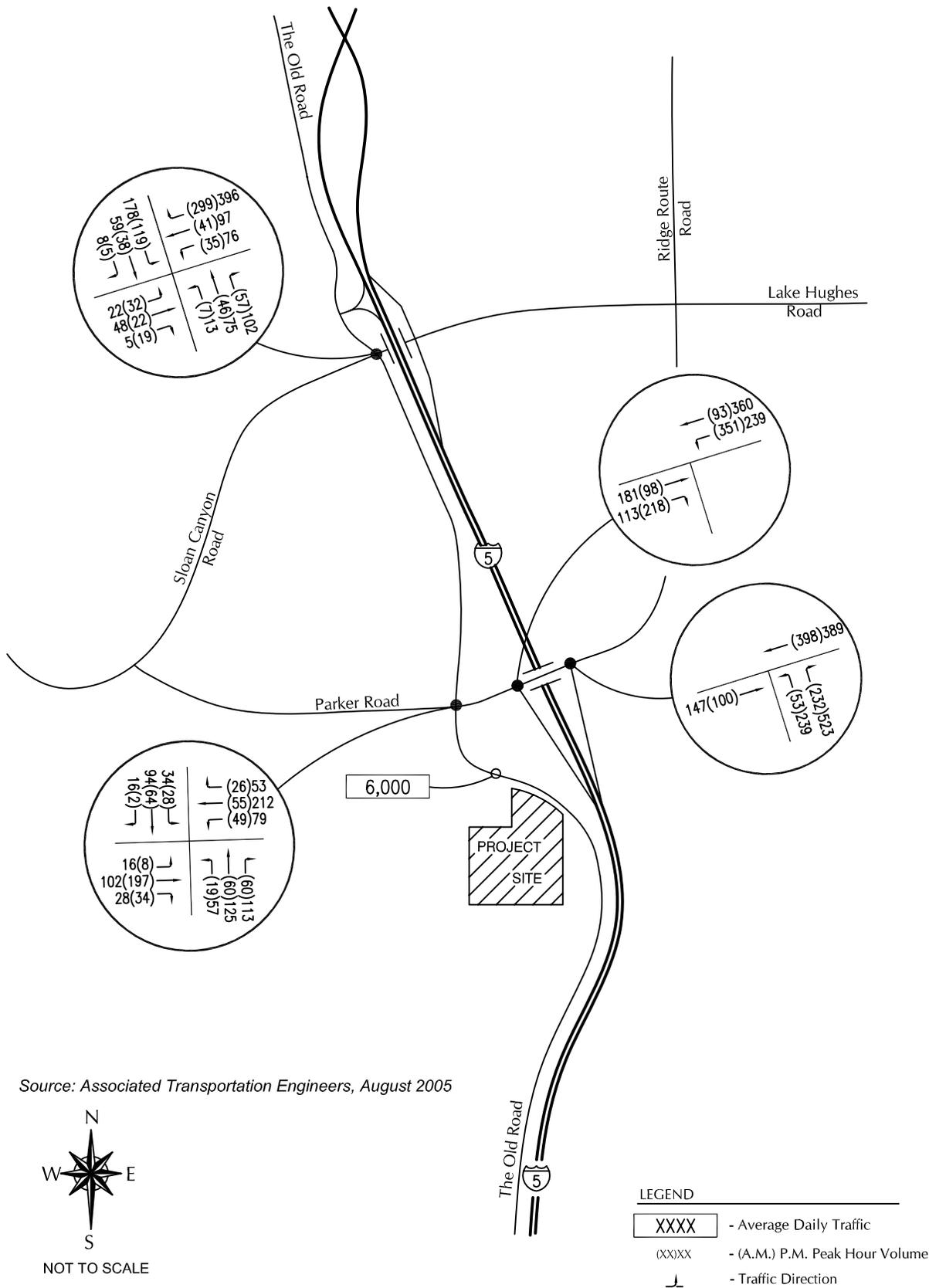
County staff have indicated that if the pre-project LOS is below LOS "C", the volume-to-capacity ratio to which the project related increase should be compared to is LOS "C" (V/C 0.71).

Two Lane Roadways. The project's impact on two-lane roadways should also be analyzed if those two-lane roadways are used for access. LOS service analysis contained in the Highway Capacity Analysis (Chapter 8, Two-Lane Highways) should be used to evaluate the project's impact. The project proposes to have access on The Old Road, which is currently a two-lane facility. However, the realignment project for the segment of The Old Road adjacent to the site includes widening of the roadway to four travel lanes. Therefore, because The Old Road is being widened to four lanes, a two-lane roadway analysis is not included.

Traffic Hazards at The Old Road. Per the attached initial study checklist, a significant impact would occur if the project resulted in hazardous traffic conditions. Therefore, because the project's primary access would occur at The Old Road, where substantial modifications are going to occur, there is potential for incompatibility. A significant adverse impact with regard to safety of vehicles, bicycles and pedestrians could occur if this project were not planned to be compatible with future modifications.

Internal Circulation and Parking. As indicated above, under CEQA a significant impact would occur if the project resulted in hazardous traffic conditions. The project involves the development of residences and commercial uses in a previously undeveloped area. Development would result in an internal circulation system that could present a significant adverse impact if it were not adequate to safely serve the needs of the development. These conditions could occur as a result of circulation, access, and parking.





Year 2008 Traffic Volumes

Figure 4.10-5

**c. Project Impacts and Mitigation Measures.** Trip generation estimates were calculated for the project and potential traffic impacts were reviewed. The following text presents the results of the project-specific impact analyses, identifies the significance of project traffic impacts, and recommends mitigation measures where required.

Project Trip Generation. Trip generation estimates for the project were calculated using rates presented in the Institute of Transportation Engineers (ITE) Trip Generation Manual<sup>5</sup> for single family detached housing (ITE land use #210) and office park (ITE land use #750). The trip generation estimates, which were reviewed by County staff, are summarized in Table 4.10-4. The trip generation data in Table 4.10-4 indicates that the Lake View Estates Project would generate 1,698 ADT, with 210 trips in the A.M. peak hour and 206 trips in the P.M. peak hour.

**Table 4.10-4 Project Trip Generation**

Land Use	Size	Average Daily		A.M. Peak Hour		P.M. Peak Hour	
		Rate	Trips	Rate	Trips	Rate	Trips
Single Family Detached Housing	70 Units	9.57	670	0.75	53	1.01	71
Office Park	90 KSF <sup>a</sup>	11.42	<u>1,028</u>	1.74	<u>157</u>	1.50	<u>135</u>
<b>TOTAL</b>			<b>1,698</b>		<b>210</b>		<b>206</b>

<sup>a</sup> KSF=1,000 S.F.

*The project as analyzed in the traffic report included 90,000 SF of commercial office development. The project has since been reduced to 70,000 SF. Therefore, the above trip generation overestimates project generated traffic. Based on the reduced commercial area of 70,000 SF of office, ADT would be reduced by about 200 trips, while AM peak hour trips would be reduced by about 35 trips, and PM peak hour trips would be reduced by about 30 trips.*

Trip Distribution and Assignment. Trip distribution percentages were developed based on the location of the project, the location of the residential and commercial land uses in the Castaic area, the future trip distribution percentages for the Castaic region contained in Appendix B of the MTA 2004 CMP document<sup>6</sup>, and the existing traffic distribution on the I-5 ramps with Parker Road and Sloan Canyon Road, as measured by Caltrans. The project trip distribution percentages, which were reviewed by County staff, are shown in Table 4.10-5 and Figure 4.10-6. The trip distribution percentages at the study-area intersections are shown in Figure 4.10-7.

**Table 4.10-5 Project Trip Distribution**

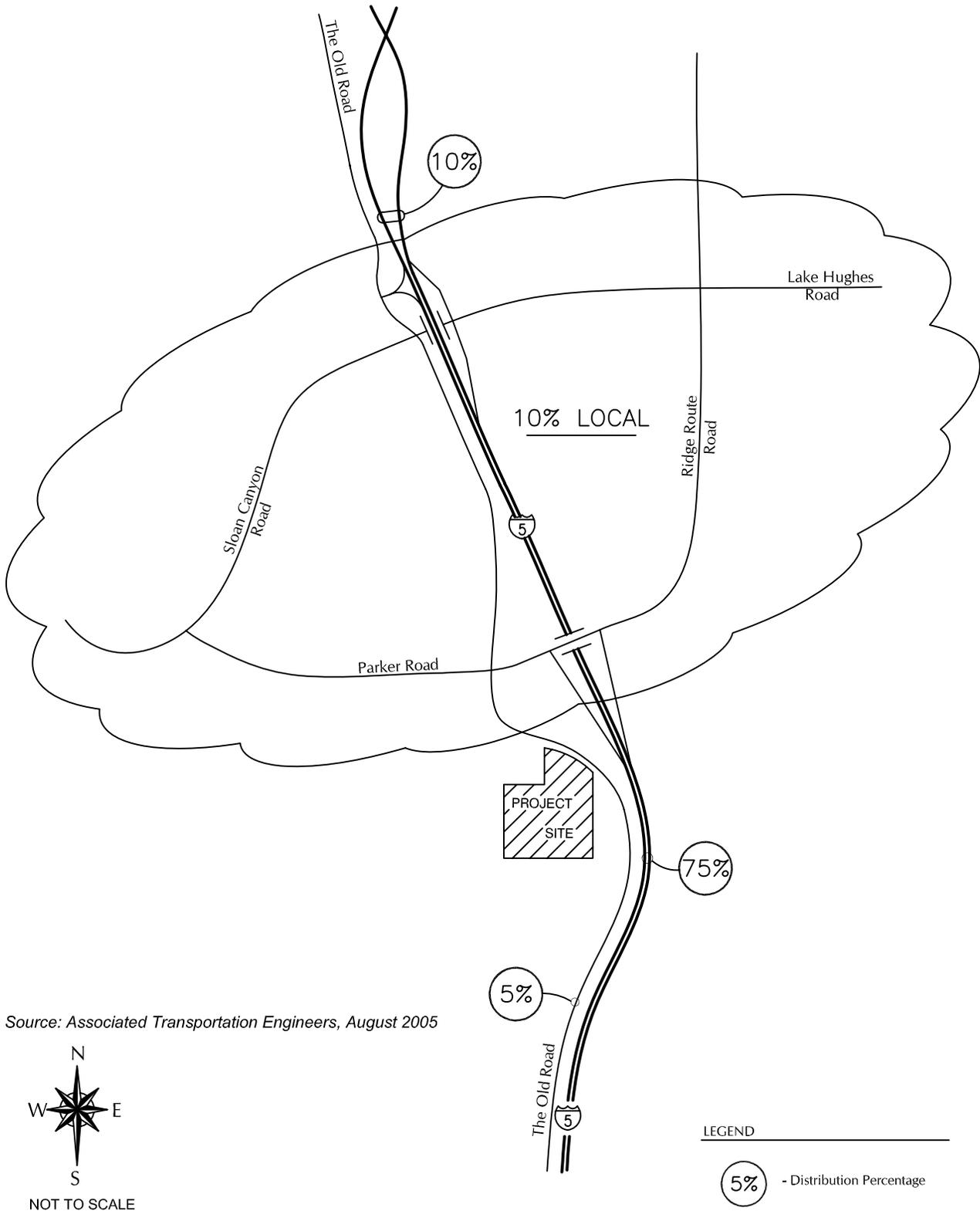
Origin/Destination	Direction	Percent
I-5	North	10%
	South	75%
The Old Road	South	5%
Local Castaic Area	North	10%
<b>Total</b>		<b>100%</b>

The project-added traffic was assigned to the study-area street network. Figure 4.10-8 illustrates the project-added traffic volumes and Figure 4.10-9 illustrates the ambient growth through Year 2008 + project traffic volumes.

5 Trip Generation, Institute of Transportation Engineers, 7<sup>th</sup> Edition, 2003

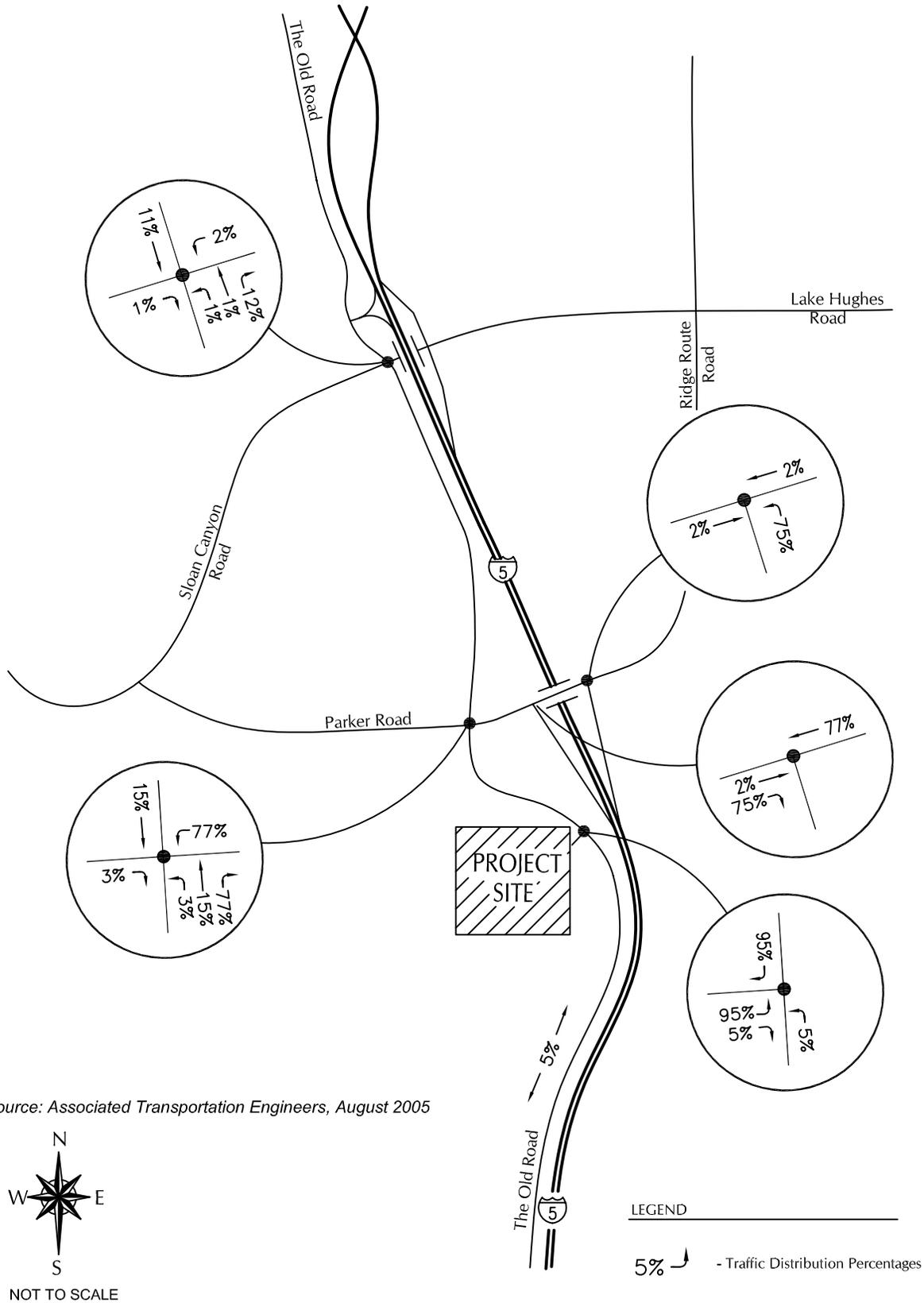
6 2004 Congestion Management Program for the Los Angeles County, County of Los Angeles Metropolitan Transportation Authority, 2004





Project Trip Distribution Percentages

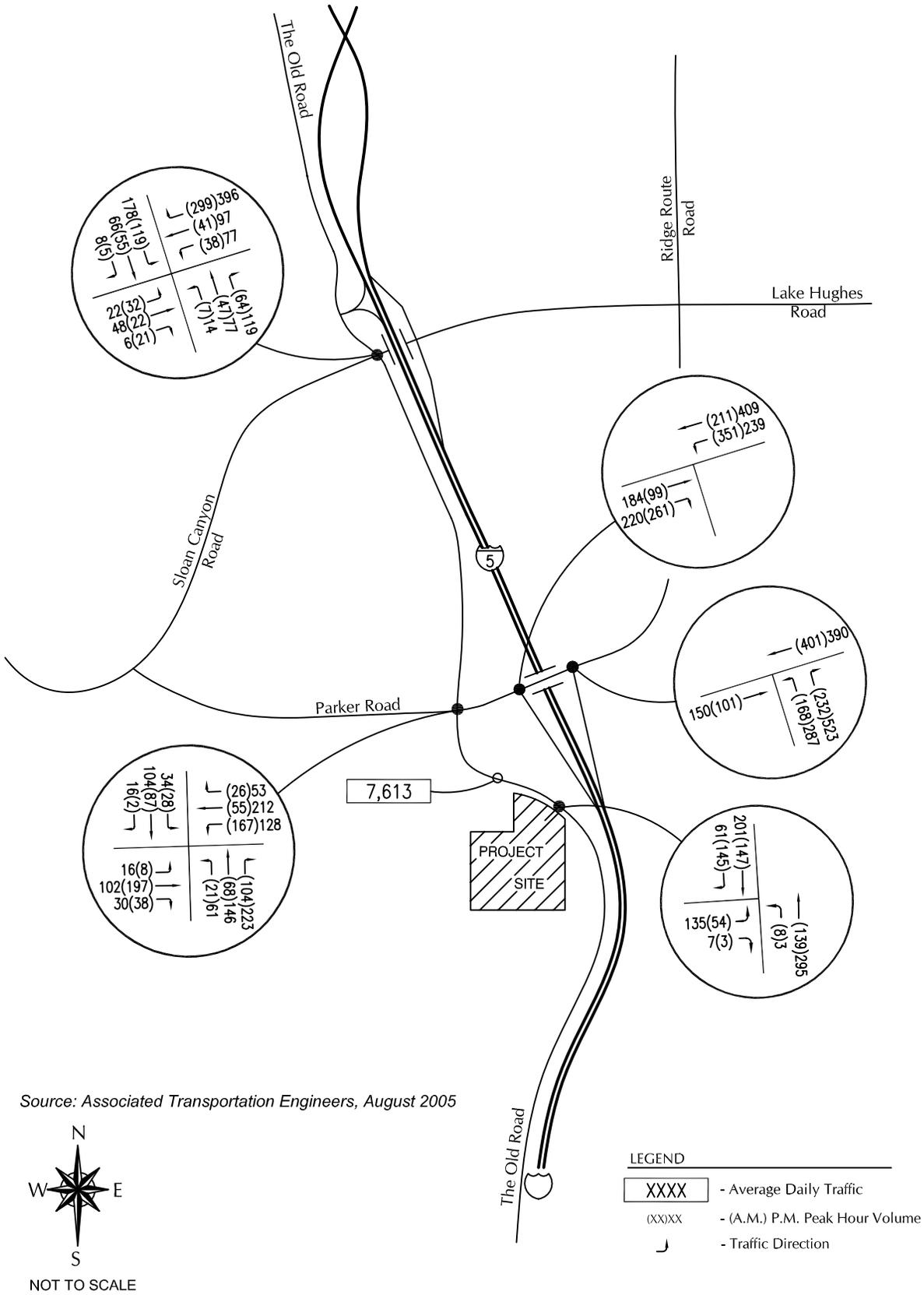
Figure 4.10-6



**Project Trip Distribution Percentages - Intersections**

**Figure 4.10-7**





Year 2008 + Project Traffic Volumes

Figure 4.10-9

Intersection Operations. Levels of service for the study-area intersections were calculated assuming ambient growth through Year 2008 + project traffic conditions.

**Impact T-1** Development of the Lake View Estates Project would result in the addition of 210 - A.M. and 206 - P.M. peak hour trips. These traffic additions would result in a Class II, *significant but mitigable* impact at The Old Road/Parker Road intersection during the P.M. peak hour.

The A.M. and P.M. peak hour level of service calculation results for the Year 2008 + project scenario are summarized in Tables 4.10-6 and 4.10-7, respectively.

**Table 4.10-6 Year 2008 + Project A.M. Peak Hour Intersection Levels of Service**

Intersection	ICU / LOS		Project - Added	
	Year 2008	Year 2008 + Project	V/C Increase <sup>1</sup>	Impact <sup>1</sup> ?
The Old Rd/Sloan Canyon Rd	0.34/LOS "A"	0.34/LOS "A"	0.00	No
The Old Rd/Parker Rd	0.40/LOS "A"	0.50/LOS "A"	0.10	No
I-5 SB On-Ramp/Parker Rd	0.52/LOS "A"	0.61/LOS "B"	0.09	No
I-5 NB Off-Ramp/Ridge Route Rd	0.49/LOS "A"	0.50/LOS "A"	0.01	No

<sup>1</sup> V/C increase and impact determined by comparing the Year 2008 □ Project V/C ratio to pre-project baseline of V/C 0.71.

**Table 4.10-7 Year 2008 + Project P.M. Peak Hour Intersection Levels of Service**

Intersection	ICU / LOS		Project - Added	
	Year 2008	Year 2008 + Project	V/C Increase <sup>1</sup>	Impact <sup>1</sup> ?
The Old Rd/Sloan Canyon Rd	0.42/LOS "A"	0.42/LOS "A"	0.00	No
The Old Rd/Parker Rd	0.66/LOS "B"	0.78/LOS "C"	<b>0.12</b>	<b>Yes</b>
I-5 SB On-Ramp/Parker Rd	0.63/LOS "B"	0.71/LOS "C"	0.08	No
I-5 NB Off-Ramp/Ridge Route Rd	0.49/LOS "A"	0.50/LOS "A"	0.01	No

<sup>1</sup> V/C increase and impact determined by comparing the Year 2008 □ Project V/C ratio to pre-project baseline of V/C 0.71.

The level of service data contained in Tables 4.10-6 and 4.10-7 indicate that the project would generate an impact at The Old Road / Parker Road intersection during the P.M. peak hour by adding V/C 0.12 (compared to the pre-project baseline of V/C 0.66), which exceeds the County's threshold of V/C 0.04 for intersections operating at LOS "C".

Mitigation Measures. The following mitigation measure would reduce the impact to a level that is less than significant.

**T-1 Road Widening.** Widening of the westbound approach to provide a left-turn lane and a shared through / right turn lane would reduce the



project’s impact at The Old Road / Parker Road intersection to a level of insignificance, thereby mitigating the project’s impact.

The existing westbound approach (eastern leg of the intersection) should be widened to provide a separate left-turn lane and a shared through / right turn lane. These improvements would result in LOS “B” operations during the P.M. peak hour thereby mitigating the project’s impact. A feasibility study for this improvement has been submitted to the Los Angeles County Department of Public Works. The project would be responsible for the cost of the widening construction. It is noted that the task of widening of this approach is included in the Castaic B&T District Project for the intersection, and the project may therefore be eligible for traffic fee credits for the costs of the improvement.

*Traffic Signal Warrant Analysis.* Traffic signal warrants were completed for impacted intersections to determine the need for a signal. Signal warrants were be evaluated with pre-project volumes to determine whether a fair share payment would be required. Table 4.10-8 summarizes the results of the signal warrant analysis for Year 2008 without project conditions at The Old Road / Parker Road intersection(traffic signal warrant worksheets are included in the Technical Appendix).

The County’s traffic study guidelines stipulate that the need for a traffic signal should be evaluated based on Warrant 3 - Peak Hour and the Estimated Average Daily Traffic values contained in Table 4C-101 of the MUTCD 2003 Caltrans Supplement 7.

**Table 4.10-8 The Old Road / Parker Road Intersection  
 Signal Warrant Analysis – 2008 Volumes (w/o project)**

Warrant	Type	Warrant Satisfied
1	Eight-Hour Vehicular Volume	<b>Yes</b>
2	Four-Hour Vehicular Volume	<b>Yes</b>
3	Peak Hour	<b>Yes</b>
4	Pedestrian Volume	No
5	School Crossing	N/A
6	Coordinated Signal System	No
7	Crash Warrant	No Data
8	Roadway Network	No
Table 4C-101	Average Traffic Estimate Form	<b>Yes</b>

The traffic signal warrant data in Table 4.10-8 shows that the Year 2008 without project traffic volumes would satisfy Warrant 3 - Peak Hour and the Estimated Average Daily Traffic in Table 4C-101. In addition, the Year 2008 without project traffic volumes would satisfy Warrant 1 - Eight-Hour Vehicular Volume and Warrant 2 - Four-Hour Vehicular Volume. The traffic signal warrant analysis completed for The Old Road / Parker Road intersection indicates that the Year 2008 without project traffic volumes would satisfy Warrant 1 – Eight-Hour Vehicular Volume, Warrant 2 – Four-Hour Vehicular Volume, Warrant 3 – Peak Hour, and the Estimated Average

7 MUTCD 2003 Caltrans Supplement, May 2004.



Daily Traffic in Table 4C-101. This indicates that a signal is warranted under Year 2008 without project conditions. Because signals are warranted without project traffic, the project will be required to contribute a proportional share (24.3%) towards the cost of the signal installation. Year 2008 without signal warrants are included in the Technical Appendix.

Significance after Mitigation. The impact would be reduced to a level that is less than significant through implementation of mitigation measure T-1 and payment of fair share contributions toward installation of a signal at The Old Road / Parker Road intersection.

**Impact T-2**    **Development of the Lake View Estates Project would result in the introduction of additional traffic and turning vehicles at the proposed intersection of The Old Road and project access at “A” Street. This section of The Old Road is currently in the planning and design stages for road widening and will include provisions for pedestrians, bicycles and vehicles. A potentially significant impact would occur if the Lake View Estates project access caused a hazard for pedestrians, vehicles and bicycles on The Old Road. This is a Class II, *significant but mitigable* impact.**

Frontage Improvements. The project is required to provide right-of-way dedication and frontage improvements on The Old Road along the site’s northeastern boundary. Improvements would be consistent with the realignment and widening project for the roadway under design by the County. The Old Road currently contains two travel lanes and a shoulder on the west side, and an asphalt curb and a fence on the east side. The frontage improvements include provision of 80 feet of right-of-way and construction of two travel lanes in each direction, a 10-foot wide median, a bike lane and an eight-foot sidewalk on the west side, and a bike lane and a four-foot sidewalk on the east side.

In addition, the project will provide a 200-foot northbound left-turn lane, which will be accommodated by the median on The Old Road, and a 200-foot southbound right-turn lane at the intersection of The Old Road with “A” Street, the project access road. The project is forecast to generate 145 right-turns and eight left-turns from The Old Road onto “A” Street during the A.M. peak hour, and 61 right-turns and three left-turns during the P.M. peak hour. The length of the northbound left-turn lane is adequate to provide storage for the forecast left-turn volumes. Additional left-turn storage can be attained by reducing the taper length from 100 feet to 60 feet, thus adding 40 feet to the left-turn lane. The right-turn movement from The Old Road into “A” Street would be unrestricted provided that the radius of the curb return is sufficient to accommodate turning movements of a 65-foot semi-truck (Caltrans California Design Vehicle), so vehicles would not back up behind a truck. If the taper on the right-turn lane is also reduced from 100 feet to 60 feet, the storage length would be 140 feet. This length would be sufficient to accommodate the forecast peak hour volumes.

Mitigation Measures. The following mitigation measure is included to insure that adequate storage in the turn lanes at The Old Road intersection with “A” Street at the project site entrance.



**T-2 Adequate Turn Storage.** The right turn lane on The Old Road at the project entrance shall be designed such that the radius of the curb return is sufficient to accommodate turning movements of a 65-foot semi-truck and with a storage length of 140 feet to provide adequate storage for project generated traffic. The project access configuration at The Old Road shall be designed to the satisfaction of the Los Angeles County Department of Public Works Traffic & Lighting Division.

Significance after Mitigation. The potential adverse impacts associated with hazards to vehicles, pedestrians and bicycles at the project access of "A" Street and The Old Road would be less than significant due to incorporation of design considerations.

Site Access. Access to the site is proposed via an access road ("A" Street) on The Old Road located approximately 0.2 miles south of Parker Road. "A" Street would contain 46 feet of pavement, which is sufficient width for one inbound lane and separate outbound turning lanes at its connection with The Old Road. The Old Road would contain two travel lanes in each direction and separate turning lanes at the "A" Street intersection. The project would provide right-of-way dedication for the southbound right-turn lane on The Old Road.

Levels of service for The Old Road / "A" Street intersection were calculated using the ICU method and the Highway Capacity Manual (HCM) methodology<sup>8</sup> with a stop sign on the "A" Street approach. The calculations indicate that the intersection would operate at LOS "B" or better during the peak hours with Year 2008 + project traffic and LOS "C" or better with cumulative + project traffic. Cumulative traffic generation is discussed at greater length under subsection d. *Cumulative Impacts* on page 4.10-22.

The need for a traffic signal at this location was evaluated based on the warrants contained in the *Manual on Uniform Traffic Control Devices (MUTCD)*<sup>9</sup> and the *MUTCD 2003 Caltrans Supplement*<sup>10</sup>. The analysis found that the Year 2008 + project and cumulative + project traffic volumes do not satisfy any of the traffic signal warrants.

Mitigation Measures. None are necessary as the project roadway design includes adequate width to accommodate two exit lanes and one entrance lane at the intersection of "A" Street with The Old Road. Additionally, Mitigation Measure T-2 would require compliance with any modifications necessary to insure that site access does not present hazards to pedestrians bicycle or vehicles on The Old Road.

Significance after Mitigation. The impact is less than significant due to incorporation of design measures.

Sight Distance. The stopping sight distance and corner sight distance standards contained in the *Caltrans' Highway Design Manual*<sup>11</sup> were applied to the intersection assuming

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8 Highway Capacity Manual, Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 2000.

9 Manual on Uniform Traffic Control Devices, Federal Highway Administration, 2003.

10 MUTCD 2003 Caltrans Supplement, May, 2004.

11 Highway Design Manual, Caltrans, Fifth Edition, 2001.



the posted speed limit on The Old Road, which is 55 mph. It is noted that the prevailing speed on The Old Road north of the project site is lower than 55 mph because of the horizontal S-curve in the roadway segment. The advisory speed limit on this segment is 30 mph.

The stopping sight distance and corner sight distance at “A” Street were measured using the site plan provided by the applicant. The sight distance standards and the sight distance provided at the intersection are summarized in Table 4.10-9 and Figure 4.10-10.

**Table 4.10-9 The Old Road / ”A” Street Caltrans Sight Distance Standards**

Direction	Stopping Sight Distance Standard	Stopping Sight Distance Provided <sup>1</sup>	Corner Sight Distance Standard	Corner Sight Distance Provided <sup>1</sup>
From “A” St. to the North	505 feet	>505 feet	610 feet	610 feet
From “A” St. to the South	505 feet	>505 feet	610 feet	>610 feet

<sup>1</sup> Values based on Caltrans sight distance criteria and speed limit of 55 mph.

The data in Table 4.10-9 indicates that the stopping sight distance standard is satisfied in both directions. The corner sight distance from “A” Street to a vehicle traveling on the outermost southbound lane on The Old Road is 605 feet, which is less than the Caltrans standard. It is noted that the Caltrans sight distance guidelines specify that if restrictive conditions exist, the minimum value for corner sight distance shall be equal to the stopping sight distance. As shown in Table 4.10-8, this requirement is satisfied.

Mitigation Measures. The project provides adequate site distance and the impact to pedestrian, vehicle and bicycle traffic on The Old Road is less than significant due to project design. Thus, no mitigation is necessary.

Significance after Mitigation. The impact is less than significant without mitigation and no residual effects are anticipated.

**Impact T-3 Development of the Lake View Estates Project would result in the construction of a mixed use development with an internal circulation system. A substantial adverse impact would occur if the internal circulation system and parking supply were not adequate to safely serve the needs of the development. This is a Class II, significant but mitigable impact.**

Internal Circulation. The onsite circulation plan consists of two collector roads, a local residential roadway and four cul-de sacs (see Figure 4.10-2). “A” street is collector road with a 66 foot right-of-way that extends south from The Old Road and provides direct access via driveways to the office buildings. The project’s proposed “A” street narrows to a 64 foot right-of-way adjacent the residential area approximately 650 feet south from its connection with





The Old Road. It provides access to two clusters of residential units via 58-foot wide cul-de sacs (“C” Court and “B” Court). Access to the remaining residential units is proposed via “D” Street, a 60-foot wide local street that turns into “C” Street. Two cul-de-sacs extend off of “D” Street (“D” Court and “E” Court). The street widths shown on the site plan conform those required by the County’s Subdivision Ordinance. The proposed street lay-out would accommodate the forecast traffic volumes.

The roadway sections shown on the site plan indicate that sidewalks would be constructed along all onsite streets, thus providing for unrestricted pedestrian circulation within the project site. The site plan also shows a sidewalk along The Old Road. The Old Road realignment and widening project will extend the sidewalk from the site’s northernmost boundary and connect to the existing sidewalk adjacent the condominium site that borders the Lake View Estates site. This would provide for continuous pedestrian connection between the project and Parker Road.

The site plan does not indicate how access is provided to the three commercial lots proposed on the site. The ultimate site plan will show the geometry of the commercial driveways and their connection to “A” Street.

Mitigation Measures. The following mitigation measure is required to reduce the potential for adverse internal circulation impacts to a level of insignificance.

- T-3(a) Commercial Access.** The access driveway to Lot 77, located on the northwest corner of The Old Road / “A” Street intersection, shall be located in westernmost boundary of the lot to maximize the distance between the driveway and the intersection. The driveways that would provide access to office buildings proposed on Lots 75 and 76, which are located north and south of “A” Street, should be aligned. The access driveways shall be shown in these locations on the ultimate site plan.

Significance after Mitigation. Incorporation of the above mitigation measure would reduce the potential for adverse impacts to a level of insignificance and no residual effects would occur.

Parking. The County of Los Angeles zoning ordinance minimum requirement for single family residence ( R-1) is two covered spaces per unit. The parking supply requirement for non-medical office uses is one space per 400 S.F. of office space. Based on these requirements, the project should provide two covered spaces per residential unit and a total of 225 parking spaces for the three office buildings (70,000 S.F.).

Mitigation Measures. The following mitigation measure is required to insure that adequate parking is available to serve the development.

- T-3(b) Parking.** The ultimate site plan shall show that for each of the office buildings, parking supply will equal one space per 400 S.F., and each residential unit shall show that two covered spaces are provided.



Significance after Mitigation. Incorporation of the above mitigation measure would insure that adequate on site parking exists to serve the development and no residual effects would occur.

**d. Cumulative Impacts.** The cumulative analysis presented in this section forecasts traffic volumes based on a list of approved and pending projects located in the study-area. The following text outlines the methodologies used to forecast the cumulative traffic volumes.

Cumulative Projects Trip Generation and Distribution. An updated list of approved and pending projects provided by the County's Department of Regional Planning and approved by County Traffic Studies Section staff was used to develop the cumulative traffic forecasts. The approved and pending projects list and graphics showing the location of each cumulative project are included in the Technical Appendix. Trip generation estimates for the cumulative projects that would add traffic to the study-area intersections were developed using the rates contained in ITE's Trip Generation Manual. A worksheet showing the trip generation estimates is also included in the Technical Appendix. The data contained in the trip generation worksheet indicates that the approved and pending projects would generate 46,234 ADT, 3,778 A.M. peak hour trips, and 4,613 P.M. peak hour trips.

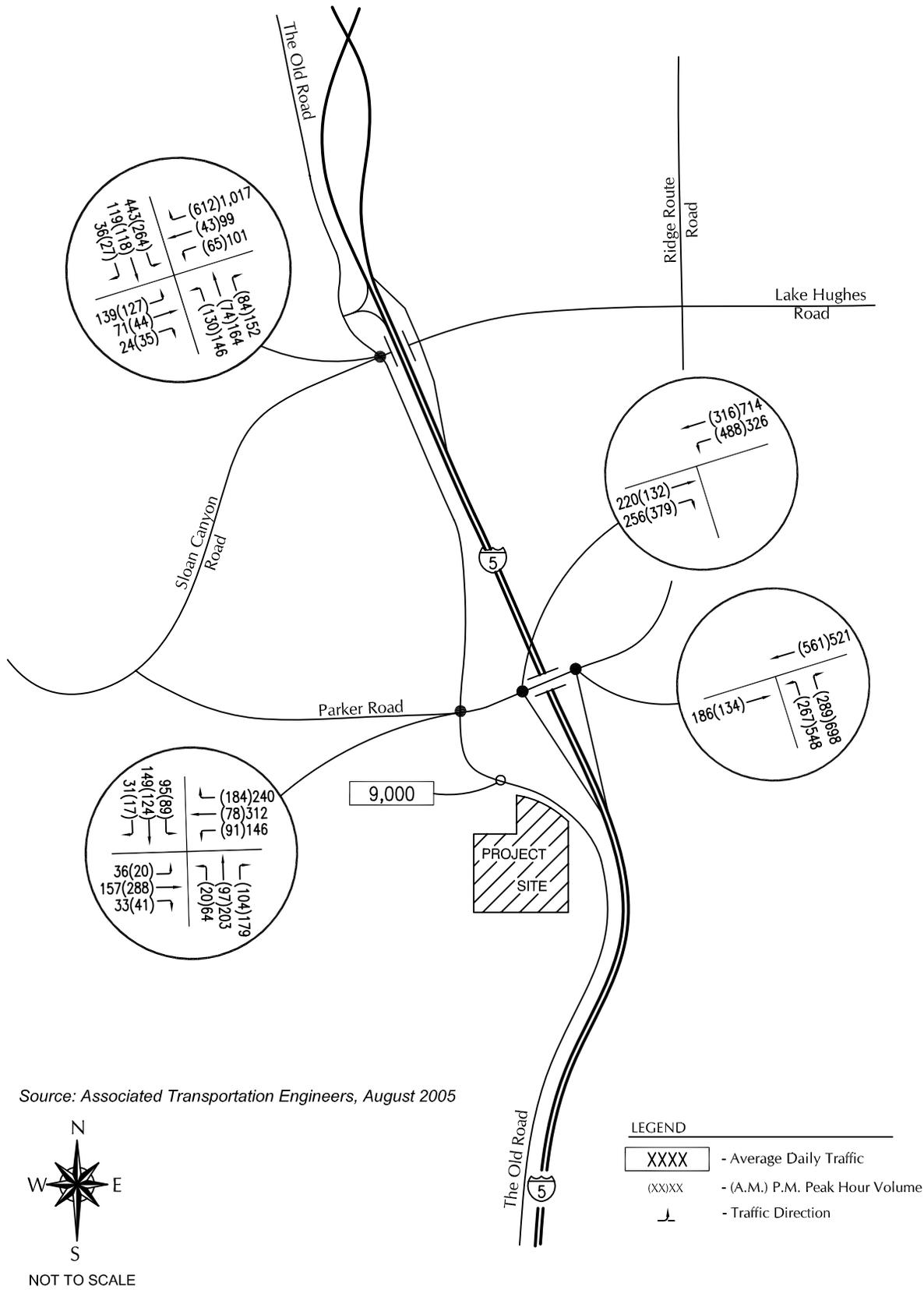
The peak hour trips generated by the approved and pending projects were assigned to the study-area street network according to methodologies contained in existing environmental documents and distribution data contained in the Los Angeles County CMP. Once distributed, A.M. and P.M. peak hour trips generated by the cumulative projects were assigned to the study-area intersections, as illustrated in Figure 4.10-11. Figure 4.10-12 shows the cumulative + project volumes.

Cumulative + Project Intersection Levels of Service. The cumulative + project A.M. and P.M. peak hour levels of service were calculated for the study-area intersections based on the traffic forecasts illustrated in Figure 4.10-12 and compared to the Year 2008 (Pre-project) levels of service to determine potential cumulative impacts. It is noted that several improvement projects are currently under design or proposed that would affect the study-area network. The Castaic Bridge and Thoroughfare (B&T) Fee District outlines improvements and estimates project costs for The Old Road and the Parker Road Interchange. However, due to the uncertainty of the implementation schedule, these improvements were not assumed in the cumulative analysis. Tables 4.10-10 and 4.10-11 summarize the results of these calculations.

**Impact T-4    Project Development would contribute to significant cumulative impacts at three study area intersections during the A.M. peak hour and four study area intersections during and the P.M. peak hour. This is a Class II, *significant but mitigable* impact.**

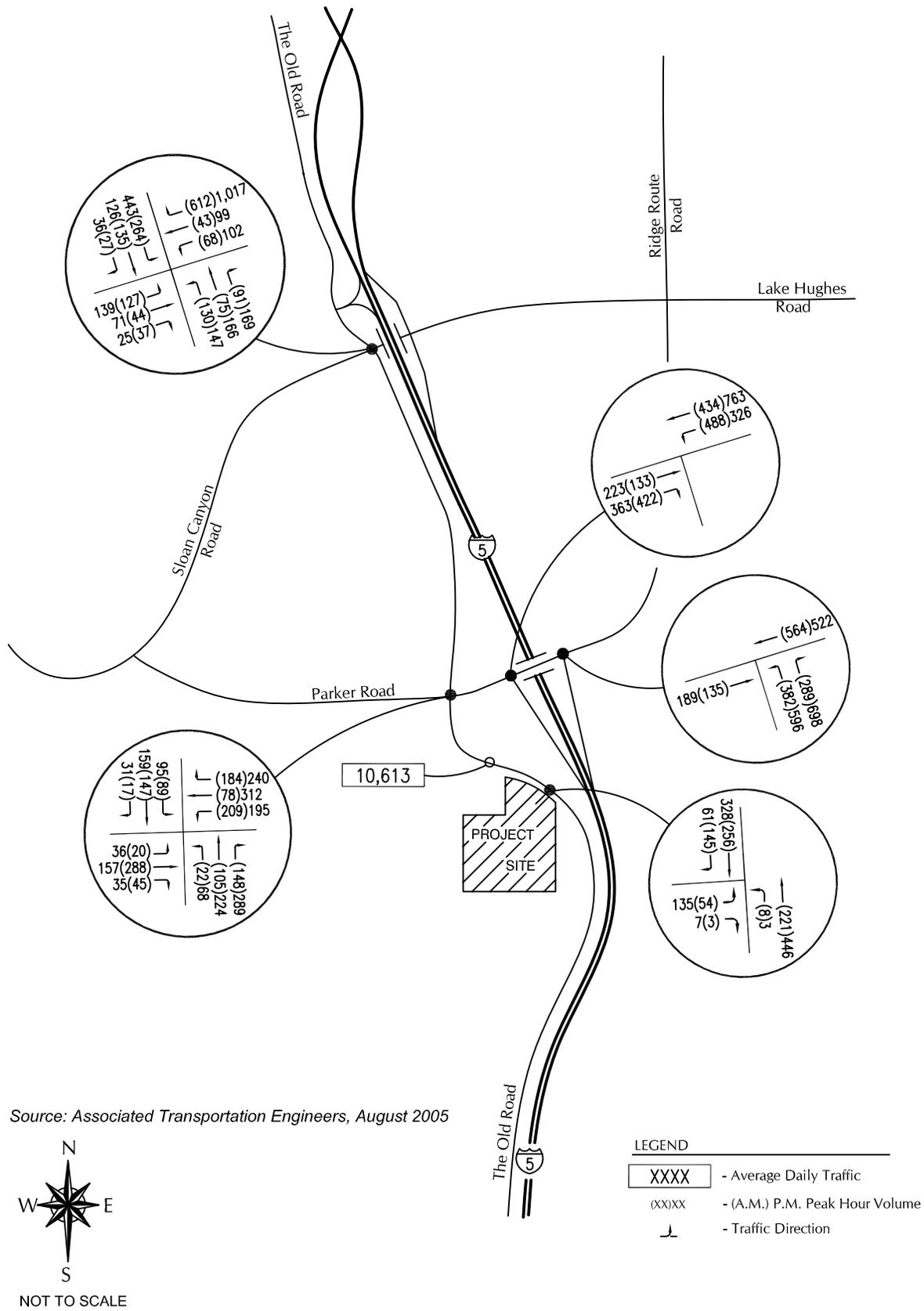
Table 4.10-10 shows that the project would generate a significant impact under cumulative conditions at three intersections during the A.M. peak hour. Table 4.10-10 indicates that the project would generate cumulative impacts during the A.M. peak hour at The Old Road / Sloan Canyon Road intersection, The Old Road / Parker Road intersection and the I-5 Southbound On-Ramp / Parker Road intersection.





Cumulative Traffic Volumes

Figure 4.10-11



Cumulative + Project Traffic Volumes

Figure 4.10-12

Cumulative + Project P.M. peak hour intersection LOS are presented in Table 4.10-11. Table 4.10-11 indicates the project would generate significant impacts at all four of these study area intersections under cumulative conditions during the P.M. peak hour.

**Table 4.10-10 Cumulative + Project A.M. Peak Hour Intersection Levels of Service**

Intersection	ICU / LOS		Cumulative- Added	
	Year 2008 (pre-project)	Cumulative + Project	V/C Increase <sup>1</sup>	Impact <sup>1</sup> ?
The Old Rd/Sloan Canyon Rd	0.34/LOS "A"	0.79/LOS "C"	N.A.	Yes
The Old Rd/Parker Rd	0.40/LOS "A"	0.92/LOS "E"	<b>0.21</b>	Yes
I-5 SB On-Ramp/Parker Rd	0.52/LOS "A"	0.92/LOS "E"	<b>0.21</b>	Yes
I-5 NB Off-Ramp/Ridge Route Rd	0.49/LOS "A"	0.69/LOS "B"	N.A.	No

<sup>1</sup> V/C increase and impact determined by comparing the cumulative + project V/C ratio to the baseline pre-project V/C (V/C 0.71).

**Table 4.10-11 Cumulative + Project P.M. Peak Hour Intersection Levels of Service**

Intersection	ICU / LOS		Project - Added	
	Year 2008 (pre-project)	Cumulative + Project	V/C Increase <sup>1</sup>	Impact <sup>1</sup> ?
The Old Rd/Sloan Canyon Rd	0.42/LOS "A"	1.08/LOS "F"	<b>0.66</b>	Yes
The Old Rd/Parker Rd	0.66/LOS "B"	1.23/LOS "F"	<b>0.52</b>	Yes
I-5 SB On-Ramp/Parker Rd	0.63/LOS "B"	1.06/LOS "F"	<b>0.35</b>	Yes
I-5 NB Off-Ramp/Ridge Route Rd	0.49/LOS "A"	0.80/LOS "C"	<b>0.09</b>	Yes

<sup>1</sup> V/C increase and impact determined by comparing the cumulative + project V/C ratio to the baseline pre-project V/C (V/C 0.71).

*Traffic Signal Warrant Analysis.* County staff indicated that traffic signal warrants have to be completed for impacted intersections to determine the need for a signal at these locations. The County's traffic study guidelines stipulate that the need for a traffic signal should be evaluated based on the MUTCD 2003 Caltrans Supplement's *Warrant 3 - Peak Hour* and the *Estimated Average Daily Traffic* values contained in *Table 4C-101* of the MUTCD. Table 4.10-12 summarizes the results of the signal warrant analyses for the study-area intersections. Traffic signal warrants are included in the Technical Appendix (refer to Appendix F).

Table 4.10-12 indicates that the cumulative + project traffic volumes satisfy Warrant 3 -Peak Hour and the Estimated Average Daily Traffic criteria at The Old Road / Sloan Canyon Road intersection. The traffic volumes would also satisfy Warrant 1 - 8-Hour Vehicular Volume and Warrant 2 - 4-Hour Vehicular Volume. This data with the stop controlled (Highway Capacity Manual (HCM)) level of service calculations, which show that the intersection would operated at LOS "F", and indicates the need for a future signal at this location.



**Table 4.10-12 Cumulative + Project Traffic Signal Warrant Analysis**

Intersection	Warrant 3 - A.M. Peak Hour	Warrant 3 - P.M. Peak Hour	Estimated ADT Values
The Old Rd/Sloan Canyon Road	N/A	Satisfied	Satisfied
The Old Rd/Parker Rd	Satisfied	Satisfied	Satisfied
I-5 SB On-Ramp/Parker Rd	Satisfied	Satisfied	Satisfied
I-5 NB On-Ramp/Ridge Route Rd	Satisfied	Satisfied	Satisfied

N/A: Not applicable □ no impact.

Mitigation Measures. The following mitigation measures are recommended to reduce the project’s contribution to cumulative impacts to a level of insignificance. The mitigated intersections levels of service and the project’s proportionate share was determined using the County’s Project Percentage Share formula (see Appendix F for calculations). The mitigated intersection geometries are shown in Figure 4.10-13.

**T-4(a) The Old Road / Sloan Canyon Road.** In addition to the intersection improvements included in the Castaic B&T Fee District Program, the westbound approach would need to be modified to provide a free right turn lane and traffic signals would need to be installed to meet County thresholds. The payment of the Castaic B&T Fee District fees and payment of the proportionate share of 2% of the cost of the additional improvements would mitigate the project’s cumulative impact.

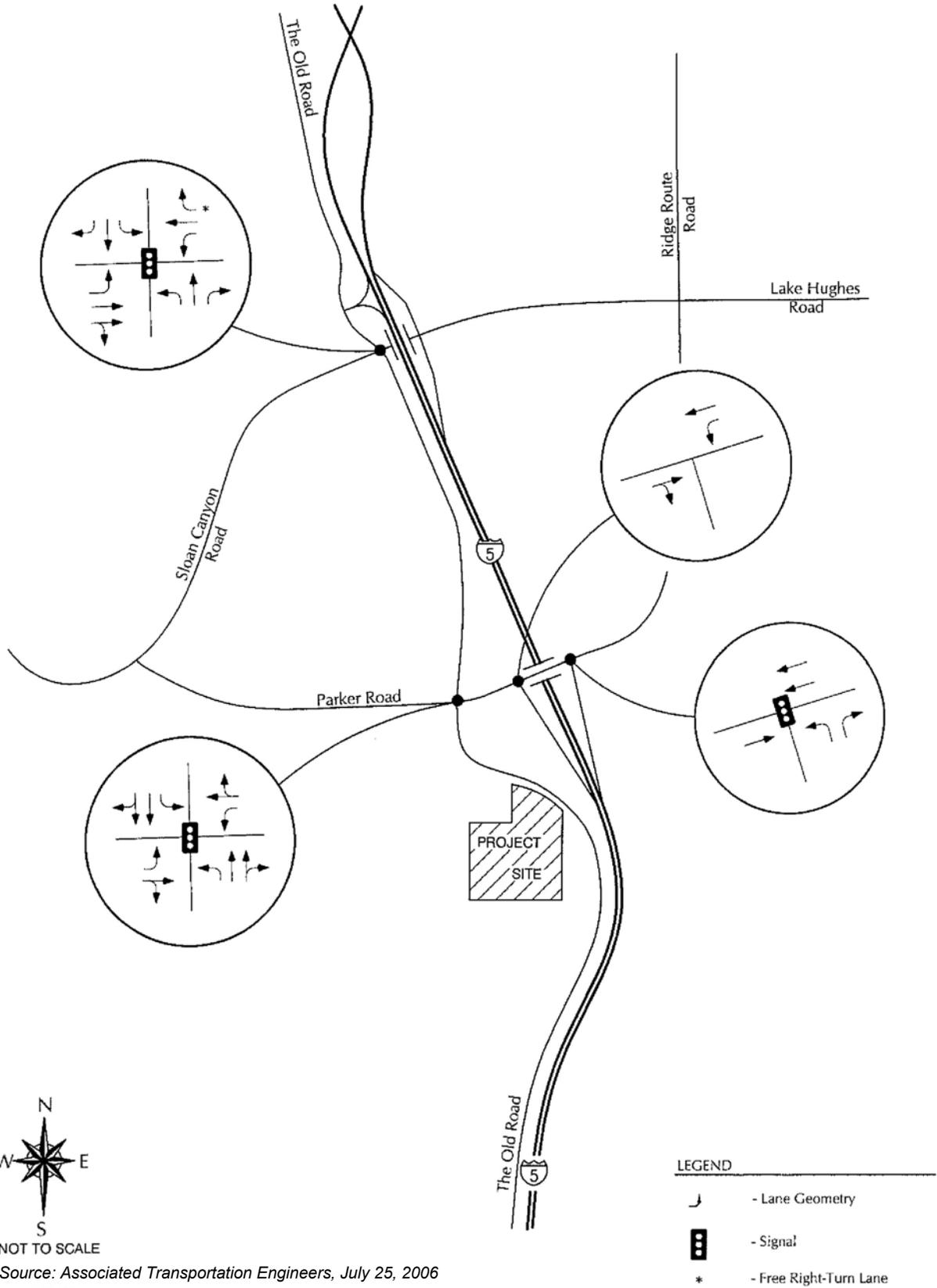
The programmed realignment and widening project for The Old Road includes the widening of the northbound and eastbound approaches of the intersection, as shown in the improvement plan for The Old Road (contained in Appendix F). Implementation of a signal and the improvements currently programmed by the County would result in LOS “D” operations during the P.M. peak hour. Additionally, the westbound approach would need a channelizing island to create a free right-turn lane, which would direct traffic towards the southbound I-5 on-ramp. This geometry is outlined in the table 4.10-13 below.

**Table 4.10-13 The Old Road / Sloan Canyon Road Intersection Mitigated Geometry**

Scenario	Northbound	Southbound	Eastbound	Westbound	Control
Existing Geometry	L T R	L T R	L T R	L T R	Stop Signs
The Old Road Widening Geometry	L T R	L T R	L T TR	L T R	Stop Signs
Cumulative Mitigated Geometry	L T R	L T R	L T TR	L T FR	Signal

L □ Left turn lane  
 LT □ shared left turn and through lane  
 R □ Right turn lane  
 FR □ Free right, dedicated acceptance lane with no stop required  
 TR □ Through right lane is a shared lane for through traffic and right turns  
 T □ Through lane





Source: Associated Transportation Engineers, July 25, 2006

Study-Area Intersection - Mitigated Geometries Figure 4.10-13

Significance after Mitigation. With the revised geometry and the traffic signal, the intersection would operate at LOS “A” in the A.M. peak hour and LOS “B” (V/C 0.66) in the P.M. peak hour. The project would contribute to the improvements through payment of the required fees as stipulated in the Castaic Bridges and Thoroughfare Fee District, and its fair-share payment (2%) for the installation of the traffic signal and modification to the westbound approach. (see Figure 4.10-13 and Table 4.10-16)

**T-4(b) The Old Road / Parker Road intersection.** The following improvements would be required at this intersection to mitigate cumulative impacts: construct Castaic B&T district improvements and restripe the eastbound approach to provide a left-turn lane and a shared through / right turn lane. The payment of the Castaic Bridges and Thoroughfare Fee District fees and payment of the proportionate share of 24.3% of the cost of the additional restriping improvement would mitigate the project’s cumulative impact. It is noted that these improvements are in addition to the project-specific mitigation measures outlined in Mitigation T-1.

The Castaic B&T programmed realignment and widening project for The Old Road includes the widening of the northbound and southbound approaches to provide a left-turn lane, a through lane and a shared through / right-turn lane. In addition, the eastbound approach on Parker Road would need to be restriped to provide a left turn lane and a through / right-turn lane to mitigate the identified cumulative impact. Implementation of the cumulative mitigation measures listed above, in combination with project specific mitigation measure T-1 would result in LOS “A” during the A.M. peak hour and LOS “B” during the P.M. peak hour thereby mitigating the project’s cumulative impact. The following table summarizes the mitigated intersection geometry.

The project would contribute to the improvements through payment of the required fees as stipulated in the Castaic B&T Fee District, and its proportional share payment (24.3%) for the restriping of the eastbound approach.

**Table 4.10-14 The Old Road / Parker Road Intersection Mitigated Geometry**

Scenario	Northbound	Southbound	Eastbound	Westbound	Control
Existing Geometry	LTR	LTR	LT R	LTR	Stop Signs
With 2008 Mitigations	LTR	LTR	LT R	L TR	Signal
The Old Road Widening Geometry	L T TR	L T TR	LT R	L TR	Signal
Cumulative Mitigated Control	L T TR	L T TR	L TR	L TR	Signal

- L □ Left turn lane
- LT □ shared left turn and through lane
- LTR □ shared lane for left, through and right turns
- R □ Right turn lane
- TR □ Through right lane is a shared lane for through traffic and right turns
- T □ Through lane



Significance after Mitigation. Following implementation of the above mitigation, intersection operations would be at LOS "A" during the A.M. peak hour and LOS "B" during the P.M. peak hour (see Figure 4.10-13 and Tables 4.10-15 through 4.10-16).

**T-4(c) I-5 Southbound On-Ramp / Parker Road intersection.** The Parker Road Interchange project contained in the Castaic B&T Fee District would result in LOS "B" during the P.M. peak hour, which meets County thresholds. Payment of the Castaic B&T Fee District fees would mitigate the project's cumulative impact.

Table 4.10-12 indicates that the cumulative + project volumes satisfy Warrant 3 – Peak Hour and the Estimated Average Daily Traffic criteria at the intersection. It is noted that the MUTCD stipulates that Warrant 3 – Peak Hour shall be applied only "in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. This condition would not apply to the intersection. A review of the additional traffic signal warrants indicated that the cumulative + project traffic would only satisfy Warrant 2 – 4 Hour Vehicle Warrant. Based on the warrant guidelines and conditions provided in the MUTCD and the MUTCD 2003 Caltrans Supplement, the satisfaction of one applicable warrant and the criteria in Table 4C-101 does not justify the installation of a signal.

It is also noted that the levels of service of this unsignalized intersection were calculated using the ICU method. Levels of service calculations using the HCM delay calculation methodology, which is recommended by Caltrans, indicate that the unsignalized intersection would operate at LOS "B" during both peak hours with cumulative + project traffic.

The Castaic B&T Fee District project for the Parker Road Interchange (Exhibit D, Proposed Improvement IV) includes widening of the existing Parker Road Bridge over I-5 and widening of the existing northbound off-ramp and southbound on-ramp. The bridge currently contains two lanes. Widening of the overcrossing would provide sufficient pavement widths for at least three lanes. The geometry at the southbound on-ramp can then be changed to a separate eastbound left-turn and a separate through lane. This geometry would provide for LOS "B" during the A.M. peak hour and LOS "A" during the P.M. peak hour, thereby mitigating the project's cumulative impact to a level of insignificance. It is noted that the interchange improvements would likely widen the bridge to be more than three lanes and that the on-ramp would be widened. The ultimate improvements are expected to result in better operations than the mitigated levels of service listed above. The project would contribute to the improvements through payment of the required fees as stipulated in the Castaic B&T Fee District Document.

Significance after Mitigation. This geometry would provide for LOS "B" during the A.M. peak hour and LOS "A" during the P.M. peak hour, thereby mitigating the project's cumulative impact to a level of insignificance (see Figure 4.10-13 and Tables 4.10-15 through 4.10-16). It is noted that the interchange improvements would likely widen the bridge to be more than three lanes and that the on-ramp would be widened. The ultimate improvements are expected to result in better operations than the mitigated levels of service listed above.



**T-4(d) I-5 Northbound Off-Ramp /Ridge Route Road.** In addition to the Parker Road overcrossing widening project contained in the Castaic B&T Fee District, the intersection would need to be signalized to meet County thresholds. The payment of the Castaic B&T Fee District fees and payment of the proportionate share (7.4% of the cost of the traffic signal) would mitigate the project’s cumulative impact.

Table 4.10-12 indicates that cumulative + project traffic volumes satisfy Warrant 3 – Peak Hour and the Estimated Average Daily Traffic criteria at the I-5 northbound off ramp / Parker Road intersection. The traffic volumes would also satisfy Warrant 1 – 8 Hour Vehicular Volume and Warrant 2 – 4 Hour Vehicular Volume. In addition, the stop controlled (HCM) level of service calculations show that the intersection would operate at LOS “F”. This data indicates the need for a signal at this location. As discussed previously, the Parker Road Interchange project included in the Castaic Bridges and Thoroughfare Fee District includes the widening of the existing Parker Road Bridge over I-5 and the widening of the northbound off-ramp and southbound on-ramp. The widening of the overcrossing would provide sufficient pavement width for at least three lanes. A review of the volumes indicates that the capacity of the intersection would improve during both the A.M. and P.M. peak hour by providing an additional westbound lane. The inner westbound lane could be a dedicated left-turn lane for the southbound on-ramp intersection.

Significance after Mitigation. This geometry would provide for LOS “B” during the P.M. peak hour, thereby mitigating the project’s cumulative impact to a level of insignificance (see Figure 4.10-13 and Table 4.10-16). It is noted that the interchange improvements would likely widen the bridge to more than three lanes and that the off-ramp would be widened. The ultimate improvements are expected to result in better operations than the mitigated levels of service listed above. The project would contribute to the improvements through payment of the required fees as stipulated in the Castaic B&T Fee District and its proportionate share payment for the traffic signal installation.

Each of the mitigated geometries and mitigated intersection LOS are shown on the following pages in Figure 4.10-13 and Tables 4.10-15 through 4.10-16. Implementation of mitigation measure T-4(a-d) would reduce the project’s cumulative impacts to a level that is less than significant. No additional mitigation is required.

**Table 4.10-15 Cumulative + Project A.M. Peak Hour Mitigated Intersection Levels of Service**

Intersection	A.M. Peak Hour		
	Cumulative + Project	Mitigated Cum + Project	Proportionate Share
The Old Road/Parker Road	0.92/LOS “E”	0.57/LOS “A”	24.3% <sup>1</sup>
I-5 SB On-Ramp/Parker Rd	0.92/LOS “E”	0.65/LOS “B”	N/A <sup>2</sup>

<sup>1</sup> Average percentage of A.M. and P.M. peak hours.

<sup>2</sup> Not applicable; project would pay Castaic B&T Fee District Fees



As indicated in Table 4.10-13 project mitigation measures would increase the A.M. peak hour LOS at both intersections from LOS “E” to LOS “A” at The Old Road / Parker Road and LOS “B” at the I-5 SB On-Ramp at Parker Road.

**Table 4.10-16 Cumulative + Project P.M. Peak Hour Mitigated  
 Intersection Levels of Service**

Intersection	P.M. Peak Hour		
	Cumulative + Project	Mitigated Cum + Project	Proportionate Share
The Old Rd/Sloan Canyon Rd	1.02/LOS “F”	0.74/LOS “C”	2.0%
The Old Rd/Parker Rd	1.23/LOS “F”	0.69/LOS “B”	24.3% <sup>1</sup>
I-5 SB On-Ramp/Parker Rd	1.06/LOS “F”	0.58/LOS “A”	N/A <sup>2</sup>
I-5 NB Off-Ramp/Ridge Rte Rd	0.80/LOS “C”	0.64/LOS “B”	7.4%

<sup>1</sup> Average percentage of A.M. and P.M. peak hours.  
<sup>2</sup> Not applicable; project would pay Castaic B/T Fee District Fees

**e. Congestion Management Program Impact Analysis.** As required by the Congestion Management Program (CMP), a *Traffic Impact Assessment* (TIA) was prepared to determine the potential impacts at designated monitoring locations on the CMP highway system. The analysis has been prepared according to the procedures outlined in Appendix D of the County’s CMP document. The level of service (LOS) standard in Los Angeles County is LOS “E”, except where the base year LOS is worse than LOS “E”. In such case, the base year LOS is the standard.

Intersections. The CMP guidelines require that intersection monitoring locations must be examined if the proposed project would add 50 peak hour trips (PHT) or more during the A.M. or P.M. peak hour at a CMP monitoring location. None of the study-area intersections are included in the CMP monitoring network. Therefore, no further review of potential impacts to CMP intersections is required.

Freeway Segments. The CMP guidelines require that freeway monitoring locations must be examined if the proposed project would add 150 PHT or more (in either direction) during the A.M. or P.M. peak hour. As shown Figure 4.10-8, the project would add a maximum of 115 PHT to I-5 in the northbound direction and 107 PHT in the southbound direction. No further review of potential impacts to CMP freeway segments is required.

In addition to the CMP analysis above, a *Traffic Impact Study* (TIS) was prepared for the segments of I-5 adjacent the project site based on the level of service methodologies and criteria contained in Caltrans’ traffic impact guidelines<sup>12</sup>. The TIS is summarized below. Worksheets showing the freeway segment level of service calculations are contained in Appendix F.

The segment of I-5 south of Parker Road currently carries 88,000 ADT, with 8,500 PHT during the peak hour<sup>13</sup>. The segment of I-5 north of Parker Road carries 80,000 ADT, with 7,500 PHT during the peak hour. These traffic volumes equate to LOS “B” or better operations.

<sup>12</sup> Guide for the Preparation of Traffic Impact Studies, Caltrans, 2002.  
<sup>13</sup> 2004 Traffic Volumes on California State Highways, Caltrans, 2005.



Year 2008 + Project Conditions. Freeway segment levels of service were calculated assuming the existing + ambient growth + project traffic volumes. The ambient growth factor was developed using the County's ambient growth rate for the Castaic area (4.6% per year) up to the Year 2008, when the project would be occupied. The segment of I-5 south of Parker Road would carry 101,400 ADT, with 9,800 PHT during the peak hour. The segment of I-5 north of Parker Road would carry 91,000 ADT, with 8,500 PHT during the peak hour. These volumes equate to LOS "C" or better operations.

Cumulative and Cumulative + Project Conditions. Cumulative freeway traffic volume forecast was developed based on the list of approved and pending projects located in the study-area (refer to Section 3.0 *Environmental Setting*). The approved and pending projects description, location and trip generation were previously discussed in the cumulative analysis contained in this report (Section d). The segment of I-5 south of Parker Road would carry 141,300 ADT, with 13,700 PHT during the peak hour. The segment of I-5 north of Parker Road would carry 121,900 ADT, with 11,400 PHT during the peak hour. These volumes indicate that both the analyzed freeway segments would operate at LOS "D" under cumulative conditions with or without the project, which is acceptable based on the Los Angeles County CMP standard.



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## 4.11 WASTE DISPOSAL

### 4.11.1 Setting

This section was prepared using information obtained from the County Sanitation Districts of Los Angeles and the County of Los Angeles Department of Public Works.

The project site is currently located outside the Los Angeles County Sanitation Districts' and Public Works' service area. Annexation of the project site into the Santa Clarita Valley Sanitation District (a consolidation of Los Angeles County Sanitation Districts (LACSD) No. 32 and 26) and into the Consolidated Sewer Maintenance District (CSMD) would be required to obtain wastewater treatment service.

Sewage generated from the project site would discharge to a local 15-inch sanitary sewer line at The Old Road fronting the project site, maintained by the Consolidated Sewer Maintenance District (CSMD), and conveyed to the County Sanitation Districts' Castaic Trunk Sewer, located at The Old Road just south of Romeo Canyon Road. The 15-inch (vitrified clay pipe) VCP joins the Castaic Trunk Sewer approximately 0.5 miles south of the project's access road ("A" Street) intersection with The Old Road. According to LACSD this 15-inch diameter trunk sewer has a design capacity of 3.1 million gallons per day (MGD) and conveyed a peak flow of ~~2.2~~ 1.7 MGD when last measured in 2010~~08~~. Los Angeles County Public Works is responsible for the operation and maintenance of the local sewers within the unincorporated areas of the Los Angeles County on behalf of the CSMD.

The LACSD operates two water reclamation plants (WRPs): the Saugus WRP and the Valencia WRP. 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, known as the Santa Clara Valley Joint Sewerage System (SCVJSS).

The two treatment plants currently have the combined permitted capacity to accommodate 28.1 MGD of wastewater. The plants currently process an average flow of 21 MGD, which represents approximately 75% of current capacity. An expansion is planned for the Valencia Plant, which would increase the combined capacity to 34.1 MGD. The first phase of the expansion was completed in 2002, and consisted 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 would provide an additional 6.0 MGD of treatment capacity, which would be sufficient to meet the Regional Growth Management Plan's forecasted demand until 2015. The three-phase Castaic Relief Trunk Sewer is currently in design and the estimated design completion date for the first phase is June 2010 ~~should be in service by the end of 2009~~.

### 4.11.2 Impact Analysis

**a. Methodology and Significance Thresholds.** The analysis of impacts to sewage disposal facilities involved: (1) interviews with staff of the County Sanitation Districts and Department of Public Works; (2) review of relevant documents, including the Los Angeles



County Sanitation Districts' document, "Loadings for Each Class of Land Use;" (3) development of average wastewater flow rates for the uses proposed; and (4) comparison of projected demand / generation to the capabilities of existing and planned systems. 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.

**b. Impacts and Mitigation Measures.** Wastewater generation was estimated based on the County Sanitation Districts' document, "Loadings for Each Class of Land Use," which lists expected average wastewater flows for potential land uses. The proposed land uses include 70 single family residential units and 70,000 square feet of business / professional office space. The residential land use is expected to generate 18,200 gallons per day (GPD) and the professional office land uses are expected to generate 21,000 GPD.

**Impact WD-1 Buildout of the proposed project would generate an estimated 39,200 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.**

Wastewater generated at the project site would be transported to the Santa Clarita Valley Joint Sewerage System (SCVJSS). The wastewater generated on the project site represents about 0.5% of the current unused combined capacity (9.3 MGD) at the Saugus and Valencia reclamation plants and about 0.3% of the unused capacity that is anticipated to exist following completion of the planned plant expansions (15.3 MGD). The two water reclamation plants therefore have adequate combined capacity to serve the proposed project. Consequently, impacts to wastewater treatment infrastructure are not significant.

Mitigation Measures. The Saugus and the Valencia treatment plants have sufficient combined capacity to serve the proposed project. No mitigation is required.

Significance After Mitigation. Therefore, significant impacts to wastewater treatment infrastructure are not anticipated.

**Impact WD-2 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 onsite conveyance system would consist of a series of pipes within the rights-of-way of onsite roadways that would convey wastewater flows to the existing 15-inch Consolidated Sewer Maintenance District (CSMD) conveyor line on The Old Road. County of Los Angeles County Department of Public Works Department is responsible for the maintenance and operation of the local sewer lines within the unincorporated County area CSMD line. This conveyor line flows to the main 15-inch sewer trunk line located at The Old Road and just south of Romeo Canyon Road at a distance of about 0.5 miles from the project. As required by County



Public Works, a Sewer Area Study (SR Consultants West, Inc., August 2008) has been completed for the project, which was approved by Los Angeles County Public Works on August 27, 2008 (see Appendix G). The proposed project would generate 0.134 cfs of wastewater during peak conditions. Existing sewer lines for peak dry and wet flows are pursuant to the Statewide General Waste Discharge Requirements and total 0.904 cfs without the proposed project. Incorporation of the proposed project would bring the wastewater generation totals for existing local sewer lines up to 1.038 cfs. The Sewer Area Study completed by SR Consultants West, Inc. indicates 0.134 cfs would operate at 7.39% percent of the calculated flow capacity of the existing sewer system. Generation of 0.134 cfs by the proposed project would not incrementally affect available sewage capacity. Moreover, based on the sewer study conducted for this project, the analysis indicates that the proposed project has an insignificant impact on the existing trunk sewer and the existing sewer main from this project's point of connection to the trunk on The Old Road (SR Consultants West, Inc. July 2008).

Mitigation Measures. No mitigation is anticipated to be required. If the Sewer Area Study indicates inadequate capacity for the local sewerage conveyer (CSMD) line, the project applicant would need to make pro-rata payment towards improvement of the local conveyer line. The project applicant would also be required to pay wastewater conveyance connection fees to the Los Angeles 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 sewer collection infrastructure will need to be reviewed ~~by~~ and approved by both the Los Angeles County Public Works and ~~approved~~ by the Sanitation Districts. All proposed sewer construction shall comply with Public Works Sewer Design Standards and will be in compliance with the County Sanitation Districts of Los Angeles County's requirements for trunk sewer facilities.

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 Los Angeles County Department of Public Works and Sanitation Districts to ensure that proposed wastewater infrastructure meets design specifications, impacts related to wastewater collection are less than significant.

**Impact WD-3 Construction and operation of the proposed project may generate significant waste. This is considered a Class II, significant but mitigable impact.**

The existing Hazardous Waste Management (HWM) infrastructure in Los Angeles County is inadequate to handle the hazardous waste currently being generated. The proposed project may generate hazardous waste and/or household hazardous waste, which could adversely impact existing HWM infrastructure. In addition, other forms of waste such as construction debris and household or commercial municipal waste are required to meet specific diversion rates in order to maximize recycling and promote conservation of landfill space. This is a potentially significant but mitigable impact.

Mitigation Measures. Several measures can be used to reduce the amount of waste that would be generated by the proposed project that would reduce impacts. Implementation of the following mitigation measures would minimize the effect of waste



generated by the project.

- WD-3(a)** New homeowners shall be provided with educational materials on the proper management and disposal of household hazardous waste within the community of Castaic.
- WD-3(b)** The development project is required, pursuant to the California Solid Waste Reuse and Recycling Access Act of 1991, to provide adequate storage area for collection and removal of recyclable materials. Storage areas for the collection and storage of recyclable and green waste materials shall be required for subdivision approval and shall be required as a part of the final designs for each residential and commercial lot.
- WD-3(c)** Construction projects with a total value of over \$100,000 in addition to demolition and grading projects in the County's unincorporated areas are required to recycle or reuse 50 percent of the construction and demolition debris generated per the County's Construction and Demolition Debris Recycling and Reuse Ordinance. A Recycling and Reuse Plan shall be submitted to and approved by the Public Works' Environmental Programs Division before a construction, demolition, or grading permit may be issued.
- WD-3(d)** Public Works' Environmental Programs Division shall be contacted for required approvals and operating permits in the event that construction, installation, modification, or removal of underground storage tanks, industrial waste treatment or disposal facilities, and/or storm water treatment facilities is necessary.

Significance After Mitigation. Adoption of these mitigation measures would reduce waste related impacts to a level that is less than significant.

**c. Cumulative Impacts.** The two wastewater treatment plants serving the Castaic area currently have excess capacity of about 7.1 MGD. Although currently planned and pending development would use up most or all of this available capacity, an additional 6.0 MGD expansion is planned. This 6.0 MGD expansion would bring total treatment capacity for the area to 34.1 MGD, which is intended to serve existing and potential future development within the service area.

As the District's Castaic Trunk Sewer nears capacity, construction of a relief sewer may be needed. This improvement is not funded at this time and the timing of its implementation would depend upon the availability of required funding. Thus, cumulative impacts to the trunk sewer system are considered to be potentially significant but mitigable provided that adequate funding is available to alleviate anticipated capacity deficiencies.



As the Los Angeles County Sanitation District 32 Castaic Trunk Sewer nears capacity, it will be the responsibility of the County Sanitation Districts and Public Works to perform any necessary studies and / or infrastructure updates, and to develop a mitigation fee program that will secure funding to implement future wastewater conveyance system improvements. The Sewer Area Study that was completed for the project did not identify significant cumulative impacts to the wastewater disposal system (SR Consultants West, Inc., August 2008).

With respect to household and commercial municipal waste, existing state and local requirements in addition to mitigation measures such as WD-3(a) through WD-3(d) would ensure that project impacts of individual developments are mitigated to a level that is less than significant.



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## 4.12 EDUCATION SERVICES

### 4.12.1 Setting

Information from this section was obtained from the Castaic Union School District, Hart Union School District, the County of Los Angeles Public Library, the Castaic Town Council website, and the project zoning and subdivision application (TR 53933).

**a. Schools.** The Castaic Union School District (CUSD) and the William S. Hart Union School District (HUSD) provide public education services to the Castaic community. Students from the proposed development would attend the CUSD (multiple elementary schools-grades k-Eight) and the HUSD (multiple junior high and high schools-grades Seven-12). The project area is served by Northlake Hills Elementary and Castaic Middle School (CUSD). The project area is served by West Ranch and Valencia High Schools (HUSD). Table 4.12-1 shows current enrollments and design capacities at both the CUSD and the HUSD (excluding the adult school and occupational program).

**Table 4.12-1 Current School District Enrollment and Design Capacities**

School District	Design Capacity	Enrollment (April/May 2005)	Percent Capacity Utilization
Castaic Union School District	4,276	3,596	84%
William S Hart Union School District	22,930	20,026	87%

*Sources: Castaic Union School District and William S. Hart Union School District, May and June 2005*

As shown, both districts are currently enrolled within capacity. Funding for local school district operations is provided 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. HUSD is currently expanding high school facilities in the area and is in the process of designing a new high school that would be located within the community of Castaic. The high school is anticipated to be operational by Fall of 2008.

California Government Code § 65995 was enacted in 1990 to generate revenues to school districts for capital acquisitions and improvements. On November 18, 2004, the Governing Board of the Castaic Union School District increased the fee program from \$0.155 to \$2.98 per square foot for residential dwelling units. Commercial/industrial fees for the CUSD are \$0.234 per square foot. On March 24, 2004, the Governing Board of the Hart Union School Districts increased the fee program from \$0.155 to \$2.53 per square foot for residential dwelling units. Commercial/industrial fees for the HUSD are \$0.130 per square foot. For payment of the HUSD fees, the developer has the choice to pay the residential and commercial/industrial fees or accept the 2005 Fair Share School Mitigation Payment Agreement, in which payment of \$9,760.65 per single family dwelling (with notice of assignment of State funds) is required. These fee alternatives for the CUSD and HUSD are shown in Table 4.12-2.



**Table 4.12-2 Developer Fees Charged by Local School Districts**

School District	Residential School Fees	Commercial/Industrial School Fees	Alternative School Fees
Castaic Union School District	\$2.98/square foot	\$0.234/square foot	N/A
William S. Hart Union School District	\$2.53/square foot	\$0.130/square foot	\$9,760.65/dwelling
Total	\$5.51/square foot	\$0.36/square foot	N/A

Sources: *Castaic Union School District, William S. Hart Union School District, May and June 2005*

The project site is located on school bus routes for CUSD (Northlake Hills Elementary and Castaic Middle School); however, all students located in the community of Castaic are responsible for finding their own transportation to and from HUSD high schools (West Ranch and Valencia High Schools). These students ride public transportation or participate in carpooling networks.

**b. Libraries.** The County of Los Angeles Public Library system provides library services in the Santa Clarita Valley. Castaic is served by the Santa Clarita Valley Bookmobile (SCVB) library service, which also services the communities of Acton, Agua Dulce, Val Verde and the Friendly Valley Senior Community. The bookmobile stops at Lakehill Mobile Estates (27700 Parker Road) every Tuesday between 9:30 am and 12:00 pm, and in Hidden Lake (at the intersection of The Old Road and Royal Road) every Tuesday between 1:00 and 4:00 pm. Other libraries serving in the vicinity include the Valencia Library, the Newhall Library, and the Canyon Country/Jo Ann Darcy Library.

#### 4.12.1 Impact Analysis

**a. Methodology and Significance Thresholds.** The analysis of impacts to schools and libraries involved a comparison of projected student generation to the capabilities of existing and planned facilities and services based on information from the following sources:

- 1) Interviews with staff of the Castaic Union School District, the Hart Union School District, and the County of Los Angeles Public Library; and
- 2) Review of relevant documents, including the “William S. Hart Union High School District, Current and Planned Facilities (2004-2007),” the “Castaic Union School District – Assessor Map,” and the map to “A Santa Clarita Valley Cluster Library: Valencia, Newhall, Canyon Country/Jo Ann Darcy;”.

The County of Los Angeles Initial Study Checklist uses the following criteria as indicators of whether a significant impact may occur:

- 1) *Could the project create capacity problems at the district level; or*



- 2) *Could the project create capacity problems at individual schools which will serve the project site; or*
- 3) *Could the project create substantial library impacts due to increased population and demand?*

CEQA defines a significant effect to schools and other public facilities as occurring when a project results in:

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

Schools. Current enrollment, capacity, and student generation information was gathered from the CUSD and the HUSD. School capacity and enrollment numbers were evaluated to determine if the project would exceed current capacity. Any increase in enrollment not accompanied by a corresponding increase in capacity or payment of applicable school impact fees is considered a potentially significant impact.

Libraries. As provided by the County of Los Angeles Department of Regional Planning, demand for library space, books, and other materials, is based on Planning Area one, which includes the community of Castaic. 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. Based on an average household size of 3.21 (Castaic Town Council website, July 2005) persons, the project would generate 225 residents.

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

**Impact E-1**     **The proposed project would generate an additional 63 students at local public schools. Any direct and indirect increase in school enrollment associated with residential housing or commercial/industrial job generation would be mitigated through implementation of applicable developer school impact fees. With the payment of required fees, impacts to schools are considered Class II, significant but mitigable.**

As shown in Table 4.12-3, the project would generate 45 new students in grade levels K-Eight that would be served by the Castaic Union School District and 18 new students in grade levels Seven-12 that would be served by the William S Hart Union School District.

The post-project student enrollment information is shown in Table 4.12-4. The Castaic mixed use residential and business/professional office project would provide additional housing and employment opportunities and therefore would have both direct and indirect effects upon local public schools.



**Table 4.12-3 Project-Generated Students**

Grade Level	Student Generation Factor (students per dwelling unit)	Students Generated*
Castaic Union School District (K-8)	0.649	45
Hart Union School District (7-12)	0.25	18
<b>Total</b>		<b>63</b>

Source: Castaic Union School District and William S. Hart Union School District, May and June 2005  
 \*Student generation is based on 70 dwelling units.

As shown above, the proposed residential units are expected to add a total of 63 new students that would need to be served by local schools. Based on existing enrollments, new students generated by the project are not expected to cause local schools exceed their current capacities. While the business/professional office component of the project will not directly generate new student population, it would indirectly generate additional students as a result of potential population growth associated with new jobs and economic growth in the area. However, it would be speculative to estimate how many new residents and hence students may relocate to the Castaic area as a result of new jobs that would be generated by the project.

**Table 4.12-4 Post-Project Student Enrollment**

School	Operating Capacity	Current Enrollment	Current % Capacity Utilization	Students Generated from Project	Enrollment with Project	% Capacity Utilization with Project
Castaic Union School District	4,276	3,596	84%	45	3,641	85%
Hart Union School District	22,930	20,026	87%	18	20,044	87%

Source: Castaic Union School District, William S. Hart Union School District, May and June 2005

Mitigation Measures. Local municipalities are strictly limited in the mitigation measures that they can impose against developers of residential and business/professional office 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. The project would include payment of applicable school impact fees for both the residential and commercial office components to Castaic and Hart Union School Districts, as outlined in Table 4.12-2. Based upon the current fees of \$2.98 per square foot (residential) and \$0.234 (commercial/industrial) for the Castaic Union School District, the CUSD would receive roughly \$521,700 in school impact fees. Based upon the current fees of \$2.53 per square foot (residential) and \$0.130 (commercial/industrial) for the Hart Union School District, the HUSD would receive roughly \$436,740 in school impact fees. If the developer so chooses, the alternative fee payment of \$9,760.65/dwelling can be administered (for the HUSD) instead of the standard residential and commercial/industrial fees, for a total of roughly \$683,000. Under SB 150, it is presumed that payment of these fees would mitigate the project's potential direct and indirect impacts on public schools.



**ED-1 School Fees.** Payment of school fees based on square footage of residential and commercial development in the amount of \$521,700 to CUSD, and \$436,740 to HUSD (or adjusted based on current fees) would mitigate the potential adverse impacts to local schools to a level of insignificance.

Significance After Mitigation. Payment of applicable school impact fees would reduce the project's potential direct and indirect impacts to schools to a less than significant level. While overcrowding conditions could become an issue for both the Castaic Union School District and the Hart Union School District, these conditions are not solely the result of this project.

**Impact E-2 The new residents associated with the proposed project would generate an increased demand for library services. Impacts to libraries would be Class II, significant but mitigable .**

The proposed project would result in an increased demand for library services by increasing the resident population of the Santa Clarita Valley by 225 persons (assuming 3.21 persons/household (Castaic Town Council website, July 2005)). Indirect impacts could also occur as a result of the new employment opportunities that would be created by the project if people were to move to the area to fill new jobs. However, indirect impacts could also be created by people who work, but do not live, in the project area because they are likely to use local library services during their time at work or while commuting to and from work.

Mitigation Measures. New residential development in the area would be required to pay the standard library impact fees imposed by the County in effect at that time. The current fee is \$790 per residential unit (Planning Area 1, subject to annual adjustment). Therefore, with 70 residential units, the total fee obligation would be \$55,300. Payment of applicable library impact fees is required to mitigate the direct impact of the proposed project on library services. At this time, there is no existing provision to mitigate the indirect impact that may be created by the proposed project. However, any indirect impacts resulting from library use by project office employees is anticipated to be comparatively small, since there is no evidence to suggest that office employees would regularly utilize the library, as it is more traditional to visit a restaurant or eat lunch on site.

**ED-2 Library Fees.** Payment of \$55,300 in Library Fees (or adjusted based on current fees) based on development of 70 residential units would reduce the impacts on library services to a level of insignificance.

Significance After Mitigation. Payment of standard library fees by residential developer would reduce impacts to less than significant. There is a less than significant potential for indirect impacts to library services without mitigation.

**c. Cumulative Impacts.**

Schools. Cumulative development in the general project area (as identified in Section 3.3, *Cumulative Setting*, excluding the Centennial Project) would increase enrollment in local



public school districts by adding approximately 57,756 residential units and 20,955,576 square feet of commercial/industrial space. The cumulative project student enrollment information is shown in Table 4.12-5.

With the cumulative development that is anticipated in the general project area, both local school districts would be well over capacity without the addition of new school facilities. However, each proposed development that is included in the cumulative projects list would be required to pay the applicable school impact fees prior to the issuance of building permits.

Although the school impact fees were modified by the Castaic Union School District and Hart Union School District in 2004, these districts have indicated that the statutory fees that can be charged by school districts on residential development may not be adequate to fully mitigate the impacts associated with the anticipated enrollment increases. Therefore, additional measures may be needed on a project by project basis to address these potential impacts on school services. The CUSD and HUSD have indicated that payment of applicable residential and commercial fees would be adequate mitigation for the proposed project's direct and indirect contribution to cumulative impacts.

**Table 4.12-5 Cumulative Project Student Enrollment**

School District	Operating Capacity	Current Enrollment	Students Generated from Project	Students Generated from Cumulative Projects*	Enrollment with Project Plus Cumulative Development	% Capacity Utilization (Cumulative)
Castaic Union School District	4,276	3,596	45	37,484	41,125	962%
Hart Union School District	22,930	20,026	18	14,439	34,483	150%

Sources: Castaic Union School District, William S. Hart Union School District, May and June 2005

\*Cumulative student generation is based on 57,756 residential dwelling units, with student generation rates at 0.649 DU for CUSD and 0.25 DU for HUSD.

Libraries. Cumulative development in the general project area would increase demand for library facilities by adding approximately 57,756 residences and 20,955,576 square feet of commercial/industrial space. This level of new development has the potential to significantly impact the local library system; however, it is noted that the proposed project represents only a small portion of this cumulative demand.

Despite the substantial new development that is pending in the Castaic area, an existing library impact fee program is in place to help ensure that new demands for library services are met through the implementation of new facilities, and a response from the County of Los Angeles Public Library indicated that payment of developer fees for library services fully mitigates the impact of this development on library services. The County of Los Angeles Public Library also stated that no additional mitigation is recommended. Provided that library facilities mitigation



fees are paid and assuming library services keep pace with demand, the cumulative impacts on library services would be less than significant.



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## 4.13 PUBLIC SERVICES

### 4.13.1 Setting

This section was prepared using information obtained from the County of Los Angeles Fire Department, Sheriff’s Department, Planning Division, Forestry Division, and Fire Stations 149 and 76 in 2005; and the “Water System Requirements” and “Conditions of Approval for Subdivisions,” from the County of Los Angeles Fire Department, Land Development Unit and Fire Prevention Division in November 2003.

**a. Fire Protection.** As part of the Consolidated Fire Protection District, the Los Angeles County Fire Department (LACFD) provides fire protection and emergency medical service to the Castaic area and throughout the Santa Clarita Valley. Fire Stations 149 and 76, located at 31770 Ridge Route Road in Castaic and 27223 Henry Mayo Drive in Valencia, are the respective jurisdictional stations for the project site. The closest station, Fire Station 149, has a 3-person engine, a 2-person paramedic squad, and an unstaffed patrol vehicle with a total of 5 daily on-duty fire personnel. The second closest station, Fire Station 76, has a 4-person engine, a 5-person hazardous materials squad, and an unstaffed patrol vehicle with a total of 9 daily on-duty fire personnel. There is also a ladder company at Fire Station 126, located at 26320 Citrus Street, Santa Clarita, CA 91355. Table 4.13-1 and 4.13-2 list the response units, their approximate distance, response time, and staffing.

**Table 4.13-1 Fire Emergency Response Capabilities, Station 149**

Equipment	Distance (Miles)	Time (Minutes)	Staffing
1 Fire Engine	1.3 miles	4 minutes	3
1 Paramedic Squad	1.3 miles	4 minutes	2
<u>1 Patrol Vehicle</u>	<u>1.3 miles</u>	<u>Not applicable</u>	<u>shared</u>

*Source: Los Angeles County Fire Department, Chief P. Michael Freeman and Captain Mark Kyllingstad, May 2005; and comment letter 8, see Section 8.0 Addenda Errata/Comments and Responses*

**Table 4.13-2 Fire Emergency Response Capabilities, Station 76**

Equipment	Distance (Miles)	Time (Minutes)	Staffing
1 Fire Engine	3.5 miles	11.7 minutes	4
1 Brush Patrol Unit	<u>23.5 miles</u>	4.5-5.5 minutes Not applicable	0*
1 Hazardous Materials Squad	<u>23.5 miles</u>	11.7 minutes	5

*Source: Los Angeles County Fire Department, Chief P. Michael Freeman and Captain Mark Kyllingstad, May 2005; and comment letter 8, see Section 8.0 Addenda Errata/Comments and Responses*

*\*Staffed as necessary.*

**b. Law Enforcement Services.**

Sheriff. The Los Angeles County Sheriff’s Department provides law enforcement service in the Castaic area and throughout the Santa Clarita Valley. The Santa Clarita Valley



Substation, located at 23740 Magic Mountain Parkway in Valencia, provides primary service in the project area. This station is located approximately six to eight miles from the project site and serves a population of approximately 200,000 residents within a 656 square mile area. The Santa Clarita Valley Substation jurisdiction includes 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 Agua Dulce to the East. Response times would be approximately five to eight minutes for emergencies, nine to 12 minutes for priority response, and 20 to 30 minutes for non-emergency circumstances.

California Highway Patrol (CHP). The CHP provides additional traffic policing in the unincorporated portions of the Santa Clarita Valley and is responsible for policing all unincorporated roadways, including The Old Road. Their responsibilities include traffic enforcement, emergency incident management, public service, assistance and accident investigation.

#### **4.13.2 Impact Analysis**

**a. Methodology and Significance Thresholds.** The analysis of fire and law enforcement services involved: (1) interviews with staff of the Los Angeles County Fire Department, Los Angeles County Sheriff's Department, and Newhall Area CHP; (2) review of relevant documents, including the "Water System Requirements" and "Conditions of Approval for Subdivision" from the Land Development and Fire Prevention Division of the Los Angeles County Fire Department; and (3) comparison of projected demand to the capabilities of existing and planned services.

CEQA defines a significant impact to public services such as fire, police, sheriff and highway patrol services as occurring if a project would:

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

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

**Fire Protection.** The Los Angeles County Fire Department (LACFD) establishes 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. Additionally, according to CEQA, a significant impact would occur if the project would result in additional demand or a reduction in performance standards such that construction of additional facilities is warranted, thereby causing adverse physical impacts.

**Impact PS-1** The proposed project would incrementally increase demand for fire protection service. This is a Class III, *less than significant* impact.



The number of fire protection related emergency calls would be expected to incrementally increase with the addition of 70 units of residential and 70,000 square feet of business / professional office development. The project has incorporated design features and would be required to adhere to all measures identified by the LACFD as mitigation for both the commercial and residential components in order to ensure adequate access, fire pressure, and fuel modification (refer to Section 4.3 *Fire Hazard* FH-1(a-b)). Subsequently, there is no indication that the proposed would increase response times to residential or commercial components within the development or to other developments within the service area. Response times are estimated at six minutes for first arriving units in the Castaic area and response time to the project area from the closest station are is approximately four minutes. Response times for the Valencia Station are 11.7 minutes (see Table 4.13-2). Additionally, since the project would not result in increased response times, or a reduction in performance, this project would not cause the LACFD to require construction of new facilities that might cause significant physical impacts.

Mitigation Measures. The impact to fire service is less than significant provided that mitigation measures FH-1(a-b) identified in Section 4.3, *Fire Hazard*, are implemented. No further mitigation is necessary.

Significance after Mitigation. A fee payment program is in place to ensure that incremental increases in development contribute funds that are used to fund fire facilities and equipment within Los Angeles County. The project impact would be less than significant, and residual impacts associated with cumulative incremental increases in demand are also considered less than significant provided that all fire protection impact fees are paid and new facilities and staffing are bought online in advance of the occupation of planned new development. 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.

Sheriff Service. The Los Angeles County Sheriff's Department has indicated in their response to the Notice of Preparation (NOP) (Captain Patti A. Minutello, Santa Clarita Valley Station, 5/5/2005) that if the proposed development would trigger the need for additional staff (generate 1,000 residents), impacts would be considered significant. Additionally, under CEQA, a significant impact would occur if the project would result in additional demand or a reduction in performance standards such that construction of additional facilities is warranted, thereby causing adverse physical impacts.

**Impact PS-2 The proposed project would incrementally increase demand for sheriff service but would not exceed the significance threshold that has been identified by the Los Angeles County Sheriff's Department. This is a Class III, less than significant impact.**

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. Response time would be approximately five to eight minutes for emergencies, nine to 12 minutes for priority response, and 20 to 30 minutes for non-emergency circumstances. The standard of service for the County Sheriff's Department is one officer per 1,000 residents. The current service ratio is one officer per 1,169



residents which is less than the current desirable standard. The proposed project would generate a new resident population of 225 (based on Castaic Town Council rate of 3.21 persons / household) and would require 0.22 officers in order to achieve target population / officer ratio for the area.

However, because the projected project resident population is less than the 1,000 resident significance threshold identified by the Sheriff's Department (response to NOP, Sheriff's Department Headquarters, Captain Patti A. Minutello, 5/23/05) the projects impact on sheriff service, while incrementally greater than the present condition, is less than significant. Additionally, since the project would not result in the need for an additional officer, it is presumed that it would not result in the need for additional facilities, the construction of which could cause significant environmental effects.

Mitigation Measures. The impact is less than significant and no mitigation is required. Nevertheless, the Sheriff's Department has recommended that several measures be incorporated into the project design in an effort to ease ingress and egress in the event of an emergency and to facilitate crime prevention. The following mitigation measures are recommended for incorporation into the project design, where feasible. However, the current street right-of-ways, as shown on the site plan, are in compliance with County requirements.

**PS-2(a) Access.** If feasible, widen "A" Street right-of-way to 66 feet all the way to "D" Street. Widen cul-de-sacs "B", "C", and "E" to 60 feet instead of the proposed 58 feet.

**PS-2(b) Crime Prevention.** The following measures are recommended for incorporation into the project design to facilitate crime prevention within the development:

- Provide lighting in open areas and parking lots;
- Ensure visibility of doors and windows from the street;
- Ensure that the required building address numbers are lighted and readily apparent from the street for emergency response agencies.

Significance after Mitigation. The impact is less than significant, and incorporation of PS-2(a-b) if feasible further reduces the effects of the proposed project.

**California Highway Patrol (CHP).** The CHP has indicated that they are responsible for traffic enforcement, emergency incident management, public service, assistance and accident investigation on State Highways and also provides support along County roadways in the project area. The CHP has expressed concern with the level of congestion on The Old Road and at the I-5 on / off ramps in the vicinity and that this project in conjunction with other pending development in the area would result in a service level reduction for their agency that would require additional resources. Based on the impact criteria identified in CEQA and used herein, this would be a significant impact if the level of service were reduced enough to require construction of additional facilities that could cause significant environmental effects.



**Impact PS-3 The project would increase the residential population in the Castaic Area by 225 residents, thereby contributing to local roadway traffic, and having the potential to contribute incrementally to a decreased level of service for the California Highway Patrol. This is a Class III, less than significant impact.**

A traffic study was completed for this project and addresses project related impacts on local roadways and the adjacent I-5 (Section 4.10 *Traffic & Access*). Mitigation measures included in that section that are intended to mitigate the projects impacts on the level of service at affected roadways and intersections. Additionally, a roadway improvement project is planned for The Old Road, which will result in widening and more efficient traffic flow.

In the absence of a specific threshold for CHP officer population ratio, based on the Sheriff's Department threshold of one officer / 1,000 residents the project would not exceed this threshold and thus would not result in a significant impact on service capabilities. It is also unlikely that the population and traffic generated solely by this project would necessitate construction of additional facilities that could result in significant physical effects.

Correspondence with the CHP noted that unlike Sheriff and Fire services, which depend on local funding, their funding is based on Department of Motor Vehicles registration fees. The funds are already in place to provide additional resources; however, the distribution of fees requires legislative action at the State level and is not as predictable.

The proposed project has incorporated mitigation that reduces traffic related impacts to the greatest extent feasible, and since the project induced population increase is not considered significant by the officer / population ratio or by the new facilities impact threshold, the impact is not considered significant. Improvements that are currently planned for The Old Road to facilitate better traffic flow would ease the cumulative impacts associated with this and other pending projects in the vicinity.

Mitigation Measures. The impact is considered less than significant and no additional mitigation measures are required. However, this project includes traffic mitigation in Section 4.10, *Traffic & Access* that reduces the project related traffic impacts to an acceptable level of service.

Significance after Mitigation. The proposed project would incrementally contribute to increased traffic on local roadways, on which the CHP has the responsibility of traffic enforcement, emergency incident management, public service, assistance and accident investigation. Together the project related mitigation and funding mechanisms that are in place to provide law enforcement services are expected to reduce the projects effects to less than significant.

**c. Cumulative Impacts.** Cumulative development in the project area would result in approximately 80,000 new residential units and about 35,200,000 square feet of commercial / industrial development (see Section 3.3, *Cumulative Setting*). The following is a discussion of the effect that this level of development would have on fire and law enforcement services.



Fire Service. Cumulative development projects in the Santa Clarita area would continue to increase the County'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 would substantially reduce service levels in the area.

This project and other individual projects would be required to pay in lieu fire protection impact fees in place at the time of issuance of building permits. In addition individual projects would be reviewed for compliance with Los Angeles County Fire Department standards and would be required to implement project specific mitigation measures in order to reduce potential impacts on fire protection services. Together with payment of impact fees, compliance with these standard requirements would offset individual project and cumulative impacts to a less than significant level.

Sheriff. Cumulative build out in the Santa Clarita area would increase demands on law enforcement services. According to the Sheriff's Department, such cumulative growth would strain Department resources. Without increases in staffing and facilities correlating to these population increases, potentially significant impacts could occur. It is anticipated that necessary Sheriff's Department staff and equipment would be funded by the increased public revenues generated as the area builds out. The proposed project represents only a small increment of this overall increased demand and is not considered cumulatively considerable. Assuming that increases in staffing and equipment would keep pace with growth in the area, cumulative impacts to police services would be less than significant.

California Highway Patrol. Cumulative build out of the Santa Clarita area would increase demands on CHP resources. According to the CHP, increases in staffing and resources cannot be mitigated by payment of fees, since expansion fees are collected by the Department of Motor Vehicles through vehicle registration fees. Legislative action is required to make funds available for expansions. CHP Department staff indicated that cumulative development is particularly taxing at this time with the abundance of development that is occurring in the area. As a result, the area could experience a decline in the level of service if increased funding is not made available to meet this growing demand. The project related demands represent only a small increment of the overall cumulative demand for service and therefore, the project itself is not considered cumulatively considerable.



## 4.14 WATER SERVICE

### 4.14.1 Setting

This report was prepared using information obtained from: the Newhall County Water District, “Master Water Plan for Castaic Water System,” prepared by Albert A. Webb Associates in April of 1998; the Newhall County Water District, “Water Supply Assessment,” prepared by Stetson Engineers, Inc. in November of 2004; the “2005 Urban Water Management Plan” prepared by Black & Veatch, et al.; and “Perchlorate in Drinking Water: A Science and Policy Review” prepared by The Scholars Committee on Perchlorate Review, University of California, Irvine.

#### a. Water Supply and Distribution.

Water Supplies. The majority of the site is currently within the Newhall County Water District (NCWD) service area. NCWD serves the communities of Newhall, Castaic, Pinetree and Tesoro. Water supply for the NCWD is obtained from the Imported State Water Project (SWP), (rights owned by the Castaic Lake Water Agency (CLWA)), Alluvial and Saugus local groundwater wells (owned by the NCWD), and a groundwater-banking project (owned by Semitropic). Water supply fluctuations are due to availability of SWP entitlements based on hydrologic conditions, the status of SWP facilities, construction, environmental requirements, and evolving policies for the Bay-Delta. SWP typically provides 50% to 75% of the water to which contractors are entitled. Local groundwater availability is influenced by annual precipitation rates and regional usage in addition to limitations resulting from perchlorate contamination.

*State Water Project (SWP).* SWP deliveries to CLWA currently allow for a maximum annual entitlement of 95,200 acre-feet (af). This entitlement has grown from an original 41,500 acre-feet / year (afy) in 1966, amended with 12,700 afy in 1991, and amended again in 1999 with an additional 41,000 afy. The 1999 amendment of 41,000 afy was challenged in *Friends of the Santa Clara River v. Castaic Lake Water Agency* (Los Angeles County Superior Court, Case Number BS056954) (“Friends”). On appeal, the Court of Appeal, Second Appellate District held that since the 41,000 afy transfer EIR produced by CLWA tiered off the Monterey Agreement EIR that was later decertified, CLWA would also have to decertify its EIR as well and prepare a revised EIR. CLWA decertified their tiered EIR, and produced a new EIR for the 41,000 afy transfer. The project was approved and the new EIR was filed with the Los Angeles Superior Court as part of CLWA’s Return to the Preemptory Writ of Mandate in “Friends”. Subsequently, “Friends” was dismissed permanently by the Court, thereby upholding the transfer. Two new challenges to CLWA’s environmental review of the 41,000 afy transfer were filed in the Ventura County Superior Court by the Planning and Conservation League and by the California Water Impact Network in January 2005. These cases have since been consolidated and transferred to the Los Angeles County Superior Court. However, these pending challenges to the EIR for the 41,000 afy transfer do not affect the reliability of the transfer because of the following reasons:

- 1) The transfer was completed in 1999, and the DWR has allocated and annually delivered the water in accordance with the completed transfer; and



- 2) The Court of Appeal held that the only defect in the 1999 EIR was that it tiered off the Monterey Agreement EIR, which was later decertified. This has been remedied through preparation of a new EIR that did not tier off the Monterey Agreement EIR; and
- 3) The Monterey Amendments settlement agreement expressly authorizes the operation of the SWP in accordance with the Monterey Amendments, which authorized the transfer;
- 4) The Court of Appeal refused to enjoin the transfer and instead required preparation of a revised EIR; and
- 5) The transfer contracts remain in full force and effect, and no court has ever questioned their validity or enjoined the use of this portion of CLWA's entitlement.

Thus, CLWA has concluded that if a court finds the revised EIR legally deficient, that court, like all others before it, would again refuse to enjoin the transfer, and would instead require further revisions to the EIR. As a result, CLWA concludes that the pending litigation challenges should have no impact upon the amount of water available to CLWA as a result of the 41,000 acre feet/year transfer (all from Urban Water Management Plan, 2005).

The SWP supply is diverted from the Feather River at Lake Oroville, released and conveyed through the Sacramento-San Joaquin River Delta ("Delta"), and rediverted at the Harvey O. Banks Delta Pumping Plant for conveyance through the California Aqueduct to Southern California and CLWA. SWP supplies have been challenged through environmental litigation concerning the Delta. In addition, conveyance of water through the Delta can present challenges for SWP supplies due to water quality and environmental issues that can affect pumping operations. Actions being taken by DWR to avoid or mitigate these risks are described below.

Environmental Litigation. Specific threats to the SWP include litigation concerning the Delta. In 2007, two courts ruled that California's major water delivery systems – the SWP and the Central Valley Project ("CVP") – were violating state and federal environmental laws regarding a threatened fish species, the Delta smelt. First, Alameda County Superior Court Judge Roesch concluded that the SWP had failed to obtain a permit required under the California Endangered Species Act ("CESA") that would provide protections for Delta smelt, salmon and steelhead from the effects of water pumping for activities at the Harvey O. Banks Delta Pumping Plant in Tracy, California (*Watershed Enforcers v. California Department of Water Resources*, Case No. RG06292124). Accordingly, Judge Roesch ordered the SWP pumps to be turned off unless appropriate permits were obtained within 60 days. DWR appealed that decision, automatically staying the decision pending the outcome of the appeal. The earliest that a decision from the appellate court is expected would be during the latter part of 2008 (*Watershed Enforcers v. California Department of Water Resources*, Case No. RG06292124).

As a practical response to the pending litigation in state and federal courts, DWR shut down the Harvey O. Banks Delta Pumping Plant from May 31 to June 10, 2007 to protect the Delta smelt. DWR resumed pumping on June 10, 2007, and pumping has remained at normal operating levels. In May 2007, U.S. District Court Judge Oliver Wanger ruled that a Federal Endangered Species Act ("ESA") take permit that had been issued to protect Delta smelt at both the SWP pumps and the Federal Jones Pumping Plant was not legally sufficient (*Natural Resources Defense Council v. Kempthorne*, 506 F.Supp.2d). At issue was a 2005 biological opinion



("BiOp") that was issued by the U.S. Fish and Wildlife Service ("USFWS") pursuant to the ESA, and concluded that current project operations and certain planned future actions would not jeopardize the continued existence of the Delta smelt or adversely modify its critical habitat based on certain actions being taken by the CVP and SWP. The court found that the BiOp was legally inadequate because it did not provide a reasonable degree of certainty that mitigation measures will take place, use the best available science, address climate change or address the impacts of joint project operations on the continued survival of the Delta smelt (Natural Resources Defense Council v. Kempthorne, 506 F.Supp.2d).

By the time this decision was released, the SWP and CVP water agencies were aware that the incidental take permit was not preventing take of Delta smelt and had requested a new permit. The consultation process with USFWS is expected to result in a new BiOp and take permit in late 2008 or early 2009. On August 31, 2007, Judge Wanger issued an interim oral decision that allowed the SWP and CVP to continue operating under the prior take permit as long as they complied with a USFWS-proposed five-point action matrix, as modified slightly, plus certain increased monitoring plans requested by the plaintiffs and other actions that do not have a water cost.

At the remedy proceeding before Judge Wanger, the Chief of the SWP Operations Planning Branch testified that in an average year, when combined deliveries of the CVP and SWP would be 5.9 million AF, reductions in deliveries due to compliance with the USFWS matrix will range from 820,000 to 2.17 million AF, which represent 14 and 37 percent of baseline deliveries, respectively. In a dry year, when combined deliveries would be 3.2 million AF, reductions will range from 183,000 to 814,000 AF, which represent reductions from baseline deliveries of 6 and 25 percent, respectively (Natural Resources Defense Council v. Kempthorne, 506 F.Supp.2d, Exhibit R). The modifications to the USFWS matrix by Judge Wanger will increase the delivery reductions by an amount that was not modeled by DWR, but it is expected that the actual impacts of Judge Wanger's order may be slightly greater than those figures.

Judge Wanger's order will impact diversions from December 25, 2007 until the new USFWS BiOp is issued in late 2008 or early 2009. However, it should be expected that the USFWS will include similar restrictions in the final BiOp to those that were in its action matrix adopted by Judge Wanger. Thus, the SWP and CVP will likely see long-term reductions in deliveries based on this litigation. Among other results, the decision likely will increase the political pressure for construction of the Peripheral Canal to avoid use of the south Delta pumping plants.

The CLWA concluded that reductions in pumping necessary to protect the Delta smelt and impacts from potential climate change scenarios could reduce its available water resources by up to as much as 11 percent. The CLWA recognizes reductions due to court actions or drought as potentially significant, but states its diverse portfolio of water supply sources documented in the 2005 UWMP will provide sufficient supplies both now and through the year 2030 in spite of the reductions (Castaic Lake Water Agency, Water Currents, Spring 2008).

In December 2007, DWR prepared an update to its 2005 State Water Project Delivery Reliability Report (Reliability Report), which indicates how much SWP water is available during varying hydrologic scenarios (i.e., normal and dry years). The Draft Reliability Report reduces the long-



term reliability of SWP supply from 77 percent to 66-69 percent. The CLWA reassessed the impact of the Reliability Report on the CLWA supply reliability analysis contained in the Agency's 2005 UWMP (Castaic Lake Water Agency, Water Currents, Spring 2008). It concluded that current and anticipated supplies are available to meet anticipated water supply needs. The CLWA notes once a Biological Opinion has been completed, the CLWA will confirm with DWR that the current supply reliability assessment is adequate. In terms of short-term water supply availability, the CLWA has determined that, while current operational changes of the SWP are in effect, there are sufficient supplemental water supplies, including SWP water, to augment local groundwater and other water supplies such that overall water supplies will be sufficient to meet projected 2008 water requirements as reflected herein (Castaic Lake Water Agency, Water Currents, Spring 2008). The CLWA asserts that the court decision shows that there are many demands for California's water supplies, and that conservation is a part of planning for the future (Castaic Lake Water Agency, Water Currents, Spring 2008).

*Perchlorate Contamination.* Portions of the Alluvial and Saugus groundwater formations are contaminated with perchlorate from a former munitions factory referred to as the Whittaker-Bermite property. Perchlorate is a widespread environmental contaminant at many past and present military installations and rocket propellant testing facilities throughout California. Approximately 350 wells in 89 water systems have been shown to contain perchlorate, and about 90% of these are located in Southern California (Perchlorate in Drinking Water, 2004). The perchlorate Public Health Goal is set at six part per billion (6 µg/L). However, the California Department of Health Services is required to set the perchlorate standard at a number that balances the treatment feasibility and costs with the potential public health benefits. Thus, additional research is being conducted to determine whether contamination at levels within the ranges of seven to 10 ppb, and 19 to 100 ppb poses significant risks to human health. The 19-100 ppb range approaches levels at which perchlorate inhibits the sodium-iodide symporter (NIS), which transports iodide to the thyroid gland (Perchlorate in Drinking Water, 2004).

In 2002, one Alluvial Aquifer well located near the Whittaker-Bermite property was inactivated from the municipal water supply due to perchlorate levels slightly below the Notification Level. In early 2005, a second Alluvial formation well was removed from service due to perchlorate detection. This well was treated and returned to service for Valencia Water Company in October 2005. Four Saugus formation wells located in the eastern portion of the aquifer near the Whittaker-Bermite property were removed from service in 1997 due to perchlorate contamination. These wells have remained out of service and efforts to restore the wells to service and prevent migration of perchlorate westward are underway. Water supplies are sufficient to meet current demand without supplies from the impacted wells; however, remediation of the contamination is necessary to insure there is no further migration of perchlorate, and to restore these wells into service to supplement existing groundwater supplies.

Remediation of the perchlorate impacted water supply involves two components:

- 1) Pumping from the contaminated wells to establish a hydraulic conditions that prevent downgradient (westward) migration of the contamination; and



- 2) Restoration of some or all of the contaminated water supply.

A plan to control the perchlorate contamination in the area of the affected Saugus wells has been developed by local purveyors in association with State regulatory agencies, investigators working for Whittaker-Bermite, and the Castaic Lake Water Agency. The plan includes the following components that are specifically related to water supply.

- Constructing and operating a water treatment process that removes perchlorate from two impacted wells such that the produced water can be used for municipal water supply.
- Hydraulically containing the perchlorate contamination that is moving from the Whittaker Bermite site toward the impacted wells by pumping the wells at rates that will capture water from all directions around them.
- Protecting the downgradient non-impacted wells through the same hydraulic containment that results from pumping two of the impacted wells.
- Restoring the annual volumes of water pumped from the impacted wells before they were inactivated and also restoring the wells' total capacity to produce water in a manner consistent with the retail water purveyors' operating plan for groundwater supply described above.

A new perchlorate treatment facility and over 3.5 miles of water pipelines are under construction, which commenced in November 2007. The project is anticipated to be operational by early 2009. Continuous pumping and treatment will restore existing supplies and prevent migration of perchlorate to other wells (Castaic Lake Water Agency, Water Currents, Spring 2008). Remediated water will be transferred by pipeline to the Rio Vista Water Treatment Plant before becoming part of the potable supply. The project will recover 3,800 AFY.

*Groundwater.* Local groundwater is pumped from the Alluvial aquifer system, a shallow upper basin that 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). Pumping from the Alluvial Aquifer ranges between 30,000 and 40,000 afy during normal and above normal rainfall years. However, due to hydrogeologic constraints, this pumping is limited to between 30,000 and 35,000 afy during locally dry years (Urban Water Management Plan, 2005).

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 percolation of rainfall and irrigation water. This water is pumped from relatively deep wells (to 2,000 feet in depth). Pumping from the Saugus Formation in a given year is tied directly to the availability of other water supplies, particularly from the State Water Project. During average year conditions within the SWP system, Saugus pumping ranges between 7,500 and 15,000 afy. Planned dry-year pumping from the Saugus Formation ranges between 15,000 and 25,000 afy during a drought year and can increase to between 21,000 and 25,000 if SWP deliveries are reduced for two consecutive years and between 21,000 and 35,000 afy if SWP deliveries are reduced for three consecutive years. Such high pumping would be followed by periods of reduced (average year) pumping, at rates of 7,500 to 15,000 afy to further enhance the



effectiveness of natural recharge processes that would recover water levels and groundwater storage volumes after the higher pumping during dry years.

*Future reliability.* CLWA provides State Water Project entitlements to the group of retail purveyors that serve the Santa Clarita Valley. Because each of these retail purveyors is withdrawing from CLWA for SWP, as well as withdrawing from geographically linked ground and surface water storage, this water supply analysis is based on information regarding all of the resources in the region as reported in the UWMP, 2005 that was produced for CLWA, CLWA Santa Clarita Division, Newhall County Water District, Valencia Water Company, and Los Angeles County Waterworks District No. 36 (Cooperating Agency). As such, this assessment accounts for usage by other competing purveyors within the same geographic region. Each of these purveyors contributed to the UWMP 2005. Future demand projections within the CLWA area were derived from input through each of these retail purveyors (UWMP, 2005). Tables 4.14-1 through 4.14-3 show future supplies and demands within the CLWA service area.

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 2005," CLWA and the retail purveyors have adequate supplies to meet demands during normal, single dry and multiple dry years through the 20 year planning period".

Table 4.14-1 provides information regarding supply and demand of local water resources through the year 2030 for normal year conditions. Under normal year conditions (average to above average precipitation) water supplies would be adequate to serve the projected regional demand through the year 2030. Normal years are presumed to receive approximately 71% (year 2010) to 77% (Year 2025/2030) of SWP entitlements (DWR, 2005). Surplus water resources range from a high of 34,850 afy in 2010 to a low of 22,310 afy in 2030.

During Single Dry years, demand increases, and SWP deliveries are reduced to 4 to 5% of entitlements (DWR, 2005). However, banked supplies and increased groundwater pumping are then utilized to bring supplies up to meet demand. Projections for single dry-year supplies and demands are presented in Table 4.14-2. As indicated in Table 4.14-2, existing and planned water supplies from CLWA and its purveyors are adequate to serve the projected regional demand through the year 2030. Surplus ranges from a high of 17,780 afy in 2020 to a low of 7,480 afy in 2030.

During multiple dry years, SWP deliveries increase to approximately 32 to 33% of contracted entitlements (DWR, 2005). Groundwater pumping and banked supplies are then utilized to bring supplies up to meet demand. Projections for multiple dry-year supplies and demands are presented in Table 4.14-3. As indicated in Table 4.13-3, existing and planned water supplies from CLWA and its purveyors are adequate to serve the projected demand within the region



through the year 2030. Surplus multiple dry year supplies range from a high of 18,370 in year 2020 and a low of 7,070 in year 2030.

Water Distribution. The project site is currently undeveloped and has no water supply infrastructure in place. The majority of the site is within NCWD boundaries; however, the northeastern portion of the property is outside of the NCWD boundaries, but within the NCWD Sphere of Influence, and is within the service area for Los Angeles County Waterworks District #36. This portion of the property will have to be annexed into the NCWD for water service (refer to Figure 4.14-1). The project area would be served by an existing eight-inch water main in The Old Road right-of-way, north of and adjacent to the site. The site is served by two Castaic Lake Water Agency wells (wells number one and number four) with pad elevations of 1,132 and 1,135 feet above mean sea level, located east of the site. The primary well, with a total storage capacity of 300,000 gallons, has a flow of 750 gallons per minute (gpm), while the secondary well has a flow of 250 gpm. Water is distributed from the CLWA through a booster station at the rate of 1650 gpm. The booster station functions to ensure adequate pressure.

#### **4.14.2 Impact Analysis**

**a. Methodology and Significance Thresholds.** The analysis of impacts to water service involved: (1) interviews with staff of the Newhall County Water District and Castaic Lake Water Agency; (2) review of relevant documents, including the “Master Water Plan for Castaic Water System” and “Water Supply Assessment” from NCWD, and “Urban Water Management Plan 2005” from the CLWA; (3) development of water demand rates for the uses proposed; and (4) comparison of projected demand / generation to the capabilities of existing and planned systems.

There would be a significant impact if the NCWD could not supply water for the proposed project. In accordance with the State CEQA Guidelines, a project would result in a significant impact if it would:

- *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);*
- *Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;*
- *Fail to have sufficient water supplies available to serve the project from existing entitlements and resources, or if new or expanding entitlements are needed.*

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

Water Supplies. Water demand generated by the project was estimated based upon a rate of 0.90 acre-feet per year per dwelling unit of residential development and 2.27 acre-feet per year per acre of business / professional office development per NCWD usage rates, 2005. Impacts to water supplies were considered significant if project generated demand exceeded available existing or future supplies, facilities, or proposed service lines.



**Table 4.14-1 Projected Average/Normal Year Supplies and Demands for CLWA**

Water Supply Sources	Supply (afy)				
	2010	2015	2020	2025	2030
<b>Existing Supplies</b>					
Who sale Imported Water	67,600	69,500	71,400	73,300	73,300
SWP Table A Supply (1)	67,600	69,500	71,400	73,300	73,300
Flexible Storage Account (CLWA) (2)	0	0	0	0	0
Flexible Storage Account (Ventura County) (2)	0	0	0	0	0
<b>Local Supplies</b>					
Groundwater	46,000	46,000	46,000	46,000	46,000
Alluvial Aquifer	35,000	35,000	35,000	35,000	35,000
Saugus Aquifer	11,000	11,000	11,000	11,000	11,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
<b>Total Existing Supplies</b>	<b>115,300</b>	<b>117,200</b>	<b>119,100</b>	<b>121,000</b>	<b>121,000</b>
<b>Existing Banking Programs</b>					
Semitropic Water Bank (2)	0	0	0	0	0
<b>Total Existing Banking Programs</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Planned Supplies</b>					
<b>Local Supplies</b>					
Groundwater	0	0	0	0	0
Restored Wells (Saugus Formation) (2)	0	0	0	0	0
New Wells (Saugus Formation) (2)	0	0	0	0	0
Recycled Water (3)	0	1,600	6,300	11,000	15,700
<b>Transfers</b>					
Buena Vista-Rosedale (4)	11,000	11,000	11,000	11,000	11,000
<b>Total Planned Supplies</b>	<b>11,000</b>	<b>12,600</b>	<b>17,300</b>	<b>22,000</b>	<b>26,700</b>
<b>Planned Banking Programs</b>					
Rio-Bravo Banking Program (2)	0	0	0	0	0
Additional Planned Banking (2)	0	0	0	0	0
<b>Total Planned Banking Programs</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Existing and Planned Supplies and Banking</b>	<b>126,300</b>	<b>129,800</b>	<b>136,400</b>	<b>143,000</b>	<b>147,700</b>
Total Estimated Demand (w/o) conservation (5)	100,050	109,400	117,150	128,400	138,300
Conservation (6)	(8,600)	(9,700)	(10,700)	(11,900)	(12,900)
<b>Total Adjusted Demand</b>	<b>91,450</b>	<b>99,700</b>	<b>106,450</b>	<b>116,500</b>	<b>125,400</b>
<b>Total Surplus (7)</b>	<b>34,850</b>	<b>30,100</b>	<b>29,950</b>	<b>26,500</b>	<b>22,300</b>

Source: Derived from Table 6-2, Urban Water Management Plan, 2005. Notes:

- (1) SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of average deliveries projected to be available (71% in 2010 and 77% in 2025/2030), taken from Table 6-5 of DWR's "Excerpts from Working Draft of 2005 State Water Project Delivery Reliability Report" (May 2005).
- (2) Not needed during average/normal years
- (3) Recycled water supplies based on projections provided in Chapter 4, Recycled Water (UWMP, 2005)
- (4) CLWA is in the process of acquiring this supply, primarily to the potential demands of future annexations to the CLWA service area. This acquisition is consistent with CLWA's annexation policy under which it will not approve potential annexations unless additional water supplies are acquired. Currently proposed annexations have a demand for about 4,000 afy of this supply which if approved would leave the remaining 7,000afy available for potential future annexations. Unless and until any such annexations are actually approved, this supply will be available to meet demands within the existing CLWA service area
- (5) Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area will be added if and when such annexations are approved. Currently proposed annexations have a demand for about 4,000 afy and, given supplies CLWA is in the process of acquiring, potential future annexations with demands up to an additional 7,000 afy could eventually be approved.
- (6) Assumes 10% reduction on urban portion of total demand resulting from conservation s best management practices, as discussed in Chapter Seven (UWMP, 2005)
- (7) Total Surplus = Total Existing and Planned Supplies and Banking - Total Adjusted Demand.



**Table 4.14-2 Projected Single Dry Year Supplies and Demands for CLWA**

Water Supply Sources	Supply (afy)				
	2010	2015	2020	2025	2030
<b>Existing Supplies</b>					
Wholesale Imported Water	9,860	9,860	8,480	9,480	9,480
SWP Table A Supply (1)	3,800	3,800	3,800	4,800	4,800
Flexible Storage Account (CLWA)	4,680	4,680	4,680	4,680	4,680
Flexible Storage Account (Ventura County) (2)	1,380	1,380	0	0	0
<b>Local Supplies</b>					
Groundwater Supplies	47,500	47,500	47,500	47,500	47,500
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Aquifer	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
<b>Total Existing Supplies</b>	<b>59,060</b>	<b>59,060</b>	<b>57,680</b>	<b>58,680</b>	<b>58,680</b>
<b>Existing Banking Programs</b>					
Semitropic Water Bank (3)	17,000	0	0	0	0
<b>Total Existing Banking Programs</b>	<b>17,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Planned Supplies</b>					
<b>Local Supplies</b>					
Groundwater	10,000	10,000	20,000	20,000	20,000
Restored Wells (Saugus Formation)	10,000	10,000	10,000	10,000	10,000
New Wells (Saugus Formation)	0	0	10,000	10,000	10,000
Recycled Water (4)	0	1,600	6,300	11,000	15,700
<b>Transfers</b>					
Buena Vista-Rosedale (5)	11,000	11,000	11,000	11,000	11,000
<b>Total Planned Supplies</b>	<b>21,000</b>	<b>22,600</b>	<b>37,300</b>	<b>42,000</b>	<b>46,700</b>
<b>Planned Banking Programs</b>					
Rosedale Rio-Bravo Banking Program (6)	20,000	20,000	20,000	20,000	20,000
Additional Planned Banking (7)	0	20,000	20,000	20,000	20,000
<b>Total Planned Banking Programs</b>	<b>20,000</b>	<b>40,000</b>	<b>40,000</b>	<b>40,000</b>	<b>40,000</b>
<b>Total Existing and Planned Supplies and Banking</b>	<b>117,060</b>	<b>121,660</b>	<b>134,980</b>	<b>140,680</b>	<b>145,380</b>
Total Estimated Demand (w/o) conservation (8) (9)	110,100	120,300	128,900	141,200	152,100
Conservation (10)	(9,500)	(10,700)	(11,700)	(13,100)	(14,200)
<b>Total Adjusted Demand</b>	<b>100,600</b>	<b>109,600</b>	<b>117,200</b>	<b>128,100</b>	<b>137,900</b>
<b>Total Surplus (11)</b>	<b>16,460</b>	<b>12,060</b>	<b>17,780</b>	<b>12,580</b>	<b>7,480</b>

Source: Derived from Table 6-3 in UWMP, 2005. Notes:

- (1) SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of single dry deliveries projected to be available for the worst case single dry year of 1977 (4% in 2010 and 5% in 2025/2030), taken from Table 6-5 of DWR's "Excerpts from Working Draft of 2005 State Water Project Delivery Reliability Report" (May 2005).
- (2) Initial term of the Ventura County entities' flexible storage account is ten years (from 2006 to 2015).
- (3) The total amount of water currently in storage is 50,870 af, available through 2013. Withdrawals up to this amount are potentially available in a dry year, but given possible competition for withdrawal capacity with other Semitropic banking customers in extremely dry years, it is assumed here that about one third of the total amount stored could be withdrawn.
- (4) Recycled water supplies based on projections provided in Chapter Four, Recycled Water (UWMP, 2005).
- (5) CLWA is in the process of acquiring this supply, primarily to the potential demands of future annexations to the CLWA service area. This acquisition is consistent with CLWA's annexation policy under which it will not approve potential annexations unless additional water supplies are acquired. Currently proposed annexations have a demand for about 4,000 afy of this supply, which if approved would leave the remaining 7,000afy available for potential future annexations. Unless and until any such annexations are actually approved, this supply will be available to meet demands within the existing CLWA service area.
- (6) Rosedale-Rio Bravo Water Banking and Recovery Program online in 2006, based on completing CEQA and subsequent adoption by CLWA Board of Directors.
- (7) Assumes additional planned banking supplies available by 2014.
- (8) Assumes increase in total demand of 10 percent during dry years.
- (9) Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area will be added if and when such annexations area approved. Currently proposed annexations have a demand for about 4,000 afy and, given supplies CLWA is in the process of acquiring, potential future annexations with demands up to an additional 7,000 afy could eventually be approved.
- (10) Assumes 10 percent reduction on urban portion of total normal year demand resulting from conservation best management practices [(urban portion of total normal year demand x 1.10) \*0.10].
- (11) Total Surplus = Total Existing and Planned Supplies and Banking - Total Adjusted Demand



**Table 4.14-3 Projected Multiple Dry Year Supplies and Demands for CLWA<sup>(1)</sup>**

Water Supply Sources	Supply (afy)				
	2010	2015	2020	2025	2030
<b>Existing Supplies</b>					
Wholesale Imported Water	32,010	32,910	32,570	32,570	32,570
SWP Table A Supply (2)	30,500	31,400	31,400	31,400	31,400
Flexible Storage Account (CLWA) (3)	1,170	1,170	1,170	1,170	1,170
Flexible Storage Account (Ventura County) (3)	1,380	1,380	0	0	0
<b>Local Supplies</b>					
Groundwater Supplies	47,500	47,500	47,500	47,500	47,500
Alluvial Aquifer	32,500	32,500	32,500	32,500	32,500
Saugus Aquifer	15,000	15,000	15,000	15,000	15,000
Recycled Water	1,700	1,700	1,700	1,700	1,700
<b>Total Existing Supplies</b>	<b>81,210</b>	<b>82,110</b>	<b>81,770</b>	<b>81,770</b>	<b>81,770</b>
<b>Existing Banking Programs</b>					
Semitropic Water Bank (3)	12,700	0	0	0	0
<b>Total Existing Banking Programs</b>	<b>12,700</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Planned Supplies</b>					
<b>Local Supplies</b>					
Groundwater	6,500	6,500	6,500	6,500	6,500
Restored Wells (Saugus Formation) (4)	6,500	6,500	5,000	5,000	5,000
New Wells (Saugus Formation) (4)	0	0	1,500	1,500	1,500
Recycled Water (5)	0	1,600	6,300	11,000	15,700
<b>Transfers</b>					
Buena Vista-Rosedale (6)	11,000	11,000	11,000	11,000	11,000
<b>Total Planned Supplies</b>	<b>17,500</b>	<b>19,100</b>	<b>23,800</b>	<b>28,500</b>	<b>33,200</b>
<b>Planned Banking Programs</b>					
Rosedale Rio-Bravo Banking Program (7) (8)	5,000	15,000	15,000	15,000	15,000
Additional Planned Banking (8) (9)	0	5,000	15,000	15,000	15,000
<b>Total Planned Banking Programs</b>	<b>5,000</b>	<b>20,000</b>	<b>30,000</b>	<b>30,000</b>	<b>30,000</b>
<b>Total Existing and Planned Supplies and Banking</b>	<b>116,410</b>	<b>121,210</b>	<b>135,570</b>	<b>140,270</b>	<b>144,970</b>
Total Estimated Demand (w/o conservation) (10) (11)	110,100	120,300	128,900	141,200	152,100
Conservation (12)	(9,500)	(10,700)	(11,700)	(13,100)	(14,200)
<b>Total Adjusted Demand</b>	<b>100,600</b>	<b>109,600</b>	<b>117,200</b>	<b>128,100</b>	<b>137,900</b>
<b>Total Surplus (13)</b>	<b>15,810</b>	<b>11,610</b>	<b>18,370</b>	<b>12,170</b>	<b>7,070</b>

Source: Derived from Table 6-3 in Urban Water Management Plan, 2005. Notes:

- (1) Supplies shown are annual averages over four consecutive dry years (unless otherwise noted).
- (2) SWP supplies are calculated by multiplying CLWA's Table A Amount of 95,200 af by percentages of deliveries projected to be available for the worst case four-year drought of 1931-1934 (32% in 2010 and 33% in 2025/2030), taken from Table 6-5 of DWR's "Excerpts from Working Draft of 2005 State Water Project Delivery Reliability Report" (May 2005).
- (3) Based on total amount of storage available divided by four (4 year dry period). Initial term of the Ventura County entities' flexible storage account is ten years (from 2006 to 2015).
- (4) Total Saugus pumping is the average annual amount that would be pumped under the groundwater operating plan, as summarized in Table 3-6 [(11,000 + 15,000 + 25,000 + 35,000) / 4]
- (5) Recycled water supplies based on projections provided in Chapter Four, Recycled Water (UWMP, 2005).
- (6) CLWA is in the process of acquiring this supply, primarily to the potential demands of future annexations to the CLWA service area. This acquisition is consistent with CLWA's annexation policy under which it will not approve potential annexations unless additional water supplies are acquired. Currently proposed annexations have a demand for about 4,000 afy of this supply, which if approved would leave the remaining 7,000afy available for potential future annexations. Unless and until any such annexations are actually approved, this supply will be available to meet demands within the existing CLWA service area.
- (7) Rosedale-Rio Bravo Water Banking and Recovery Program online in 2006, based on completing CEQA and subsequent adoption by CLWA Board of Directors.
- (8) Average dry year period supplies could be up to 20,000 af for each program depending on storage amounts at the beginning of the dry period.
- (9) Assumes additional planned banking supplies available by 2014.
- (10) Assumes increase in total demand of 10 percent during dry years.
- (11) Demands are for uses within the existing CLWA service area. Demands for any annexations to the CLWA service area will be added if and when such annexations area approved. Currently proposed annexations have a demand for about 4,000 afy and, given supplies CLWA is in the process of acquiring, potential future annexations with demands up to an additional 7,000 afy could eventually be approved.
- (12) Assumes 10 percent reduction on urban portion of total normal year demand resulting from conservation best management practices [(urban portion of total normal year demand x 1.10) \* 0.10].
- (13) Total Surplus = Total Existing and Planned Supplies and Banking - Total Adjusted Demand



**Impact W-1** About 7 acres of the northeast portion of the property is within the Sphere of Influence for Newhall County Water District, while about 40 acres is within the NCWD service area. The project would require annexation of two parcels to within the NCWD service area. This is a Class II, *significant but mitigable* impact.

The entire project site is located within the service area for Castaic Lake Water Agency (UWMP, 2005), which has four purveyors distributing domestic water within the service area. NCWD is the purveyor that serves the majority of the site (approximately 40 acres); however, a portion of the project site [approximately seven acres (APN 2865012014, and 2865012015)] is located outside the NCWD boundary, but within their Sphere of Influence. NCWD states that this area could be annexed into their service area (Personal Communication, Danielle Burleson, NCWD) and confirmed that this portion of the project site was included in their Castaic Master Plan, dated May 2006 (Personal Communication, Danielle Burleson, NCWD).

Based on a review of the applicant's plans, Business / Professional Lot 77, approximately 230 feet of the project's access road, 16,250 sf of slope frontage for Business / Professional Lot 75, and approximately 675 sf of back slope for Business / Professional Lot 76 lies within the unincorporated service area (approximately 73,188 sf or 1.7 acres). The remainder of this 7-acre unincorporated service area would be composed of open space at project buildout. The entire site could be served by NCWD upon annexation of the 7-acre area. The applicant would be required to obtain a *Will Serve* letter from NCWD indicating that the District has committed to serve the project.

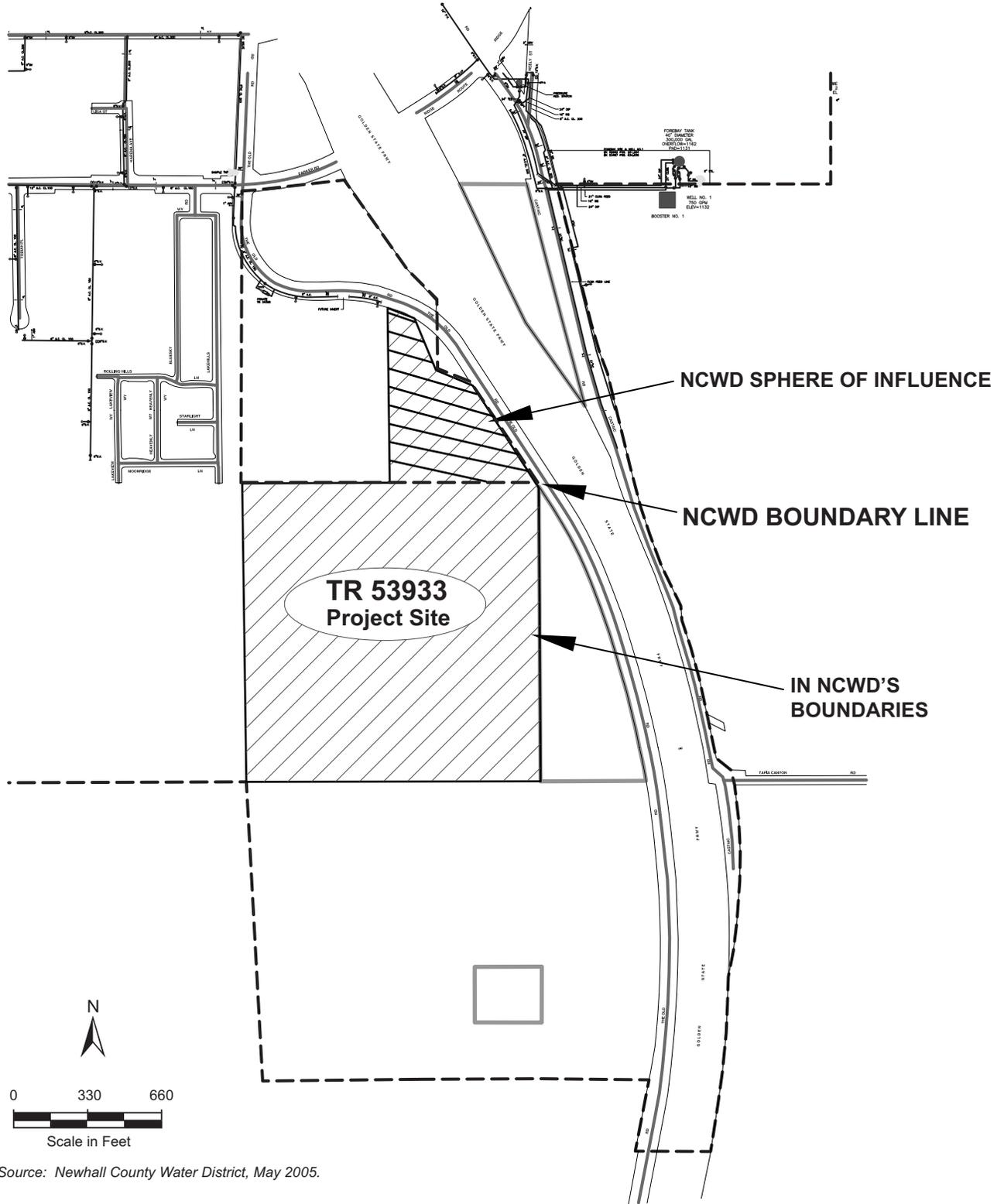
Mitigation Measures. The following measure would be necessary to supply water to a portion of the site prior to project implementation. The NCWD requires the completion of an application for water service to be considered for annexation into the District. Once the application is accepted, the NCWD staff and project applicant present an official Water Agreement contract to the NCWD Board of Directors for approval. After approval of the agreement, an application (plus required materials/maps/documentation) for annexation into the NCWD is submitted to the Local Agency Formation Commission for the County of Los Angeles (LAFCO) for approval. The LAFCO application process typically takes eight to 12 weeks. Once the LAFCO has given annexation approval, the NCWD can officially annex the project site into the District for water service.

**W-1 Annexation.** Prior to development, the applicant shall coordinate with Newhall County Water District to annex the northeast portion of the project site into the service District.

Significance After Mitigation. Impacts related to the water supply service area would be less than significant with mitigation because the project area is within CLWA service area, and within the Sphere of Influence for NCWD.

Significance After Mitigation. Residual impacts would remain less than significant.





Source: Newhall County Water District, May 2005.

NCWD Boundary

Figure 4.14-1



**Impact W-2** The proposed project would generate increased demand for water. The Newhall County Water District as a purveyor for CLWA would be able to supply the projected demand based on existing entitlements and projected capital improvements. Impacts to water supply would be Class II, *significant but mitigable*.

Based on the Master Water Plan for Castaic Water System, the 70 units of residential uses require 0.90 afy per dwelling unit. Therefore, the proposed 70 units would require a water supply of about 63 afy. Based on historical water usage in the area, commercial uses require about 2.27 afy per acre of development. Therefore, the proposed 70,000 square feet of business / professional office development on 5.21 acres, would require a water supply of about 11.8 afy. The total projected water demand for the proposed residential and commercial uses would be about 74.8 afy.

NCWD completed a Final Water Supply Assessment (November, 2004) that evaluated the existing water supplies in relationship to planned growth in the Santa Clarita Valley through 2025. Population in the Santa Clarita Valley, much of which is served by Newhall County Water District, was 224,350. The Los Angeles County Southern California Association of Governments projections for population in the Santa Clarita Valley in 2025 is 403,103, which amounts to an annual average annual population increase of 8,000 to 9,000 per year or approximately 2.6%. The water demand in Castaic over the next 20 years is estimated to increase from 2,900 afy in 2005 to 5,800 afy in 2025.

The Urban Water Management Plan 2005 incorporates these population projections under future demand estimates and concludes that regional supplies including planned improvements are adequate to serve the regional growth in normal, single dry and multiple dry years through the year 2030.

Mitigation Measures. Because the project area is within the regional planning area for CLWA, and because CLWA has accounted for future growth within the service area, the project's demand of 74.8 afy of water would not exceed the projected available regional supplies based on multiple dry year, single dry year and average normal year regional supplies and demands through the year 2030. Nevertheless, future reliability is partially dependent on conservation and the following measures are standard water conservation measures that are required to minimize the project's impact upon regional water supplies.

**W-2(a) Interior Conservation.** Interior water conservation measures, as required by the State of California, shall be incorporated into the project residential and commercial components. 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.

**W-2(b) Exterior Conservation.** Exterior water conservation features as recommended by the State Department of Water Resources, shall be incorporated into the project residential and commercial uses. 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.

**W-2(c) Reclaimed Water.** The residential and commercial uses shall, to the extent feasible, use reclaimed water for irrigation of landscaping.

**W-2(d) Xeriscaping.** Residential and commercial 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 with mitigation.

Water Distribution. Water would be delivered to the project through an existing water main within The Old Road right-of-way, north of and adjacent to the site. Smaller water lines (installed by the applicant) would then branch from this main line to serve the proposed development.

**Impact W-3** **The proposed project includes development that would need to be accompanied by water conveyance infrastructure and connected to the existing main located beneath The Old Road. The project will need to be designed such that it provides adequate flows and pressures for fire fighting purposes and will be subject to the review and approval of the NCWD and Los Angeles County Fire Department Land Development Unit. This is a Class II, significant but mitigable, impact.**

The applicant would be installing water conveyance infrastructure within the development to serve 70 new residential units and 70,000 square feet of office space. The infrastructure would need to connect to the existing eight-inch main that is located beneath The Old Road. In the event that the existing eight-inch main is not sufficient to serve the project, the applicant would be required to upgrade the main in The Old Road. Each of the residences and commercial structures would be privately plumbed and metered, or they could be master metered at The Old Road connection point. If the project were master metered, preliminary determinations indicate a 10-inch meter would be required to serve 70 residences and 70,000 sf



of commercial space. Newhall County Water District indicates that a 10-inch meter may not function to capacity if connected to an eight-inch main (personal communication, Danielle Burleson, NCWD). Moreover, NCWD indicates that main and meter sizes would likely be driven by fireflow requirements. As discussed in Section 4.3, *Fire Hazard*, the Los Angeles County Fire Department, Land Development Unit indicated the project may require flows of up to 5,000 gallons per minute at 20 pounds per square inch of residual pressure for a five-hour duration.

The fire department would review the applicant's plans and make final determination regarding fire flow based on the size of the buildings, their relationship to other structures, property lines, and types of construction used. In addition, NCWD would review the applicant's water infrastructure plans, once developed, to assure that the onsite system functions adequately to serve the proposed development. Prior to recordation of the final tract map the project would be required to meet all of the design measures required by the Los Angeles County Fire Department to ensure that the project has adequate fire flow capacity.

Onsite installation of water infrastructure would be overseen by the County of Los Angeles Public Works Department as part of the development approval process through plan checks, grading and building inspections. Following annexation of the unincorporated portion of the project area, the applicant would need to apply for water service to serve this portion of the project site.

Mitigation Measures. The applicant will be required to apply for water service with the NCWD and pay applicable connection and service fees. The applicant would need to pay water main connection fees based on development of 70 residential units and 70,000 square feet of office space. The current fee schedule for connection fees are dated 12/14/06, Resolution #2006-26 indicates that development greater than 32 equivalent dwelling units (EDU) requires a 10-inch meter and would be charged \$233,860 for the Master Plan Facilities Fee, and \$197,120 for the Backup Facilities Fee for a total of \$430,980 as the Total Connection Fee. However, these fees may be different if the project meters each residence and commercial structure individually. In addition, depending on timing of the development, these fees may increase.

Secondly, to assure that there are no service limitations, the applicant would be required to upgrade the existing main in The Old Road if it is deemed necessary to serve the development or to assure adequate pressure for fire flows.

Mitigation measures FH-1(a-b) have also been incorporated into Section 4.3, *Fire Hazard* requiring compliance with Fire Department Land Development Unit recommendations for reducing fire hazard to a level that is less than significant.

- W-3(a) Connection Fees.** The applicant shall pay the current Castaic Area Connection Fee that is necessary to connect water conveyance infrastructure within the project area to the eight-inch existing main located beneath The Old Road.



**W-3(b) Water Main Upgrades.** The applicant shall be pay for any necessary upgrades to the eight-inch water main in The Old Road, if the upgrades are necessary to accommodate the scale of development or provide adequate fire flows to serve the project.

**W-3(c) Water Plan Approval.** The applicant shall submit water infrastructure plans to NCWD and the Los Angeles County Fire Department Land Development Unit for review and approval to assure that the project design meets individual requirements of both agencies prior to finalization of the Tract Map.

Significance after mitigation. Payment of applicable connection fees and incorporation of infrastructure design measures reduces the projects impact to a level of insignificance. No residual impacts are anticipated.

**c. Cumulative Impacts.** Cumulative development within a five-mile radius as listed in Section 3.3, *Cumulative Setting* includes 80,020 residential units, 5,699,185 sf of commercial development and 29,476,117 sf of industrial development. The Urban Water Management Plan 2005 indicates that there is a surplus under average normal, single dry and multiple dry years through 2020 with planned improvements. However, planned improvements are necessary to meet planned growth scenario conditions under single dry and multiple dry conditions by 2010. Additional regional water supplies are anticipated to come from new and restored Saugus Formation wells, the Buena Vista-Rosedale transfer program, Rio-Bravo and additional planned banking programs, and increased water recycling. Water supplies are reduced from some traditional sources such as the State Water Project due to the Bay-Delta pumping restrictions in addition to drought. Cumulative development could have a significant impact on the water supply if planned improvements do not keep pace with approved growth. However, planned improvements such as the perchlorate treatment facility are coming online. Moreover, each new project would be required to implement conservation measures, thereby offsetting some of the increase in demand. Finally, each project would need to obtain a *Will Serve* letter from the appropriate retail purveyor, thus limiting development to available water resources.



## 4.15 LAND USE

### 4.15.1 Setting

The documents used as information sources for this section are: the Los Angeles County General Plan and Zoning Ordinance, Hillside Management Area Plan / Hillside Design Guidelines, the Santa Clarita Valley Area Plan (SCVAP), and the Castaic Area Community Standards District (CSD).

**a. Current Land Uses.** The project site encompasses 47.25 acres and is currently vacant. The SCVAP designates the site's land use as residential Urban One (U1), Urban Two (U2), Urban Three (U3), industrial (M) and Hillside Management (HM ¼). The Los Angeles County zoning designation for the site is Heavy Agricultural. The site is located in the northwestern portion of the Castaic Valley and is generally hilly with moderate to steep slopes, intervening canyons and level terrain areas, with vegetation consisting predominantly of mixed chaparral, coastal sage scrub, chamise chaparral, California annual grassland-sage scrub ecotone, and cottonwood-willow riparian forest. The site is located near a suburban area of mixed uses, including residences, open space, and commercial / industrial facilities. The surrounding area is developed as a high-density (zoned as RPD-6.5U) condominium project to the north (Tract 34365), a 115-unit mobile home park to the northwest (zoned R-3-10U), a single-family residence on an undeveloped large parcel to the west, The Old Road / Interstate 5/Golden State Freeway (I-5) and commercial / industrial uses to the east (zoned Industrial), and vacant land that has been approved for condominium development (Tract 46798; zoned RPD-3.5U) to the south. To the north of the project site, across The Old Road is an approved commercial development for an Auto Sales / Repair business, which is currently under construction.

**b. Land Use Plans and Policies.** The project site is subject to a number of local and regional land use plans and policies, including Los Angeles County General Plan, Los Angeles County Zoning Ordinance, Hillside Management Area Plan / Hillside Design Guidelines, Santa Clarita Valley Area Plan and Castaic Area Community Standards District. A description of these plans / policies and their applicability follows. Each of these plans / policies includes topics that are potentially relevant to the proposed project. An analysis of compatibility with relevant plans / policies is included under Impact LU-1 and LU-2, beginning on Page 4.15-8, and / or under *Land Use Consistency Analysis* (Section 4.15.2.c).

Los Angeles County General Plan (LACGP). The Los Angeles County General Plan is the backbone of the planning framework for the County of Los Angeles and the project area. It contains policies / standards that were intended to guide development within the unincorporated areas of Los Angeles County. The current General Plan land use designation for the project site is non-urban, low and medium density residential. This designation allows for low and medium density residential development within specific human and environmental standards. The General Plan includes a number of policies that are potentially relevant to the proposed project.

Los Angeles County General Plan: Planning Tomorrow's Great Places (PTGP). The Draft Los Angeles County General Plan will update the 1980 countywide General Plan and is



scheduled for adoption in 2009. The Draft General Plan addresses a broad range of issues that are required of the current General Plan with land use still at the core of the plan. The Draft General Plan Elements include Land Use, Mobility, Air Resources, Conservation and Open Space, Noise, Safety, Public Services, and Economic Development. Some of these elements overlap with the existing General Plan. However, the Draft General Plan places a new emphasis in each of these elements on sustainability, public health, and economic development. The Draft General Plan will have a 20 year planning horizon upon adoption and will be in effect up to the year 2030. The next steps in the process of adopting the Draft General Plan will be to circulate a Draft EIR in the summer of 2009. Other steps prior to adoption will include ongoing stakeholder meetings, plan translation, policy refinement, and a Regional Planning Council Public Hearing also to be held in the summer of 2009.

Los Angeles County Zoning Ordinance (LACZO). The current zoning for the site is A-2-2 (Heavy Agriculture). This zone allows for agriculture and livestock related uses. Uses could include animal hospitals, dairies, dog kennels, livestock feed lots, manure spreading and oil wells. The Castaic Community Standards District requirements supersede the Los Angeles County Zoning Ordinance when there are conflicting standards.

Hillside Management Area Plan (HMAP) / Hillside Design Guidelines. The project site is within a Hillside Management Area special land use classification. The Hillside Management Area Plan was written and implemented as a supplement to the County's General Plan, and supersedes the General Plan if there are conflicting policies / standards. The Hillside Design Guidelines is a document issued by the Los Angeles County Department of Regional Planning, intended to provide guidance to those preparing plans for hillside development within the framework of the existing General Plan, and adopted ordinances. The Hillside Management Area Plan and Hillside Design Guidelines include a number of policies and guidelines that are potentially relevant to the proposed project.

Santa Clarita Valley Area Plan (SCVAP). This area-wide plan, a sub-section of the Los Angeles County General Plan, serves as a general guide for land use decision-making in the Santa Clarita Valley. The SCVAP was written and implemented as a supplement to the County's General Plan, and supersedes the General Plan if there is a conflict between applicable policies / standards. The SCVAP has several land use designations for the site that supersede the LACGP land use designations and are shown on Figure 2-6. The Santa Clarita Valley Area Plan includes a number of policies that are potentially relevant to the proposed project.

Castaic Area Community Standards District (CSD). This local planning provision was implemented as an amendment to the Planning and Zoning of the Los Angeles County Code, Title 22 (22.44.137). The Community Standards District creates standards to protect the rural character, unique appearance, and natural resources within the Castaic community. The CSD also ensures that new development is compatible with Castaic neighborhoods and existing goals. The Castaic Area Community Standards District was written and implemented as a supplement to the existing planning framework, and is intended to be the most regionally specific guiding document for the geographic area that includes the project site. The Castaic Area Community Standards District includes a number of requirements that are relevant to the proposed project and are intended to implement policies contained in the SCVAP. The CSD



would supersede any requirements contained in the LACZO in the event of a conflict. The project has complied with the provisions of the CSD.

#### **4.15.2 Environmental 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. The analysis also includes an evaluation of the project's consistency with local and regional land use policies, including the County's General Plan and Zoning Ordinance, the SCVAP and the CSD. 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 II & 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 Los Angeles County decision makers.

Per the State CEQA Guidelines, the project would result in a potentially significant land use impact if it would:

- *Physically divide an established community; and/or*
- *Conflict with the compatibility of the surrounding land uses; and/or*
- *Conflict with any applicable land use plan, policy, or regulation of any agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.*

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

**Impact LU-1** Based on staff's preliminary review of the project, the proposed project is generally consistent with the General Plan and Santa Clarita Valley Area Plan (SCVAP) land use designations for the site and will not require a General Plan amendment. As the *Land Use Consistency Analysis*, Section 4.15.2.c indicates, the project is not in conflict with any applicable land use plan, policy, or regulation of agencies with jurisdiction over the project, including the Hillside Management Area Plan and Castaic Area Community Standards District (CSD). However, the proposed project is not consistent with the current zoning, and therefore requires a zone change from A-2-2 to M-1-DP and RPD- 2.51.9U. This is considered a Class III, *less than significant impact*.

The project site is zoned A-2-2. This designation allows for single-family residences, crops (field, tree, bush, berry, row and nursery stock), greenhouses and raising of cattle, horses, sheep, goats, poultry, birds, earthworms, etc., animal hospitals, dairies, dog kennels, livestock feed lots, manure spreading, and oil wells with a minimum required area of two acres (47.25 acres or 100% of the total area). However, as previously indicated, the Castaic Area CSD



supersedes the LACZO, when there is a conflict. The Castaic Area CSD Section 2.E.1.i-ii states that the minimum lot sizes for residential and agricultural zones is 7,000 sf minimum and 10,000 sf average.

A zone change is proposed to bring the project into conformity with the SCVAP land use designations for the site. More specifically, the applicant proposes to change the zoning on the project site to Residential Planned Development (RPD-~~2.51.9U~~) on 42.04 acres and to Light Industrial-Manufacturing under a development program (M-1-DP) on the remaining 5.21 acres of the site (see Figure 2-7). Figure 2-7 also shows the open space lots and park lot, though these lots are contained within the RPD-~~2.51.9U~~ designation.

The LACGP identifies the site as Non-urban, low and medium density residential. However, the SCVAP designations of U1, U2, U3 and M / Industrial supersede the Los Angeles County General Plan designation for the site, as they were designed specifically for the unincorporated areas of the Santa Clarita Valley. Figure 2-6 shows the existing SCVAP land use designations for the project site.

The SCVAP has designated portions of the project site as urban indicating residential development of varying densities, including the following:

- **U1/Urban** – This designation allows 1.1 to 3.3 residential dwelling units per acre (14.67 acres or 31% of the total site area); and
- **U2/Urban** – This designation allows 3.4 to 6.6 residential dwelling units per acre (0.92 acres or 2% of the total site area); and
- **U3/Urban** – This designation allows 6.7 to 15.0 residential dwelling units per acre (0.42 acres or 1% of the total site area).

Also included in the SCVAP are designations for Industrial Development and Hillside Management designations.

- **M/Industrial** – This designation allows light, medium, and heavy industrial with service commercial (2.73 acres or 6% of the total site area).
- **HM ¼ Mile** - Hillside Management within a ¼ mile radius of the U1, U2 and U3 uses – (28.51 acres or 60% of the total site area). This designation is intended to ensure that future development occur in the most suitable and least environmentally sensitive areas, and is designed in a manner that is compatible with the natural resource values and character of the area.

The project conforms to the intent of the SCVAP with regard to residential, industrial / commercial (specifically proposed office park) mixed use and with preservation of open spaces and native vegetation. The project was designed to concentrate development of different uses, resulting in a clustered design, which minimizes grading. Grading is also minimized through density transfers and the use of curvilinear roadways, in line with Hillside Design Guidelines.



The project design also avoids a restricted building area due to earthquake fault-line, preserves the prominent features of a CSD-designated primary significant ridgeline and an environmentally sensitive ephemeral stream / riparian habitat area. The land design again in line with Hillside Design Guidelines, allows access to the central elevated portion of the site along a single gradual grade thereby preserving substantial areas of open space.

Table 4.15-1 shows the level of development that would be allowed under the existing SCVAP land use designations and proposed project.

**Table 4.15-1 Comparison of Allowable Development Under the SCVAP With Proposed Project Development**

Plan	Designation	Acreage	Allowable Development
SCVAP	U1 (1.1-3.3 U/AC)	14.67	48.41 du
SCVAP	U2 (3.3-6.6 U/AC)	0.92	6.07 du
SCVAP	U3 (6.7-15 U/AC)	0.42	6.30 du
SCVAP	<sup>1</sup> Hillside Management (variable with slope)	28.51	28 du
SCVAP Total Allowable Residential Development <sup>1</sup>			88.78 du
SCVAP	<sup>2</sup> M/Industrial	2.73	166,486 sf industrial
Proposed Project	RPD- <del>2-5</del> 1.9U	42.04	70 du
Proposed Project	M-1-DP	5.21	70,000 sf office park

Notes: du=dwelling unit, sf=square feet

<sup>1</sup>Hillside Management du density based on the Subdivision Committee Reports (dated 11-24-2003 and 6-30-2008), which was in response to the project's Zoning and Subdivision Application submitted in October 2003 to the Los Angeles County Department of Regional Planning.

<sup>2</sup>SCVAP does not specify density; however, CSD implements SCVAP policy and would allow for 70% lot coverage with two stories. Therefore allowable development would be equal to  $[2 \times (2.73 \times 0.70 \times 43,560)]$  or 166,486 sf.

As shown above, the site currently has 5 land use designations under the SCVAP, including four designations that allow residential development and one designation that allows industrial and manufacturing use. The current land designations, per the Subdivision Committee Reports (dated November 24, 2003 and June 30, 2008), allow for a maximum of 88 residential units. Also up to about 166,000 square feet of industrial space is allowed for the site (see Table 4.15-1). The project proposes 70 residential units and 70,000 square feet (sf) of office building. An increase in the residential units from 70 to the maximum allowable 88 units, or more units consistent with high-density adjacent condominium developments, may be possible. An increase of office park capacity from the proposed 70,000 square feet (sf) to the maximum capacity of 166,000 sf may also be possible. However, increases in residential units and / or office building size is estimated to require a sizeable increase in the necessary grading due to grade-related access issues, the irregularly shaped land use development zones, the presence of substantial slopes / hillsides, a restricted building zone (earthquake faults) and other constraints within the project area. A General Plan Amendment does not appear to be necessary for the proposed project as the 70 residential units is below the maximum allowable 88 units, while the land design has incorporated measures to comply with SCVAP and other applicable plans / policies.



The proposed project involves consolidation of the current land use designations into two new zoning designations: one that would allow residential development (RPD-2.51.9U); and the other that would allow professional office uses (M-1-DP). The proposal, consistent with SCVAP and Hillside Management Area Plan, would provide for density transfers and clustering, which concentrate development in cul-de-sac mini-neighborhoods and along a single curvilinear access road. The proposed development utilizes the lower elevation lots for commercial uses adjacent The Old Road / I-5, and locates residential development along the portions of mid-elevation areas that are the broadest and flattest portions of the property. The residential element is also generally away from the traffic corridor of I-5 and The Old Road. The highest elevations, which include the prominent features of a Castaic Area Community Standards District -designated significant ridgeline, are preserved in permanent Open Space.

The proposed residential units would occupy 11.18 acres, and the project would create four open space lots, which together with a park site, detention basin, and roads total 30.86 gross acres. The professional office uses would compose of three lots on the remaining 5.21 acres. Overall, the project would involve 18 units less than the number of residential units allowed under the current residential designations on the site, and it would allow about 96,000 sf less industrial / commercial development than would be allowed under the Santa Clarita Valley Area Plan. The SCVAP encourages incorporation of density transfer and clustering as a method of preserving the natural terrain, minimizing grading and reducing exposure to natural hazards. As described above, the development plan has included measures in line with the provisions of applicable plans / policies. As such, the project appears to be generally consistent with the SCVAP and other applicable plans / policies.

The *Land Use Consistency Analysis*, Section 4.15.2.c below, examines in detail the specific potential conflicts with applicable land use plan, policy, or regulations of agencies with jurisdiction over the project. As discussed in Section 4.9, *Visual Qualities* and as it will be more fully described in Section 4.15.2.c below, the project has incorporated appropriate design measures in order to meet consistency with the SCVAP, Hillside Management Area Plan, CSD and other applicable ordinances.

Mitigation Measures. While the proposed project appears to be generally consistent with the SCVAP land use designations and other applicable plans and policies, rezoning of the project site will be required. However this change is not expected to result in any significant environmental impacts. Therefore, no mitigation is required. The project, through incorporation of appropriate design measures as discussed in Sections 4.9, *Visual Qualities* and 4.15.2.c, *Land Use Consistency Analysis*, is shown to be consistent with the applicable land use ordinances including Hillside Management Area Plan and the Castaic Area Community Standards District (CSD).

Significance After Mitigation. With the implementation of rezoning, potential impacts would be reduced to a less than significant level.



**Impact LU-2** The proposed project would generally have a lower residential density than the adjacent developments but will be compatible with the residential uses in the area, though air quality, noise, traffic, drainage and visual qualities, including Castaic Area Community Standards District-related items, have the potential to result in adverse environmental effects unless properly mitigated. The location of residential uses in close proximity to existing commercial and industrial uses have the potential to result in land use conflicts. In addition, the mix of residential and commercial office uses has the potential to result in land use conflicts if not properly mitigated. Compatibility impacts are considered Class II, *significant but mitigable*.

The project site is in an area of mixed residential, open space, and commercial / industrial uses, including single-family homes, and immediately adjacent higher density condominium developments, a mobile home park, vacant land, and a building supply yard business - Additional detail of the land uses adjacent to the project is given in Section 2.0., *Project Description*. The proposed residential uses would be at an elevation of between 1,237 and 1,326 feet. The professional office uses proposed for lots 75, 76, and 77 would be located between elevations 1,170 and 1,218. The elevation difference provides a natural buffer zone between the residential and commercial elements within the project. The commercial element of the project provides a buffer zone for the residential element from the traffic corridor of I-5 and The Old Road. The commercial element in effect would serve to buffer the residential uses both vertically and horizontally from the existing building supply yard, which is immediately adjacent to the project, and from traffic on The Old Road and I-5.

The proposed single-family residential element design does not seem to trigger a need for a General Plan Amendment, as it utilizes the existing SCVAP land use designations in conjunction with density transfers consistent with SCVAP and in line with Hillside Design Guidelines. The resulting plan is a lower density residential development (proposed zone RPD-2-51.9U) than the immediately adjacent condominium (zone RPD-6.5U) and mobile home park (zone R-3-10U) developments. However, although of a lower density, the project's residential element will be similar to, adjacent to, buffered from, and generally compatible with these residential neighborhoods already developed to the north (Tr 34365), and approved for the south (Tr. 46798). The commercial element of the project is not located adjacent to any of the neighboring residential uses, thus avoiding a land use conflict. The project's commercial element is instead located adjacent to the traffic corridor and an existing building material yards business with the land use / zoning designation of industrial ("M").

Temporary air quality and noise impacts are associated with construction, and long-term air quality and traffic impacts are anticipated due to project generated traffic. Noise from traffic on I-5 is expected to be audible to residential uses (refer to Section 4.4, *Noise Hazard* for a more detailed discussion). As discussed in Section 4.9, *Visual Qualities*, the proposed project has been developed to be consistent with the CSD policies and the approval of the final building plans would be conditioned on meeting the CSD standards regarding landscaping, architectural style, preservation of native vegetation, lighting and preservation of a significant ridgeline. Section



4.1, *Geotechnical Hazard* and Section 4.2, *Flood Hazard* discuss potential impacts to adjacent uses resulting from grading activities and modified drainage.

The project includes two different uses, one residential use and one business / professional office use. The business professional office use would generate some noise associated with the parking lots and circulation, delivery of supplies, ventilation systems, and trash hauling. Additionally there would be visual effects from the presence of larger structures, and nighttime lighting. However, the majority of noise would be generated during the day time when residential sensitivity is lowest, and many residents are expected to be at work. Potential for noise generation is further discussed in Section 4.4 *Noise Hazard*. Lighting effects could be problematic, as they could affect nighttime views; however, mitigation has been incorporated including the use of mission bell-shaped street lighting as required by the Castaic Area Community Standards District that requires minimal lighting and lumens and consideration for reduction of overspill into adjacent uses. Additional discussion regarding lighting impacts is included in Section 4.9 *Visual Qualities*. Similarly discussions regarding *Air Quality* and *Traffic and Access* have been provided in Sections 4.6 and 4.10 respectively.

Further potential conflicts with SCVAP, the CSD and other applicable ordinances have been examined in detail in Section 4.15.2.c below, *Land Use Consistency Analysis*. The project has incorporated design measures in order to meet consistency with the CSD and all other applicable ordinances - Also see Section 4.9, *Visual Qualities*.

Mitigation Measures. Measures in Section 4.1, *Geotechnical Hazard*, Section 4.2 *Flood Hazard*, Section 4.4, *Noise Hazard*, Section 4.6, *Air Quality*, Section 4.9, *Visual Qualities*, and Section 4.10, *Traffic and Access*, would address potential impacts relating to project generated impacts on adjacent developments. The project has also incorporated design measures in order to be consistent with the SCVAP, Hillside Management Area Plan / Hillside Design Guidelines, CSD and other applicable ordinances (see Sections 4.15.2.c, *Land Use Consistency Analysis* and 4.9, *Visual Qualities*). No additional measures are required.

Significance After Mitigation. With the implementation of measures identified above, potential impacts on adjacent developments would be reduced to less than significant.

**c. Land Use Consistency Analysis.** The consistency of the proposed project has been analyzed below in terms of the General Plan (including the land use provisions of the Hillside Management Area Plan), the Santa Clarita Valley Area Plan, the Castaic Area Community Standards District (CSD), and the Zoning Code. The applicant is requesting a zone change for the site from A-2-2 (Heavy Agricultural) with SCVAP land use designations of U1, U2, U3, HM ¼ mile Urban, to Residential Planned Development (RPD-2.51.9U/AC) on 42.04 acres and Light Manufacturing Development Program (M-1-DP) on 5.21 acres. A discussion of the consistency of each applicable policy follows, beginning with the General Plan. However, it is noted that the final determination of the policy consistency is the responsibility of the Los Angeles County decision makers (Los Angeles County Regional Planning Commission and Board of Supervisors).



Draft Los Angeles County General Plan: Planning Tomorrow's Great Spaces (PTGP) Consistency. The proposed project is consistent with the following proposed policies of the Draft Los Angeles County General Plan. Analysis includes the Air Resources Element (AR), the Conservation and Open Space Element and (C/OS), the Safety Element (S), and the Public Services Element (PS).

*PTGP Air Resources Element (AR)*

*PTGP Policy AR 2.3: Encourage mixed use development to facilitate the proximity and linkage between housing and employment throughout the County.*

*Consistency analysis:* The proposed project includes 70 single-family homes and 70,000 sf of business/professional office development. The office development would create approximately 233 new jobs. Not all homeowners would work at the office development, but the availability of mixed uses would enable some workers to live in proximity to their workspace.

*PTGP Policy AR 2.4: Promote land use practices that encourage housing to be developed in proximity to employment opportunities.*

*Consistency analysis:* Similar to the consistency analysis for AR 2.3, 70 single-family homes will be developed alongside 70,000 square feet (sf) of business/professional office space. The office development would create approximately 233 new jobs.

*PTGP Policy AR 3.1: Promote or require "green building" principles, LEED [Leadership in Energy and Environmental Design] certification, and Low Impact Development (LID) in all development activities.*

*Consistency analysis:* The proposed project would not build residences or commercial structures to LEED certification, and is not subject to the LID ordinance because the Application was deemed complete prior to the ordinance becoming effective. However, mitigation measure GCC-1 documents a variety of measures to reduce energy consumption. In addition, the project incorporates a mixed use design, xeriscaping, low flow fixtures, and would be designed to reduce energy conservation by 20% beyond Title 24. Table 4.5-1 includes a list of proposed LID BMPs (Best Management Practices) and analyzes the project's compatibility with future Los Angeles County LID requirements. Implementation of the proposed LID BMPs would improve groundwater recharge, flood management, and water quality.

*PTGP Policy AR 3.2: Encourage land use practices that minimize sprawl.*

*Consistency analysis:* The proposed project would be new development on currently undeveloped land. In order to minimize hillside grading and preserve open space, the land design has clustered the residential development in the flatter areas of the site in four cul-de-sac mini-neighborhoods, and along a single curvilinear access road ("C" Street). The cluster design has limited the overall buildout of the project and would preserve 30.86 acres of gross open space surrounding the project, including 21.28 acres of open space lots, a 4.11 acre park, a 0.48 acre detention basin, and 4.99 acres of roads. Residential and commercial structures are built or are scheduled for construction adjacent to all project site boundaries (See Table 2-1 Current Site Information, and Figure 2-3 located in Section 2.0 Project Description for details).



*PTGP Policy AR 3.3: Promote land use practices that enhance public health.*

*Consistency analysis:* The proposed project would be a walkable community and would include over four acres of parkland. The inclusion of four acres of parkland and the community's walkable layout would promote active lifestyles and enhance the public health of residents and workers.

*PTGP Policy AR 3.4: Promote efficient community water and energy practices.*

*Consistency analysis:* ~~A list of the proposed project's proposed Low Impact Development (LID) Best Management Practices (BMPs) is located in Table 4.5-1. Table 4.5-1 analyzes the project's compatibility with future Los Angeles County LID requirements. Implementation of the proposed LID BMPs would improve groundwater recharge, flood management, and water quality. Additionally,~~ The proposed project contains mitigation measures aimed at promoting water conservation for the residential and commercial uses. Proposed interior conservation, exterior conservation, reclaimed water, and xeriscaping mitigation measures are outlined in detail in Section 4.14 Water Service. These mitigation measures would maximize the project's future water source reliability.

Consistency with LACGP Housing Policy #15 to encourage the use of energy-saving technologies, on a cost-effective basis, in the design, construction, and operating systems of existing and new residential buildings to reduce utility costs to future residents, would render the project consistent with Policy AR 3.4. ~~At this stage, specific energy-saving technologies are unknown but~~ The project would comply with this policy through the implementation of mitigation measures listed in Section 4.6 Air Quality as well as GCC-1 in Section 4.16 Global Climate Change.

*PTGP Policy AR 3.7: Support land use policy that promotes environmental justice.*

*Consistency analysis:* The proposed land use policy would not create an inequitable burden to any specific group. The proposed project is consistent with environmental justice ethics.

*PTGP Policy AR 3.9: Promote compact, walkable, well-designed development.*

*Consistency analysis:* The proposed project includes a park site, with an area of about four acres, located on the westernmost side of the project site, with open space as buffers to the north, west, and south. Walkways to and from this park are expected for resident access only.

*PTGP Policy AR 4.5: Create and upgrade pedestrian environments to increase walkability.*

*Consistency analysis:* Similar to Policy AR 4.3, walkways to and from the community park would be utilized for residential access. The community Homeowner's Association would be responsible for the continued upkeep of the walkways if not dedicated to the County.

*PTGP Policy AR 6.2: Minimize roadway runoff through the use of permeable surface materials such as porous asphalt and concrete materials wherever possible.*



*Consistency analysis:* The proposed project would not utilize permeable asphalt or concrete materials. However, permeable surfaces such as the on-site detention basin and the mini desilting basins are proposed to have soft bottom, allowing infiltration of storm flow, subject to approvals of the soils engineer and LA County Department of Public Works design criteria.

*PTGP Policy AR 8.1: Develop and expand regional and local parkland and trail systems in the County.*

*Consistency analysis:* The proposed project would create four acres of community parkland in addition to 21.28 acres of open space. The open space lots would preserve natural vegetation and topographic features that are characteristic of natural areas in the vicinity of the project site.

*PTGP Policy AR 8.2: Require new development to dedicate and improve parkland, as allowed by the Quimby Act. School grounds cannot be calculated as new park acreage.*

*Consistency analysis:* Similar to Policy AR 8.1, the proposed project would dedicate 4 acres of the site as a community park. None of this new park acreage would consist of school grounds. An additional 21.28 acres of open space in the 47.25 acre project area would be preserved.

*PTGP Policy AR 9.1: Require applicants to consult with County staff early in the development process for assistance in project designs that maximize natural features and preserve biological resources.*

*Consistency analysis:* The proposed project is consistent with the Los Angeles County, Land Use Element, Appendix B: Hillside Management / Performance Review Procedure document for the protection and preservation of natural resources. In order to minimize hillside grading and preserve open space, the land design has clustered the residential development in the flatter areas of the site in four cul-de-sac mini-neighborhoods, and along a single curvilinear access road ("C" Street). Additional open space lots (73 & 71) would preserve natural areas visible from The Old Road frontage and I-5 that include a predominant hill and a natural drainage. Based on an initial biological resources study, the project's land design had been modified to preserve, as open space lot 71, an ephemeral stream with an associated riparian habitat area.

*PTGP Policy AR 9.4: Maximize the ecological function of the County's diverse natural habitats, such as Coastal sage scrub, perennial grasslands, Joshua trees, California walnut, Western Sycamore, and native Oak woodlands.*

*Consistency analysis:* The proposed project would cause the removal of coastal sage scrub and native Oak woodlands habitats. Cutting and filling to achieve the elevation grade necessary for onsite development would result in the subsequent conversion and loss of approximately 8.5 acres, or 61% of these habitats onsite. Twenty-four coast live oak trees and shrubs are located on the property. The proposed project would also require the issuance of an Oak Tree Permit to remove 13 oak trees that meet oak tree protection standards. 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. These impacts are significant but mitigable and mitigation measures are outlined in Section 4.7 Biota.



*PTGP Policy AR 9.6: Maintain and monitor the Significant Ecological Areas (SEAs) and other programs to conserve special – status wildlife species, their associated habitat, and wildlife movement corridors.*

*Consistency analysis:* The site has not been part of any Significant Ecological Areas (SEA's) identified for Los Angeles County. The site is not expected to function as an important regional wildlife corridor because it is bounded by existing developments to the north and by I-5 to the east which would act as barriers to wildlife movement. Per Pendrod et al. (2005), the project area does not compose a significant part of the linkage design for the Sierra-Madre Castaic connection and the site does not contain any high value habitat linkages. Impacts to special-status wildlife species and special status plant species and any necessary mitigation measures are outlined in Section 4.7 Biota.

*PTGP Policy AR 9.8: Require that development mitigate "in-kind" any significant effects on biologically sensitive areas and wetlands.*

*Consistency analysis:* Development of the proposed project would result in the subsequent conversion and loss of approximately 8.5 acres, or 61% of coastal sage scrub and oak habitats onsite. Coastal sage scrub is considered a sensitive community by the CDFG and CNPS. Mitigation measures BIO-1(a – d) would mitigate the significant effects on this sensitive area to less than significant.

*PTGP Policy AR 9.9: Maintain watercourses and wetlands in a natural state, unaltered by grading, fill, or diversion activities.*

*Consistency analysis:* The proposed project would preserve open space lots (73 & 71) that include a predominant hill and a natural drainage. Based on an initial biological resources study, the project's land design had been modified to preserve, as open space lot 71, an ephemeral stream with an associated riparian habitat area.

*PTGP Policy AR 12.2: Protect natural groundwater recharge areas and artificial spreading grounds.*

*Consistency analysis:* As outlined in LACGP Conservation Policy #14, the proposed clustering design would result in less impermeable surface than would occur if development occurred along several access roads in different portions of the site. Thus, the design allows for more ground water recharge in open space and park areas. Water conservation measures have been incorporated into the Section 4.14, Water Service that promote interior conservation, exterior conservation, xeriscaping and use of reclaimed water where feasible. Thus, the project seems to be generally consistent with the applicable policy.

*PTGP Policy AR 12.3: Effectively manage watersheds to balance growth and development with resource conservation and flood hazard mitigation.*

*Consistency analysis:* The proposed project is within a Hillside Management Zone which is intended to ensure that future development will occur in the most suitable and least environmentally sensitive area. Compliant with the Hillside Management provisions, the proposed development is designed in a manner that is compatible with the natural resource values and character of the area.



*PTGP Policy AR 12.5: Promote the development and use of new and improved water and flood management technologies and infrastructure such as the utilization of Low Impact Development (LID) techniques.*

*Consistency analysis:* ~~A list of the proposed project's proposed LID BMPs (Best Management Practices) is located in Section 4.5 Water Quality Table 4.5-1. Table 4.5-1 analyzes the project's compatibility with future Los Angeles County LID requirements. Implementation of the proposed LID BMPs would improve groundwater recharge, flood management, and water quality. The proposed project is not subject to the LID ordinance because the Application was deemed complete prior to the ordinance becoming effective. However, the project incorporates xeriscaping, low flow fixtures, and reduces runoff to surrounding properties as compared with existing conditions (see Section 4.2 Flood Hazard, Table 4.2-5).~~

*PTGP Policy AR 12.6: Maximize the conservation of water throughout the County.*

*Consistency analysis:* The proposed project contains mitigation measures aimed at promoting water conservation for the residential and commercial uses. Proposed interior conservation, exterior conservation, reclaimed water, and xeriscaping mitigation measures are outlined in detail in Section 4.14 Water Service. These mitigation measures would maximize the project's future water source reliability.

*PTGP Policy AR 13.1: Require all development to provide a guaranteed supply of water.*

*Consistency analysis:* The total projected water demand for the proposed project's residential and commercial uses would be about 74.8 acre feet/year (afy). NCWD completed a Final Water Supply Assessment (November, 2004) that evaluated the existing water supplies in relationship to planned growth in the Santa Clarita Valley through 2025. Population in the Santa Clarita Valley, much of which is served by Newhall County Water District, was 224,350. The Los Angeles County Southern California Association of Governments projections for population in the Santa Clarita Valley in 2025 is 403,103, which amounts to an annual average annual population increase of 8,000 to 9,000 per year or approximately 2.6%. The water demand in Castaic over the next 20 years is estimated to increase from 2,900 afy in 2005 to 5,800 afy in 2025. The Urban Water Management Plan 2005 incorporates these population projections under future demand estimates and concludes that regional supplies including planned improvements are adequate to serve the regional growth in normal, single dry and multiple dry years through the year 2030.

*PTGP Policy AR 13.2: Eliminate point and non-point source water pollution.*

*Consistency analysis:* The proposed project would be compliant with LACGP Open Space Policy #13 to protect watersheds, streams, and riparian vegetation to minimize water pollution, soil erosion and sedimentation, maintain natural habitats, and aid in ground water recharge. Compliance with LACGP Open Space Policy #13 would render the project compliant with Policy AR 13.2.



*PTGP Policy AR 13.3: Encourage and support the increased production, distribution, and use of recycled water to provide for groundwater recharge, seawater intrusion barrier injection, irrigation, industrial processes, and other non-potable beneficial uses.*

*Consistency analysis:* Castaic Lake Water Agency (CLWA) has developed a capital improvement program with funding that provides for the implementation of recycled water programs to achieve future water supplies reliability. CLWA estimates it will supply its consumers with 1,700 afy of recycled water in the year 2010 and would increase the recycled water supply to 15,700 afy by the year 2030. The proposed project could receive recycled water from CLWA for irrigation purposes.

*PTGP Policy AR 14.1: Maintain an efficient, safe, and responsive waste management system that facilitates waste reduction while protecting the health and safety of the public.*

*Consistency analysis:* Mitigation measures SD 1-6 outlined in Section 4.11 Waste Disposal would ensure solid waste would be disposed of in an effective manner that would protect the safety of the public. Educational materials on the proper management and disposal of household hazardous waste would be distributed to residents. An adequate storage area for collection and removal of recyclable and green waste materials pursuant to Solid Waste Reuse and Recycling Access Act of 1991 would be constructed. The project would be required to recycle or reuse 50 percent of the construction debris generated as required by the County's Construction and Demolition Debris Recycling and Reuse Ordinance. If food service businesses open in the commercial space these establishments may be required to provide a grease treatment device and will be subject to review and approval by Public Works' Environmental Programs Division.

*PTGP Policy AR 14.5: Encourage recycling of construction and demolition debris generated by public and private projects.*

*Consistency analysis:* As discussed for compliance with Policy AR 14.1, the project would be required to recycle or reuse 50 percent of the construction debris generated as required by the County's Construction and Demolition Debris Recycling and Reuse Ordinance.

*PTGP Policy AR 14.6: Ensure adequate and regular waste and recycling collection services.*

*Consistency analysis:* As discussed for compliance with Policy AR 14.1, an adequate storage area for collection and removal of recyclable and green waste materials pursuant to Solid Waste Reuse and Recycling Access Act of 1991 would be constructed.

#### *Conservation and Open Space Element (C/OS)*

*PTGP Policy C/OS 11.1: Identify and protect scenic resources.*

*Consistency analysis:* The proposed project would comply with LACGP Highway Policy #9: Protect and enhance aesthetic resources within corridors of designated scenic highways. Compliance with LACGP Highway Policy 9 would identify and protect scenic resources of the project site and would be consistent with Policy C/OS 11.1. Also see Section 4.9 Visual Qualities.



*PTGP Policy C/OS 11.2: Identify and protect the County's scenic highways, corridors, and routes.*

*Consistency analysis:* The proposed project would comply with LACGP Highway Policy #9: protect and enhance aesthetic resources within corridors of designated scenic highways and LACGP Highway Policy #10: develop and apply standards to regulate the quality of development within corridors of designated scenic highways. Compliance with LAGCP Highway Policies 9 and 10 would identify and protect the County's scenic highways, corridors, and routes, and would be consistent with C/OS 11.2. Also see Section 4.9 Visual Qualities.

*PTGP Policy C/OS 11.3: Manage development in hillside areas (25% slope or greater) to protect their natural and scenic character and minimize risks from natural hazards, such as fire, flood, erosion, and landslides.*

*Consistency analysis:* The project has been designed to include 50-foot building setbacks from onsite fault hazard zones. The project is located in Fire Zone four and is characterized as a Very High Fire Hazard Severity Zone. The project includes access and design features that are intended to comply with Los Angeles County Fire Department requirements. The project site is also located within the Castaic Dam / Debris Basin Inundation Area where hazards would possibly exist if dam failure occurred. LACGP Required Finding #1: Public Safety demonstrates Hillside Management Area Plan standards would apply for development within the area of the proposed project.

Compliance with LACGP Open Space Policy # 19: Protect the visual quality of scenic areas including ridgelines and scenic views from public roads, trails and key vantage points, would protect the natural and scenic character of the project site.

*PTGP Safety Element (S)*

*Policy S 1.2: Limit development in high hazard areas such as floodplains, high fire hazard areas, and seismic hazard zones.*

*Consistency analysis:* The proposed project is located in Fire Zone four and is characterized as a Very High Fire Hazard Severity Zone. The project includes access and design features that are intended to comply with Los Angeles County Fire Department requirements. The project has also been designed to include 50-foot building setbacks from onsite fault hazard zones. Consistency with LACGP Finding #1: Public Safety demonstrates the project would be consistent with Policy S 1.2.

*PTGP Policy S 1.11: No development is allowed in County floodways, as defined in the County Code.*

*Consistency analysis:* The proposed project is not located in a County floodway.

*PTGP Public Services Element (PS)*



*PTGP Policy PS 2.5: Promote the development and use of new and improved water and flood management technologies and infrastructure such as the utilization of Low Impact Development (LID) techniques.*

*Consistency analysis: A list of the proposed project's proposed LID BMPs is located in Table 4.5-1. Table 4.5-1 analyzes the project's compatibility with future Los Angeles County LID requirements. The proposed project is not subject to the LID ordinance because the Application was deemed complete prior to the ordinance becoming effective. However, the project incorporates xeriscaping, low flow fixtures, and reduces runoff to surrounding properties as compared with existing conditions (see Section 4.2 Flood Hazard, Table 4.2-5).*

*PTGP Policy PS 3.2: Require all development to provide a guaranteed supply of water.*

*Consistency analysis: The consistency analysis for Policy AR 13.1 demonstrates existing and projected water supply would be available to supply the proposed project. Additionally, the project would be consistent with Southern California Association of Governments (SCAG) projections for population growth in the area.*

#### Los Angeles County General Plan Consistency (LACGP)

This section identifies policies within the County of Los Angeles that apply to the proposed project. General Plan Elements include *Land Use, Hillside Management, Circulation, Housing, Conservation, Open Space, Recreation, Noise, Safety, and Economic Development*.

#### *Land Use Element (LUE)*

*LACGP LUE Policy #7: Protect prime industrial lands from encroachment of incompatible uses.*

*Consistency analysis: The project site includes 2.73 acres of area that is designated for industrial land use (M/Industrial). The site is not considered prime industrial land as it has a number of physical constraints and is located in an area of mixed use. The site is bordered by both residential and commercial / industrial use (building supply yard). The proposed project would be in keeping with the mixed use nature of the area and would add 70 residential units and 70,000 square feet of business / professional office development. The proposed business / professional office uses would be compatible with the adjacent industrial uses, and would provide a logical transition toward residential uses that are proposed at higher elevations and further west on the property. The project appears to be generally consistent with this policy.*

*LACGP LUE Policy #14: Assure that new development is compatible with the natural and manmade environment by implementing appropriate locational controls and high quality design standards.*

*Consistency analysis: The proposed project includes controls such as setbacks from canyons, and faults, and is designed to meet the requirements of the Hillside Management Area Plan as required by the Los Angeles County General Plan, Appendix B. The project design includes clustering and density control / density transfer to concentrate development in the site areas with lesser slopes to maximize preservation of natural terrain as open space and minimize grading. Mediterranean style architecture designs, curvilinear roadways, natural and enhanced*



buffer zones, and contour grading have also been incorporated into this project to assure consistency with local aesthetic policies. The project appears to be generally consistent with this policy.

*LACGP LUE Policy #15: Protect the character of residential neighborhoods by preventing the intrusion of incompatible uses that would cause environmental degradation such as excessive noise, noxious fumes, glare, shadowing, and traffic.*

*Consistency analysis:* The proposed project includes 70 residential units and professional office uses that are proposed within a mixed use area of the County. The project would not intrude into any existing residential neighborhood and would not result in an incompatible land use mix. The business / professional office lots that are proposed with this project would be located on the portion of the site that is closest to traffic on The Old Road and I-5 and adjacent to existing industrial use. The office lots would provide a buffer between the traffic corridor and the residential element of the development. The project appears to be generally consistent with this policy.

*LACGP LUE Policy #16: Promote planned industrial development in order to avoid land use conflicts with neighboring activities.*

*Consistency analysis:* The proposed project includes 70,000 square feet of business / professional office development in an area that is generally compatible with such uses. The proposed business / professional office uses would be bordered by The Old Road, open space, existing industrial use and the proposed residential development. A terraced elevation buffer is located between the business / professional office and residential element of the development, in addition to landscape and buffer setbacks that are required under CSD guidelines for non-residential uses that border residential uses. Thus, the project appears to be generally consistent with this policy.

*LACGP LUE Policy #30: Prevent inappropriate development in areas that are environmentally sensitive or subject to severe natural hazards, and in areas where essential services and facilities do not exist and are not planned.*

*Consistency analysis:* The proposed project is located in an area characterized by natural fire and fault hazards. The site also includes an ephemeral stream / riparian habitat area. However, the project has been designed to incorporate appropriate setbacks from the fault zone and would incorporate all measures required by the Fire Department to minimize risks due to wildfires. The land design also preserves the environmentally sensitive ephemeral stream / riparian forest area in permanent open space. In addition, the proposed mix of uses is consistent with land used in the immediate area. Essential services and facilities are currently in place to serve this and other existing and planned development within the area. Thus, the project appears to be generally consistent with this policy.

*LACGP LUE Policy #31: Promote compatible land use arrangements that reduce reliance on the private automobile in order to minimize related social, economic, and environmental costs.*



*Consistency analysis:* The proposed project includes a mix of residential and professional office development. As the surrounding area is predominantly developed with residential uses, the proposed mixed-use project will provide an opportunity for Castaic residents to live and work in close proximity. Development with mixed uses provides an opportunity to reduce reliance on private automobiles as the primary source of transportation within a particular geographic region through promotion of a balance of residential and employment opportunities. However, there is no guarantee that individuals living in the residential component would have employment opportunities within the business office components of the project. In addition, there are no onsite bike paths due to the topographic relief on site. Therefore, if a resident of the project were employed within the commercial portion of the project, it is likely they would walk or drive to work, rather than ride a bike. Though the topographic relief may discourage some residents from walking or biking within the project area, an automobile trip from the top of the hill to the bottom of the hill would be less of a commute than the drive to Santa Clarita or Los Angeles. Therefore, the addition of 70,000 square feet of office space within the Castaic community will add additional job opportunities to the area and may serve to reduce the number of individuals having to commute longer distances into the Greater Los Angeles Basin for employment. Thus, the project appears to be generally consistent with this policy.

#### *Hillside Management Area*

The proposed project is partly located in an area designated as Hillside Management within a ¼ mile radius of residential use (HM ¼ mile). As required by the Los Angeles County, Land Use Element, Appendix B: Hillside Management / Performance Review Procedure document, the proposed project has been analyzed for consistency based on the following topics: Public Safety, Resource Protection, Suitability for Development, and Quality of Design.

*Required Finding #1: Public Safety: The proposed project is located and designed so as to protect the safety of current and future community residents, and will not create significant threats to life and/or property due to the presence of geologic, seismic, slope instability, fire, flood, or erosion hazard.*

*Consistency analysis:* The proposed project is designed to cluster the new development on the project site with associated density transfers reducing grading impacts. The project has also been design to include 50-foot building setbacks from onsite fault hazard zones. The project is located in Fire Zone four and is characterized as a Very High Fire Hazard Severity Zone. The project includes access and design features that are intended to comply with Los Angeles County Fire Department requirements. The project site is also located within the Castaic Dam / Debris Basin Inundation Area where hazards would possibly exist if dam failure occurred. Similar residential developments are located north of the property and are planned south of the property. The project will be subject to all design and disclosure requirements that are necessary for development in the area. Thus, it appears that the proposed project could be found to be consistent with this policy.

*Required Finding #2: Resource Protection: The proposed project is compatible with the natural biotic, cultural, scenic and open space resources of the area.*



*Consistency analysis:* The project design appears to have incorporated appropriate provisions of the County's Hillside Design Guidelines, such as curvilinear roadways with the objective of minimizing hillside grading. Of the 47.25 acres on site, the proposed project would conserve 65% of the site as gross open space, with commercial development occurring on 11% of the site, and single-family residential development occurring on 24% of the site. The open space lots would preserve natural vegetation and topographic features that are characteristic of natural areas in the vicinity of the project site. The highest portion of the development will sit at elevation 1,326, and the southwestern peak of the significant ridgeline (elevation 1,494 feet) would be preserved in open space (lot 72) and would remain the predominant background view from The Old Road / I-5 corridor. Additional open space lots (73 & 71) would preserve natural areas visible from The Old Road frontage and I-5 that include a predominant hill and a natural drainage. Based on an initial biological resources study, the project's land design had been modified to preserve, as open space lot 71, an ephemeral stream with an associated riparian habitat area.

The proposed project would require grading of that area that is located between two peaks of a Primary Significant Ridgeline as designated by the Castaic Area Community Standards District (CSD). This topographical modification occurs in a saddle area of the ridgeline with elevations drops between 100 to over 175 feet below the ridgeline's peak of 1,494 feet. The highest points at both ends of the ridgeline are preserved in open space (peaks at 1,494 feet and 1,385 feet). Section 4.9, *Visual Qualities*, discusses the visual impact of the project's footprint on the CSD-designated Primary Significant Ridgeline (see Figure 4.9-4).

The Los Angeles County Planning Commission and Board of Supervisors will need to make findings that the project is consistent with the objectives and intent of the Significant Ridgeline preservation and Hillside Management Area to allow project grading. These decision makers would also need to approve an Oak Tree Permit allowing for the removal of 13 oak trees and approving a program for their replacement. Given the proposed clustering, preservation of open space, minimized hillside grading to the extent feasible, and mitigation proposed to minimize effects to biological resources, it appears that the proposed project could be found to be consistent with this policy.

*Required Finding #3: Suitability for Development: The proposed project is conveniently served by (or provides) neighborhood shopping and commercial facilities, can be provided with essential public services without imposing undue costs on the total community and is consistent with the objectives and policies of the General Plan.*

*Consistency analysis:* The proposed project is mixed use (residential, office park, open space and a park site). Shopping and public service centers currently serve the Castaic area. Utilities are already contained within The Old Road, and the public services analyses have not identified any significant unmitigable impacts. The project has been designed with input from County of Los Angeles Department of Regional Planning, Castaic Town Council, and local service providers to help reduce potential conflicts. Thus, it appears that the proposed project could be found to be consistent with this policy.



*Required Finding #4: Quality of Design: The proposed project demonstrates creative and imaginative design resulting in a visual quality that will compliment community character and benefit current and future community residents.*

*Consistency analysis:* As described below, a number of features appear to have been incorporated in the proposed land design, in line with County's Hillside Design Guidelines, to preserve the natural setting of the site while allowing for the site constraints. Approximately 21.28 acres (45%) of the site will be preserved as open space lots. A 4.11 acre park site is also incorporated, while commercial and residential uses would occupy 35% of the site. The open space contains an ephemeral stream, riparian vegetation / habitat area and the highest elevation segments and peaks of a CSD-designated Primary Significant Ridgeline (see Section 4.9, *Visual Qualities* for details). In order to minimize hillside grading and preserve open space, the land design has clustered the residential development in the flatter areas of the site in four cul-de-sac mini-neighborhoods, and along a single curvilinear access road ("C" Street). For the adjacent residential lots on "C" Street, elevation differences between neighboring houses are utilized as a natural buffer to enhance individuality, privacy and character of each residential unit. The majority of the homes, which are located at relatively higher elevations of the project site, are oriented to have views of the Castaic Lake and / or the surrounding high-elevation hillsides, which will continue to be preserved as designated Significant Ridgelines. The land development is designed in a manner where key physical features are preserved and significant scenic values are not adversely affected. Roadways will be curvilinear and will generally follow existing contours, and clustering / density control will be implemented.

Natural and enhanced buffer zones, including hillsides, elevation differences, trees and landscaping have been incorporated in the design of the project to enhance character and appeal of the land design. Buffer zones include the preserved hillsides to the northwest and southwest of the project, which serve to preserve the aesthetically pleasing natural views of the site both from the outside of the site and within the site for the project's residents. In essence the developer asserts that the land design has aimed at utilizing the very constraint of a hilly topography as the appeal-enhancing feature of the development. Hillside grading has been minimized to the extent feasible in conjunction with an onsite balanced grading. While not all building design details are available at this stage, the design proposes matching Mediterranean style of architecture for both the residential and the business / professional office buildings, as well as Castaic Area Community Standards District (CSD)-required Mission bell shaped light posts for outside lighting. These and other measures are claimed to be intended as creative and imaginative design features to compliment the Castaic community character and benefit current / future residents. Thus, it appears that the proposed project could be found to be consistent with this policy.

#### *Circulation Element*

*LACGP Transportation Policy #14: Plan and develop bicycle routes and pedestrian walkways.*

*Consistency analysis:* The proposed project includes a park site, with an area of about four acres, located on the westernmost side of the project site, with open space as buffers to the north, west, and south. Walkways to and from this park are expected for resident access only. It is anticipated that a homeowners association or an equivalent will maintain the proposed park



area. Because of the significant topographic relief and limited space (Hillside Management Area Plan, clustered design), bicycle lanes are not feasible. However, the development will implement frontage improvement and road widening of The Old Road, which will include bike lanes along the frontage of The Old Road in both directions (see Section 4.10, *Traffic and Access*). Given that the project incorporates bicycle and pedestrian features where feasible, it appears to be generally consistent with this policy.

*LACGP Highway Policy #9: Protect and enhance aesthetic resources within corridors of designated scenic highways.*

*Consistency analysis:* The proposed project site is located immediately southwest of I-5, a designated scenic highway. A portion of the proposed residential and business / professional office development would be visible from the freeway, since it is located on a hillside facing the freeway. However, the prominent features of ridgelines and open space areas would be preserved to protect the aesthetic resources on site. Additionally, the project incorporates Mediterranean style architecture and 15-gallon landscape screening trees planted 15 feet apart within 10 feet of the slope top for houses exposed to The Old Road / I-5 corridor. Various aspects of preserving the aesthetic resources of the project, including visibility from the proposed Castaic Creek Trail, are addressed under Section 4.9, *Visual Qualities*. Thus, the proposed project appears to be consistent with this policy.

*LACGP Highway Policy #10: Develop and apply standards to regulate the quality of development within corridors of designated scenic highways.*

*Consistency analysis:* The proposed project is located adjacent to I-5, as discussed above. Hillside Management Area Plan standards for development within the area of the proposed project will apply, and measures such as clustering / density transfer, curvilinear roadways, natural / enhanced buffer zones and ridgeline preservation have been incorporated into the project's design. A Mediterranean architectural style is proposed as well. The various design features that would define the quality of the development as visible from the scenic I-5 are addressed under Section 4.9, *Visual Qualities*. Thus, implementation of the project appears to be generally consistent with this policy.

*LACGP Bikeway Policy #2: Require new subdivisions to develop bicycle facilities where feasible.*

*Consistency analysis:* The proposed project includes 70 residential units and 70,000 square feet of business / professional office development. No bicycle lanes are included within the development because of the significant topographical relief and limited space (Hillside Management Area plan, clustered design). However, the development will implement frontage improvement and road widening of The Old Road, which will include bike lanes along the frontage of The Old Road in both directions (see Section 4.10, *Traffic and Access*). Therefore, the project incorporates bicycle related features where feasible. Thus, it appears that the project is generally consistent with this policy.

*Housing Element*



*LACGP Housing Quantity Goal #1: A sufficient quantity of dwelling units meet the housing needs of the population, particularly those of lower-income households and other special needs groups such as the elderly and the homeless.*

*Consistency analysis:* The proposed project would add 70 single family dwelling units to the existing housing stock in the Castaic area. However, these units are not planned to be available to low-income households or other special needs groups. As the project does provide a wide range of lot sizes, the housing is expected to be affordable for a corresponding range of income levels. While the project may not be specifically consistent with lower-income provision of this policy, topographical and site design constraints are such that the subject property is not ideally suited to development of affordable or other special needs housing.

*LACGP Housing Policy #15: Encourage the use of energy-saving technologies, on a cost-effective basis, in the design, construction, and operating systems of existing and new residential buildings to reduce utility costs to future residents.*

*Consistency analysis:* The proposed project includes 70 single-family residential and 70,000 square feet of business / professional office development. At this stage of planning, the specific energy saving technologies to be implemented for the houses and the office buildings are unknown. However, Section 4.6 *Air Quality* recommends incorporation of energy saving technologies during residential and commercial structural design. Thus, with the implementation of this mitigation measure, the project would appear to be consistent with this policy.

#### *Conservation Element*

*LACGP Conservation Policy #4: Protect ground water recharge and watershed areas, conserve storm and reclaimed water, and promote water conservation programs.*

*Consistency analysis:* The proposed clustering design would result in less impermeable surface than would occur if development occurred along several access roads in different portions of the site. Thus, the design allows for more ground water recharge in open space and park areas. Water conservation measures have been incorporated into the Section 4.14, *Water Service* that promote interior conservation, exterior conservation, xeriscaping and use of reclaimed water where feasible. Thus, the project seems to be generally consistent with the applicable policy.

#### *Open Space Element*

*LACGP Open Space Policy #13: Protect watershed, streams, and riparian vegetation to minimize water pollution, soil erosion and sedimentation, maintain natural habitats, and aid in ground water recharge.*

*Consistency analysis:* The proposed project has preserved an ephemeral stream, together with a riparian vegetation / habitat that is active during periodic rainstorms and drains into Castaic Creek. The proposed project includes clustering / density control development and setbacks from canyons that minimize impacts to the soils, streams, and natural habitats. Temporary erosion control measures are required during grading, and project drainage has been designed to flow into pre-project receiving areas. Cut slopes and finished grades are required to be



revegetated upon completion of disturbance. The inclusion of open space also preserves soils / streams / natural habitats, and aids in ground water recharge. Thus, implementation of the project appears to be generally consistent with this policy.

*LACGP Open Space Policy # 19: Protect the visual quality of scenic areas including ridgelines and scenic views from public roads, trails and key vantage points.*

*Consistency analysis:* The proposed project is visible from I-5, a County-designated scenic highway, The Old Road, and may be visible from the proposed Castaic Creek Trail. The project is designed in a manner where key physical features including significant ridgelines are preserved to the extent feasible. The Hillside Management Area Plan standards for development within the area of the proposed project will apply in terms of resource protection and quality of design of the project. Residential and business / professional office uses are proposed on site; a portion of which will be highly visible. However, as required by the Castaic Area Community Standards District (CSD), landscaping within 10-feet of the top of slopes facing I-5 with 15-gallon trees spaced 15 feet apart will further reduce the project's visual impact from this vantage. Section 4.9, *Visual Qualities*, addresses the project's land design sensitivity to the ridgelines and the views from public traffic corridors and the proposed Castaic Creek Trail. The project is also generally consistent with urban development that is immediately adjacent to the site. Thus, implementation of the project seems to be generally consistent with this applicable policy.

*LACGP Open Space Policy #24: Support preservation of heritage trees. Encourage tree planting programs to enhance the beauty of urban landscaping.*

*Consistency analysis:* According to the Oak Tree Report prepared by Trees, Etc., there are 24 oak trees of various sizes on site and nine oak trees offsite and adjacent to the project for a total of 33 oak trees associated with the proposed development. Implementation of the proposed project would result in the loss of 13 oak trees, while 11 oak trees onsite and all nine offsite oak trees would remain undisturbed during and after project completion. The replacement ratio for damaged oak trees was recommended for this site as 2:1 (Trees, etc, 2004) and Los Angeles County Municipal Code Section 22.56.2180.6.a states that the replacement ratio shall be at least 2:1 (15 gallon native trees); therefore, the project would be required to plant 26 (15-gallon) oak trees to mitigate the loss of 13 oak trees. There are two heritage oak trees located offsite, adjacent to the southern boundary of the site, which will not be affected by the project. There are no heritage oak trees located onsite. It is also noted that trees are also provided near the top of slopes overlooking public rights of way (I-5 and The Old Road). Thus, implementation of the project appears to be generally consistent with this policy.

#### *Recreation Element*

*LACGP Recreation Policy #30: Provide low intensity outdoor recreation in areas of scenic and ecological value compatible with protection of these natural resources.*

*Consistency analysis:* The proposed project includes a park site approximately four acres in size, located on the western most side of the project site, surrounded on three sides by open space buffers. The park will allow for outdoor recreation and will be compatible with adjoining open



space areas that have ecological value. Thus, the project appears to be generally consistent with this policy.

#### *Noise Element*

*LACGP Noise Policy #11: Reduce the present and future impact of excessive noise from transportation sources through judicious use of technology, planning and regulatory measures.*

*Consistency analysis:* The noise environment of the project site is dominated by traffic noise generated along I-5. Other noise sources include traffic noise along The Old Road and operational noise associated with the adjacent building materials supply business. The project is planned to place noise tolerant commercial development between the freeway and the more noise sensitive residential uses. The commercial element creates a greater setback for the residential uses and some limited noise attenuation that would be expected due to commercial structures partially obstructing freeway noise. The increased setbacks would also help to buffer residential uses from the neighboring building supply materials yard business. Even with these site planning considerations, freeway noise is expected to require additional structural mitigation to ensure that acceptable noise levels are achieved at the residential lots overlooking the freeway. With the site planning provisions of utilizing hillsides / elevation differences as natural buffer zones, and recommended mitigation measures, which includes a sound barrier six-foot solid wall for the residential element (see Section 4.4, *Noise Hazard*), the project appears to be generally consistent with this policy.

#### *Safety Element*

*LACGP Safety Policy #2: Review projects proposing expansion of existing development and construction of new development, especially critical facilities, and encourage them to avoid localities exposed to high earthquake hazards through such techniques as cluster development and transfer of development rights.*

*Consistency analysis:* The proposed project is designed to cluster residential development and implement density transfers in order to avoid geological hazards, minimize grading, and to preserve open areas to the extent possible. Thus, the proposed project seems to be generally consistent with this policy.

*LACGP Safety Policy #3: Continue enforcement of stringent site investigations (such as seismic, geologic, hydrologic, and soils investigations) and implementation of adequate hazard mitigation measures for development projects in areas of high earthquake hazard, especially those involving critical facilities. Do not approve proposals and projects, which cannot mitigate safety hazards to the satisfaction of responsible agencies.*

*Consistency analysis:* The proposed project potentially would be exposed to geologic, soil, fire, and dam inundation hazards. However, these hazards have been identified and mitigation is identified to minimize or avoid the adverse effects of such hazards. The project will also be subject to any design constraints or disclosure requirements that are necessary for development in the area. Thus, the project appears to be generally consistent with this policy.



*LACGP Safety Policy # 9: Continue to improve and enforce stringent slope investigation and design standards, and to apply innovative hazard mitigation and maintenance plans for development in hillside areas.*

*Consistency analysis:* The proposed project is located in a Hillside Management Area and includes associated hazards that are characteristic of such areas. However, the hazards have been identified and mitigation is proposed. The project will also be subject to any design constraints or disclosure requirements that are necessary for development in the area. Thus, the proposed project appears to be consistent with this policy.

*LACGP Safety Policy #17: Continue efforts to reduce all fire hazards, with special emphasis on reducing hazards associated with older buildings, multistory structures, and fire prone industrial facilities; and maintain an adequate fire prevention capability in all areas.*

*Consistency analysis:* The proposed project includes 70 residential and 70,000 square feet of professional office use and is located in a Very High Fire Hazard Severity Zone (Fire Zone four). Fire emergency services from Los Angeles County Fire Stations 149 and 76 in Castaic and Valencia will serve this area, while the Newhall County Water District will provide water. All of the proposed structures will be newly constructed and, if approved, must adhere to current fire regulations and supply adequate pressure for fire-fighting purposes. Thus, the proposed project appears to be generally consistent with this policy.

#### Santa Clarita Valley Area Plan Consistency

*Specific Community: Castaic*

*SCVAP Noise/Aesthetic Policy: Require that industrial development be visually and acoustically buffered from urban residential or rural areas by landscaped earth berms, wide landscaped setbacks or other equally effective measures.*

*SCVAP Consistency analysis:* The proposed project includes residential and business / professional office uses and is surrounded by residential, industrial, and open space uses. The office uses, would buffer proposed residential development from existing industrial development adjacent The Old Road and I-5. Additionally, vertical and horizontal separation occurs between the office uses and the residential uses. In addition to the elevation difference, a sound barrier wall and trees along the top of the slope overlooking the commercial lots are used as enhanced acoustic and visual barrier buffer zones. Section 4.9, *Visual Qualities* and Section 4.4 *Noise Hazard*, describe in more detail the measures incorporated in the project's design as visual and acoustical buffers between the commercial and residential element of the project. While detailed landscaping plans are not available at this time, the project will include landscaping in accordance with locally adopted standards. Thus, the proposed project appears to be generally consistent with this policy.

*Land Use*

*SCVAP Land Use 1.4: Promote a balanced, autonomous community with a full range of public and commercial services and a wide variety of housing and employment opportunities to minimize the*



*dependency upon southern Los Angeles County and to reduce long distance commuting and its impacts upon gasoline consumption and air pollution.*

*Consistency analysis:* The project proposes mixed uses and allows for employment opportunities through incorporating 70,000 square feet, of business / professional office development as well as 70 single family homes. The office component of the project is anticipated to generate 300 jobs, which would expand the local professional job base, thereby creating additional opportunity for Castaic residents to work locally and avoid commuting. The project's housing element does provide variety; a wide range of lot dimensions / sizes are provided. The housing element is expected to satisfy a corresponding range of population needs and income levels. Thus, the project appears to be generally consistent with this policy.

*SCVAP Land Use 2.5: Allow for density transfer (the rearrangement of allowed residential units among various land use classifications on a project site) as a means to attain plan goals such as preservation of hillsides, and to promote superior design and allow flexibility to respond to changing housing needs.*

*Consistency analysis:* The project site is designated as U1, U2, U3, M/Industrial, and HM. Given the Hillside Management Area designation, the proposed project is designed, through clustering and density transfer, in a manner where key physical features are preserved and ridgelines are not adversely affected. Also, the mixed uses (residential and office) allow for more flexibility of future population needs. Thus, the project appears to be generally consistent with this policy.

*SCVAP Land Use 4.2: Designate areas of excessive slope (exceeding 25 percent) as 'Hillside Management Areas', with performance standards applied to development to minimize potential hazards such as landslides, erosion, excessive run-off and flooding.*

*Consistency analysis:* The proposed project, as explained previously, is within a Hillside Management Area and project approval requires adoption of findings of consistency with the Hillside Management Area planning policies. It appears that appropriate design measures have been incorporated in line with County's Hillside Design Guidelines. In the geotechnical evaluations prepared for the project (see Appendix B), the geologic and soil constraints such as the following items have been identified, for which appropriate measures have been incorporated in the land design: north or east facing cut slopes should have favorable oriented bedrock, debris flow has the highest potential for occurrence on the north east side of the site, the San Gabriel Fault has the potential for ground rupture, seismic shaking and liquefaction are possible, alluvial areas have the potential for hydroconsolidation, and there is the potential for differential settlement between steep bedrock slopes and fill especially in the central portion of the site. The project is designed such that key physical features are preserved and significant ridgelines are not adversely affected. Grading would be done to allow for varying pad elevations and roadways will generally follow existing contours (curvilinear). The project includes design features such as drainages, retaining walls, and setbacks from fault zones in order to minimize potential hazards associated with areas of excessive slope. Thus, in terms of landslides, erosion, run-off and flooding, the project appears to be generally consistent with this policy.



*SCVAP Land Use 6.1: Encourage the appropriate mix of land use types to prevent disharmony and degradation. Residential, commercial, employment, recreational, and cultural uses should be integrated using appropriate buffering techniques to create a cohesive community.*

*Consistency analysis:* The proposed project includes mixed uses such as residential, office, a park, and open space; thus fulfilling the residential, employment, and recreational use categories encouraged by this policy. The business / professional office development will be located adjacent to The Old Road, existing industrial development, open space, and a portion of the proposed residential development. A buffer in the form of terraced slopes occurs between the proposed business / professional office and residential uses. The surrounding land uses include existing high-density residential to the north and northwest, residential and commercial to the north, industrial to the east with recreational and commercial across the freeway, open space to the west, and approved residential to the south. This mix of uses creates a harmonious, cohesive community. Thus, the proposed project appears to be generally consistent with this policy.

#### *Community Design*

*SCVAP Community Design Policy# 3.4: Identify and use landmarks, topographic features and other dominant physical characteristics of each community as a focus for developing a community image.*

*Consistency analysis:* The proposed project is located in a Hillside Management Area, and designed in a manner where key physical features are preserved and ridgelines are not adversely affected. Grading will be done to allow for varying pad elevations, roadways will be curvilinear generally following existing contours, and buildings will conform to “Mediterranean style” architecture. Project design nestles development within existing topographical features, clustering a large portion of the residences in four cul-de-sac mini-neighborhoods, while preserving areas of highest elevation. Approximately 21 acres of the total 47 acres is preserved in native vegetation and permanent Open Space consistent with the semi-rural character of the area. The Open Space lots include an ephemeral stream, riparian vegetation / habitat area, and the highest elevation segments and peaks of a CSD-designated Primary Significant Ridgeline that traverses the west side of the project site. Section 4.9, *Visual Qualities*, further describes the incorporated land design features which help preserve a dominant ridgeline peak (elevation 1,494 feet). The proposed project has been designed to be consistent with the CSD, which further guides development within the Castaic community. Thus, the project appears to be generally consistent with this policy.

#### *Economic Development*

*SCVAP Economic Development Policy # 1.1: Promote a strong and diversified economy and the growth of job opportunities in the Santa Clarita Valley.*

*Consistency analysis:* The proposed project includes 70 residential units and 70,000 square feet (sf) of office space. The proposed office space would provide 300 local jobs, and the residential units would house about 225 new residents. The addition of local jobs in a generally housing rich area, would potentially reduce commute distances and the adverse effects associated with



such commutes and would appear to promote a strong and diversified economy. Thus, the project appears to be generally consistent with this policy.

#### *Public Services and Facilities*

*SCVAP Public Services and Facilities Policy #1.1: Develop and use groundwater sources to their safe yield limits, but not to the extent that degradation of the groundwater basins occurs.*

*Consistency analysis:* The majority of the site is currently within the Newhall County Water District (NCWD) service area. A 6.86 acre portion of the site would require annexation to the District. Water supply for the NCWD is obtained from local groundwater wells and the Castaic Lake Water Agency (CLWA). Imported water is utilized to the maximum extent feasible, and is supplemented with groundwater obtained from the Alluvial and Saugus aquifers. According to the Urban Water Master Plan 2005, produced by Castaic Lake Water Agency in association with local purveyors, existing and planned water supplies are adequate for various project growth scenarios and weather pattern conditions through 2010; however, drought conditions would require development of additional supplies after 2010. Future planned improvements include new and restored Saugus Formation wells, the Buena Vista-Rosedale transfer program, Rio-Bravo and additional planned banking programs, and increased water recycling. Thus, the project appears to be generally consistent with this policy.

*SCVAP Public Services and Facilities Policy #2.2: Require annexation of a newly developing area to an existing sanitation district where practicable.*

*Consistency analysis:* The project site is located outside of the jurisdictional boundaries of the County Sanitation Districts of Los Angeles County and would need to be annexed into District #32 before sewage services could be provided. According to the District, this is feasible but the project would need to go through the standard LAFCO and District annexation processes. Thus, the proposed project appears to be generally consistent with this policy.

#### *Environmental Resources Management*

*SCVAP Environmental Resources Management Policy #1.5: Encourage clustering of residential uses in hilly and mountainous areas to minimize grading and to preserve the natural terrain where consistent with existing community character.*

*Consistency analysis:* The proposed mixed-use project is located in a Hillside Management Area and is designed in a manner where key physical features are preserved and significant ridgelines are not adversely affected. The project design has utilized all appropriate provisions of County's Hillside Design Guidelines, and it includes clustering / density control, and density transfer to minimize grading and allow for the preservation of open space. The housing element is concentrated in four cul-de-sac mini-neighborhood clusters and along a curvilinear access road. The plan also includes varying pad elevations, preservation of existing contours, and preservation of 21.28 gross acres of open space. Thus, the proposed project appears to be consistent with this policy.

#### *Safety*



*SCVAP Safety Policy #2.1: Carefully control urban development in areas with identified brush fire hazards, except in areas where fire retardant planting and/or fuel removal have eliminated the fire hazard to the satisfaction of the County Forester.*

*Consistency analysis:* The proposed project includes mixed uses of residential and business / professional office development. The project site is located in a Very High Fire Hazard Severity Zone (Fire Zone four), which means that there is a very high fire hazard to the residential and business / professional office developments. The proposed project incorporates mitigation that requires a fuel modification plan, and the implementation of all fire prevention measures required by the Fire Department. The project contains mitigation measures that would reduce fire hazard impacts to a level of insignificance. Thus, the project appears to be generally consistent with this policy.

#### *Energy Conservation*

*SCVAP Energy Conservation #1.1: Conserve energy in all its forms to a degree commensurate with an optimum level of living and economic activities.*

*Consistency analysis:* The proposed project involves mixed uses for a new development, residential and office uses. Energy conservation would include energy efficiency measures such as those described in Section 4.6, *Air Quality*. These include increasing energy efficiency beyond Federal regulations by 20% as specified in Title 24 of the Code of Federal Regulations, planting of south and west exposures with deciduous shade trees to reduce summer indoor temperatures, and inclusion of a bus stop if feasible at the project entrance along The Old Road. Thus, the proposed project appears to be generally consistent with this policy.

*SCVAP Energy Conservation #1.5: Encourage installation of water saving devices such as low-flow faucets, showerheads, etc., in new private and public structures.*

*Consistency analysis:* The proposed project involves mixed uses of residential and business / professional office for a new development. Interior water conservation devices are recommended for inclusion in the project, in Section 4.14 *Water Service*. With the incorporation of the mitigation measures identified herein, the project appears to be consistent with this policy.

#### Castaic Area Community Standards District (CSD) Consistency

*CSD Ordinance 2004-0069, Section 2.D.2. Community-wide Development Standards: Street Improvements. In residential land divisions where at least 75 percent of the lots exceed a net area of 15,000 square feet, local streets shall comply with the following standards, as approved by the County department of public works and the County fire department:*

- a. Local streets shall have a maximum paved width area of 28 feet, excluding any inverted shoulder or concrete flow line;*
- b. Curbs, gutters, and sidewalks are prohibited unless otherwise deemed necessary for public safety purposes;*



- c. *Inverted shoulder cross-sections shall be required unless an alternate design is deemed necessary for public safety; and*
- d. *Regardless of lot size, street lights shall:*
  - i. *Have a mission bell shape or similar design consistent with the character of the community and shall be compatible in style and material with the poles on which they are mounted. Proposals from the Castaic Area Town Council will be considered for determining the appropriate style of street lights, provided these proposals are approved by the County Department of Public Works and the local electric utility serving the area under consideration; and*
  - ii. *Be placed the maximum distance apart with the minimum lumens allowable by the County Department of Public Works.*

*Consistency analysis:* Because the project includes lots that are less than 15,000 square feet, the above standards don't apply. However, it is noted that the project would generally comply with the above street improvement standards. In particular, mission bell shaped street lighting is incorporated into the development's design, as proposed by the Castaic Area Town Council, subject to the approval by the County Department of Public Works and any other regulatory agency.

*CSD Ordinance 2004-0069, Section 2.D.4. Neighborhood Parks:*

- a. *Subject to Sections 21.24.340, 21.24.350, 21.28.120, 21.28.130, and 21.28.140, the hearing officer and/or commission shall, to the greatest extent possible, require the subdivider of a residential land division to provide sufficient park space such that 90% of all residential lots within the land division are within one-half mile of a neighborhood park that has a minimum size of two acres.*
- b. *In complying with subsections 21.24.350B for land divisions that contain more than 50 lots, the hearing officer and/or commission shall, to the greatest extent possible, require the subdivider to provide park space rather than in-lieu park fees.*

*Consistency analysis:* The proposed project includes 70 residential units and a park space (Lot 74) which is approximately 4.1 acres. All residential lots are within ½ mile of the proposed park space. The park space meets the minimum CSD size goal of two acres. Since the proposed project is located on a site with significant relief and the proposed development will have to be clustered in order to minimize grading, preserve open space under the Hillside Management Area plan, preserve an ephemeral stream / riparian habitat area, preserve a CSD-designated primary significant ridgeline, and preserve as many of the site's oak trees as feasible (11 out of 24 on-site oaks are preserved), it is not reasonably feasible to have a larger park space on this site. In addition, according to the Los Angeles County Department of Parks and Recreation, Park Obligation Worksheet, payment of ~~\$125,735,122,972~~ in in-lieu fees has been deemed appropriate to create a public park space off site, in line with the Quimby Act. ~~However, it is expected that a credit may be received for providing a private park on-site.~~ The total park obligation for the project is calculated based on 0.003 acres per person and 3.36 people per each of the 70 single family residences. Therefore, the project is required to fund 0.71 acres offsite through the in-lieu fee program ( $0.003 \times 3.36 \times 70 = 0.71$ ). The fee was calculated based on ~~an acreage County valuation of a representative land value of \$177,092,173,200~~ for park planning area 35B (Castaic/Val Verde). Therefore, the project would be required to contribute ~~\$125,735,122,972~~ towards this fee program ( $0.71 \times \text{\$177,092,173,200} = \text{\$125,735,122,972}$ ). It is also



noted that the residential element of the project is within ½ mile of the County's Castaic Sports Complex, which includes picnic areas with surrounding landscaping and pathways, and separate play areas for toddlers / children. The sports complex also integrates three ball fields, a gymnasium, an outdoor multipurpose court, as well as other community facilities. Also, the project is about 0.7 miles of the Del Valle County Park on Sloan Canyon Road at Parker Road. Both these park areas are over two acres. It is also noted that the project's design has located the park site adjacent to an undeveloped parcel to the west; the project's park site may potentially be expanded if this west-side parcel is developed in future such that it locates a park site adjacent to that of the project's park area. Thus, the project appears to be generally consistent with the provisions of this ordinance.

*CSD Ordinance 2004-0069, Section 2.D.5. Hillsides: In addition to the applicable requirements of Section 22.56.215, the following standards shall apply to development within a 'hillside management area, as defined in Section 22.08.080:*

- a. Contour grading shall be used to present a rounded appearance that blends with the natural terrain;*
- b. Curvilinear street design and other improvements shall be used to minimize grading alterations and emulate the natural contours of the hillsides;*
- c. Terraced drains required in cut-and-fill slopes shall be paved with colored concrete to blend with the natural soil or shall be concealed with berms;*
- d. Terraced slopes resulting from grading shall be landscaped with locally indigenous vegetation, as described in subsection D.8 below;*
- e. In addition to the requirements of subsection D.6, residential projects located at or near the crest of a ridgeline and on or near a hillside with a down slope greater than 15% and facing a public right-of-way, shall provide 15 gallon non-invasive trees within 10 feet of the top of the slope, spaced a maximum of 15 feet apart; and*
- f. Grading and brushing on slopes with a 50% or greater steepness shall be prohibited, except for:*
  - i. Clearance brushing for fire safety or for controlling soil erosion or flood hazards;*
  - ii. Grading or brushing for vegetation clearance by a public utility from its right-of-way*
  - iii. Grading or brushing to remove invasive or noxious weeds that pose health and safety hazards to humans or animals; or*
  - iv. Grading or brushing approved under a Hillside Management Conditional Use Permit pursuant to Section 22.56.215*

*Consistency analysis:* The project proposes to grade portions of the site and use cut / fill and contoured grading techniques to present a rounded appearance. The project design incorporates all the applicable provisions of County's Hillside Design Guidelines, which are in line with *Castaic Area Community Standards District's Hillside Ordinance 2004-0069, Section 2.D.5*. Curvilinear street designs are planned to minimize grading in the Hillside Management Area. Mitigation requiring colored concrete and tree plantings along the eastern end of the residential development facing I-5 has been incorporated into the land design as addressed under Section 4.9, *Visual Qualities*. Grading and brushing on slopes with 50% or greater steepness will be necessary for fire safety and implementation of the proposed project (roads, residential, business / office space uses) subject to a Hillside Management Conditional Use Permit. Graded slopes shall be terraced and re-vegetated using local indigenous plants. As



described in Section 4.9 *Visual Qualities*, project shall provide 15 gallon non-invasive trees within 10 feet of the top of the slope, adjacent to residential units; overlooking The Old Road and I-5 (see Figure 4.9-8). Based on the review of the tentative tract map plan and with the incorporation of mitigation measures and design measures identified herein, the proposed project appears to be consistent with the provisions of this ordinance.

*CSD Ordinance 2004-0069, Section 2.D.6. Significant Ridgeline Protection:*

- b. Development restrictions on significant ridgelines. Except as provided in subsection D.6.c, below, no development, grading, construction, or improvements shall be allowed on:*
  - i. A Significant Ridgeline;*
  - ii. Within a 50-foot radius from every point on the crest of a Primary Ridgeline; or*
  - iii. Within a 25-foot radius from every point on the crest of a Secondary Ridgeline*
- c. Significant Ridgeline exemptions. Provided an approval is obtained pursuant to subsection D.6.d, below, the following structures or uses may be permitted on Significant Ridgelines, or within the respective 50-foot and 25-foot restricted areas surrounding such Significant Ridgelines:*
  - i. Accessory buildings or structures;*
  - ii. Additions and/or modifications to an existing single-family residence;*
  - iii. New single-family residences where not more than one such residence is proposed to be built by the same person on contiguous parcels of land;*
  - iv. Open spaces, conservations areas, parks, recreation areas, and/or trails;*
  - v. Water tanks or transmissions facilities*
  - vi. Architecturally superior structures, other than new single-family residences, which maximize the aesthetic appeal of the hillsides and Significant Ridgelines, and minimize the disturbance of the natural setting; and*
  - vii. Roads providing access to any of the structures or uses described in subsections D.6.c.iv, D.6.c.v, or D.6.c.vi.*
- d. Significant Ridgeline exemption approval*
  - ii. In addition to any information required by subsection D.6.d.i, an application for a Significant Ridgeline exemption approval shall also demonstrate that the proposed use:*
    - (A) Is compatible with adjacent uses, the character of the neighboring community, and the goals and policies of the general plan;*
    - (B) Will leave the crest of the Significant Ridgeline in its natural state*
    - (C) Is designed to minimize the amount of grading necessary and will use landscaping to minimize the visual impact of the project;*
    - (D) Will not be materially detrimental to the visual character of the neighborhood or the Castaic communities;*
    - (E) Will not impede the normal and orderly development of surrounding properties and will not promote encroachments on Significant Ridgelines; and*
    - (F) Will not degrade the visual integrity of the Significant Ridgeline, as verified through submission of a precise illustration and depiction.*

*Consistency analysis:* The project site has a Primary Significant Ridgeline on the western portion of the site, which would be subject to grading necessary for an access road (see below). Prior to addressing the applicable exemptions that would allow this necessary ridgeline grading it may



be appropriate to first describe the relevant features of this CSD-designated Significant Ridgeline on the project site.

According to the Los Angeles County Significant Ridgeline Map and field delineation, the project site only encompasses a relatively small portion of the end of this Ridgeline, which also exhibits the lowest elevations of the Ridgeline (see Section 4.9, *Visual Qualities* - Figure 4.9-1). The Ridgeline intersects the western boundary of the project site at elevation 1,494 feet. While this peak is the highest point on the property, the Primary Significant Ridgeline continues off the property and into the westerly background gradually trending upward in elevation to heights in excess of 1,800 feet. Inside the project site, the Primary Significant Ridgeline from its peak of 1,494 feet near the southwestern boundary of the site immediately descends, rather abruptly, 100 feet over a planar distance of approximately 200 feet. As such it appears that the Significant Ridgeline essentially terminates at this bluff section. The Ridgeline then further reduces in elevation into a saddle area. The bluff and a low-elevation saddle of the designated Primary Significant Ridgeline within the project site are clearly evident from onsite observations (see Photos 1 & 2 in Figure 4.9-5 and 4.9-6), and also in Figure 4.9-1 as well as a review of the detailed site plan and topography. The saddle segment with elevations between 100 feet to 175 feet below the peak of 1,494 is over 900 feet long, and is the only segment of the Ridgeline which would be subject to grading. At the northern end of the saddle, the Ridgeline trends gradually upwards again to a secondary peak of 1,385 feet. Therefore, the designated Primary Significant Ridgeline on the project site has in effect two separate higher elevation segments, with an elevation discontinuity in between. The project is preserving the two higher elevation segments of the Ridgeline.

The project layout does have a park site (Lot 74) and significant Open Space (Lots 72 and 73) across the Ridgeline, which need to be accessed. As such Castaic Area Community Standards District exemptions (2.D.6.c.iv & vii) apply, which essentially state that grading may be permitted for an access road (project's "C" Street) across the Significant Ridgeline. This same access "C" Street is also necessary to connect 2 areas on site that have been designated as residential use by the Santa Clarita Valley Area Plan (SCVAP) - see residential U1 areas in Figure 2-6. Approval of such an exemption that would permit grading for an access road that would essentially be based on certain conditions as listed under CSD Section 2.D.6.d.ii. Typically these conditions are intended to promote design measures such that the grading of the Ridgeline is minimized and it would not be materially detrimental to the visual character of the neighborhood or the Castaic communities. The project's land design, as further described below, does appear to incorporate appropriate measures to satisfy the conditions for permitting the grading of the Significant Ridgeline. Essentially, the land design locates the access road "C" Street in the low elevation saddle section of the Ridgeline (elevation 1,320 feet), thus minimizing the associated grading and the visual impact.

A detailed analysis of the Primary Significant Ridgeline and its views is given in Section 4.9, *Visual Qualities*, which presents a depiction of the Ridgeline's profile as well as photographic simulations of the completed project. However, the main aspects of this analysis are summarized here for ease of reference. Figure 4.9-4 shows the overall profile impression of the Primary Significant Ridgeline. Along Section A-A, the profile shows the peak of 1,494 near the southwest corner of site (left of profile in Figure 4.9-4), the secondary peak of 1,385 at the north



(right of the figure), and the 900-foot saddle section in between the two peaks - the two peaks are about 1,300 feet apart along Section A-A. The ridgeline profile also exhibits the saddle section's drop in elevation between 100 to over 175 feet relative to the 1,494 feet peak, with the lowest elevation at 1,272 feet.

Figure 4.9-4 illustrates the elevation discontinuity of the Ridgeline in the saddle section. Also as shown in Figure 4.9-4, the project's access road, "C" Street, crosses the ridgeline near the lowest elevation (1,320 feet) of the saddle section. As mentioned above "C" Street, in addition to providing access to the project's park site and open spaces (as permitted under CSD's 2.D.6.c.iv), also connects clusters of residential areas on opposite sides of the Ridgeline. In Figure 4.9-4, by comparing the natural and manufactured slope lines in the saddle area, it is apparent that: the project's land design has preserved the peaks and higher elevations of the Primary Significant Ridgeline, and that the design is generally in line with the provisions of CSD's 2.D.6.d.ii. In effect, by locating "C" Street near the trough of the saddle, the required grading and the visual impact have been curtailed. In the photo simulations presented in Section 4.9, *Visual Qualities*, it is demonstrated that the views of the Primary Significant Ridgeline from the traffic corridor of I-5 remain generally unaffected by the project's development footprint (see visual simulation Figures 4.9-2, 3, 7, 8 & 9). This is due to the fact that the proposed project is designed in a manner where the highest peaks of the Significant Ridgeline within the project site are retained in open space (lots 72 and 73). It is also noted that the proposed development footprint is more than 400 feet away from the crest of the Ridgeline on site (elevation 1,494), which exceeds the 50-foot distance allowed by Section 2.D.6.b.ii of the CSD.

To the north of the Section A-A, the ridgeline continues offsite to the north at a peak of 1,368, and then trends back into the northeastern corner of the project area to a peak elevation of about 1,350 (approximately 144 feet lower than the undisturbed peak at open space lot 72). This northern tip of the Ridgeline would remain undisturbed by the project's footprint as it continues descending toward The Old Road at elevation 1,169 (Figure 4.9-1).

The project, in line with CSD's Ordinance Section 2.D.6.d.ii, is providing a residential neighborhood compatible with adjacent uses, while through a sensitive land design it appears not to promote encroachment of significant ridgelines; also the crest of the Primary Significant Ridgeline is preserved by the land design, while grading is minimized to the extent possible and manufactured slopes are proposed to be appropriately landscaped (see Section 4.9, *Visual Qualities*); the project design would preserve the peaks and the higher elevations of the CSD-designated Primary Significant Ridgeline, thus preserving the main visual characteristics of the neighboring communities. As described above, and more fully in Section 4.9, *Visual Qualities*, the visual integrity of the Primary Significant Ridgeline on the project site has been verified through detailed illustrations of before and after visual simulations (Figures 4.9-2, 3, 7, 8, & 9) and through depicting a ridgeline profile (Figure 4.9-4), to examine the Ridgeline characteristics visible from adjacent roadways, residential areas and trails.

It is demonstrated that the CSD-designated Primary Significant Ridgeline would continue to form the backdrop from viewing locations to the north and east, with portions of residential development visible between the two peaks. It is also shown that although the above



mentioned saddle segment is designated as a part of this Significant Ridgeline, this low elevation segment does not serve to visually link the two peaks, especially as there is also an off site peak north of the project area at elevation 1,368. The project appears to be consistent with the intent of the ordinance and preserves the highest elevations and the prominent features of the Primary Significant Ridgeline at the project site. As mentioned above, Section 4.9 *Visual Qualities* contains additional information regarding the development in relationship to the Significant Ridgeline.

*CSD Ordinance 2004-0069, Section 2.D.7. Clustering:*

- b. *Clustering is allowed within this CSD only if findings are made that clustering can:*
  - i. *Reduce grading alterations;*
  - ii. *Preserve native vegetation;*
  - iii. *Preserve unique land features;*
  - iv. *Preserve open space;*
  - v. *Enhance recreational areas; and/or*
  - vi. *Protect view corridors and view sheds.*
- c. *If clustering is permitted pursuant to this subsection D.7, the provisions of subsection E.1.a below, shall not apply.*

*Consistency analysis:* The proposed project includes 70 residential units and 70,000 sf of office. The development design utilizes clustering in conjunction with density transfers and a curvilinear road pattern to allow for reductions in grading on steep slopes, preservation of native vegetation, preservation of an ephemeral stream and riparian habitat, conservation of open space areas, preserving 11 of the site's 24 oak trees and protection of views associated with the peaks of highest elevation within the project area (see *Visual Qualities*, Section 4.9). Clustering the residential element has also helped make it possible to provide a park site for the project. The clustered design has also been needed in order to avoid the "restricted building zone", which is due to earthquake fault lines present on the site. The open space areas, which have been preserved, in turn act as natural buffers between: residential and commercial elements of the project; between the residential element and the traffic corridor of the I-5; and between the project and adjacent condominium and commercial developments. Based partly on the effectiveness of these natural buffer zones, the developer maintains that clustering the residential units in four cul-de-sac mini-neighborhoods has the potential to enhance the character, individuality, quality and the overall appeal of this mixed use project, while maintaining the natural setting. The proposed project appears to be consistent with the clustering provisions of this ordinance.

*CSD Ordinance 2004-0069, Section 2.D.8. Locally indigenous vegetation: The removal or destruction of locally indigenous vegetation is prohibited on a parcel of land one acre or greater in size, where the area of removal or destruction is greater than ten percent of the parcel. For purposes of this subsection, locally indigenous vegetation is defined as the vegetation listed on the Castaic Area List of Indigenous Plants, prepared and maintained by regional planning. This subsection shall not apply to the removal or destruction of locally indigenous vegetation:*

- a. *That is necessary to comply with County regulations relating to brush clearance for fire safety or is otherwise required by the County fire department;*
- b. *On a publicly owned right-of-way;*



- c. *By a public utility on its own property or right-of-way or on land providing access to such property or right-of-way;*
- d. *For work performed under a permit issued to control erosion or flood hazards; or*
- e. *That poses a hazard to persons or property, as determined by the County Fire Department.*

*Consistency analysis:* The proposed residential and business / professional office units would consist of 35% of the site. The removal of locally indigenous vegetation will be necessary during project implementation on more than 10 percent of the parcel. This policy is intended to preserve the local biological habitat and aesthetic quality associated with the rural nature of Castaic and is likely meant to preclude removal of native vegetation for replacement with non-native species such as the use of iceplant for hillside cover or excessive water consumption due to installation of large lawns and non-drought tolerant landscaping. Considering that: the project preserves approximately 21 acres of open space lots, which contains native vegetation; that disturbance would be limited to residential and office lots (16 acres), access roads (4.99 acres), a park site (4.11 acres), and a detention basin (0.48 acre), with requirements for replacement of sensitive native species, which are removed (including oaks, and coastal sage scrub habitat); and that landscaping is proposed under conditions that are consistent with other portions of the Castaic Area Community Standards District, then it appears that the project is consistent with the intent of this ordinance.

*CSD Ordinance 2004-0069, Section 2.D.10. Lighting: Exterior lighting shall be designed to prevent offsite illumination and glare upon adjacent parcels, public areas, environmentally sensitive areas, and the night sky.*

*Consistency analysis:* Prior to recordation of the final tract map, the proposed project design would be required to include detailed street and parking lot lighting. Conditions requiring downward directed lighting through mission type street lights, limits on lumens, and aesthetic form, specifically intended to comply with this ordinance are contained in Section 4.9, *Visual Qualities*. Therefore, with the implementation of the measures identified herein, the project appears to be consistent with this ordinance.

*CSD Ordinance 2004-0069, Section 2.E.1. Residential and Agricultural Zones:*

- a. *Lot Size. Single-family residential lots created by a new land division shall:*
  - i. *Contain a minimum area of 7,000 square feet;*
  - ii. *Have an average lot size of at least 10,000 square feet for the subdivision, except as provided in subsection iv, below. In calculating the average lot size, an open space lot, which for the purpose of this subsection includes dedicated open and park space, shall be counted in inverse proportion to its slope, according to the following formula and using the values provided in Table A.*

$$AL=(RA + (OA \times OSC)) / L$$

*Where,*

*AL = average single-family residential lot size (acreage);*

*L = Number of single-family residential and open space lots in the subdivision;*

*RA = total number of single-family residential acres in the project;*

*OSC = the percentage amount of open space acreage in the project to be counted; and*



*OA = the total amount of open space acreage.*

- iii. *Have no more than 43 percent of the lots with the minimum size of 7,000 square feet.*
- iv. *Subsection 2.a.ii, above, shall not apply to new land divisions that are in an urban land use plan classification and adjacent to the I-5 transportation corridor, as shown in the Santa Clarita Valley Area Plan.*
- b. *Buffer areas.*
  - i. *Buffer areas shall exist between:*
    - (A) *Single-family residential uses and multi-family residential uses;*
    - (B) *Single-family residential uses and condominium uses;*
    - (C) *Single-family residential uses where the lot size is less than 10,000 square feet, and single-family residential uses where the lot size is greater than or equal to 15,000 square feet.*
  - ii. *For purposes of this subsection, buffer areas can consist of natural features, such as hills, creeks, or rivers, or they can consist of berms, parks, green belts, or trees.*

*Consistency analysis:* The provisions of subsection E.1.a (Residential and Agricultural Zones: Lot Size) do not apply to projects, such as the proposed project that utilize clustering (see above *CSD Ordinance 2004-0069, Section 2.D.7.c*). The clustering aspect of the project's land design was addressed above to be an essential feature of the project in order to preserve open space, minimize hillside grading, preserve ridgelines, save oak trees, preserve an environmentally sensitive ephemeral stream / riparian habitat, avoid a restricted earthquake fault zone and otherwise generally enhance the quality and appeal of the project.

However, notwithstanding the fact that the lot-size ordinance does not apply to this project, it may be appropriate to also note the following aspects of the project's setting: the project site is adjacent to high density condominium developments, a 115-unit mobile home park, commercial / industrial land use and is located in the traffic corridor of the I-5 and The Old Road. In this given setting of mixed use for commercial and hi-density residential, the project would introduce single family residences. The proposed density for the residential element of the project is low, particularly compared to the adjacent residential developments, and the residential lot sizes would be substantially larger compared to the neighboring residential projects.

The residential lots (lots 1-70) range in size from 5,003 square feet (lot five) to 18,415 square feet (lot 48). The average lot size is approximately 6,955 square feet. The project's lot sizes are evidently substantially larger than the adjacent development's lot sizes, which have higher densities. The 75 condominium units for the development to the north (Tract 34365) occupy approximately five net acres (see Aerial Photo, Figure 2-3), including the area designated to streets and parking. As a result the lot sizes that could be allocated to each condo unit in Tract 34365 is about 2,900 square feet - see also zoning / density designations below. Therefore, increasing the lot sizes for the proposed project would appear to decrease compatibility with adjacent land developments and will not be suitable for the given location and setting of the project.

In addressing the CSD required buffer areas in *Section 2.E.1.b*, it is noted that natural and enhanced buffers have been utilized for the single family residential element of the project and



the adjacent condominium developments. The residential element of the project (proposed zoning RPD-2.51.9U) is surrounded to the north by existing higher density condominium (Tr. 34365; zoned RPD-6.5U) and mobile homes (zoned R-3-10U) developments, to the west by open space and residential use, to the east by commercial use, The Old Road and I-5, and by commercial / recreational uses across the freeway, and to the south by approved condominium development (Tr. 46798; zoned RPD-3.5U). As per CSD subsection 2.E.1.b.i, buffers are required between the housing element of the project and the adjacent condo developments. The residential element of the project will be at higher elevations than the existing condo development to the north and the proposed condominium project to the south. Therefore, the elevation difference / hillsides will act as natural buffers between single family residents of the project and adjacent condo developments. Furthermore, the view of the project from the condominiums to the north will continue to be blocked by an existing and enhanced hill profile (located at the north of the site) and open space acting as a natural buffer zones. Project's Open Space lots also act as a buffer between the project and the approved condos to the south. Section 4.9, *Visual Qualities*, also contains additional details on project's buffer zones, related to CSD's buffer area requirements. Thus, the proposed project appears to be generally consistent with this policy.

*CSD Ordinance 2004-0069, Section 2.E.2. Commercial and Industrial Zones.*

*a. Business Signs.*

- i. Applicability. The sign regulations herein shall apply to new signs only and shall not apply to existing signs that were legally established prior to the effective date of this CSD.*
- ii. Pole signs shall be prohibited.*
- iii. Wall business signs. All businesses shall be permitted one wall business sign for each street, highway, or parkway on which the business fronts. One additional wall business sign shall be allowed for each secondary public entrance. Wall business signs shall have the following attributes:
  - (A) A wall sign area no larger than one and one-half square foot for every linear foot of the building frontage for that business. For secondary public entrance signs, the wall sign area shall not exceed half of the area of the smallest primary wall business sign; and*
  - (B) A height that does not extend above the highest point of the business' roof or parapet for the portion of the building in which the business is located.**
- iv. Freestanding business signs. All businesses shall be allowed one freestanding business sign if it is located on a lot that has at least 100 feet of cumulative street frontage. If the business has at least has at least 500 feet of cumulative street frontage, it shall be allowed one additional freestanding business sign. The sign shall be located in a manner that does not impede traffic or line of sight visibility. Freestanding signs shall have the following additional attributes:
  - (A) A maximum sign area of 40 square feet per freestanding business sign.*
  - (B) A maximum height of six feet measured vertically from the ground level at the base of the sign.*
  - (C) A minimum setback of three feet from any public street or public right-of-way.**
- v. Incidental business signs. Incidental business signs as described in Section 22.52.910 shall be allowed but shall be subject to the following limitations:
  - (A) Every business shall be allowed only one incidental business sign;*
  - (B) Incidental business signs shall be wall-mounted below the roofline; and**



- (C) *Incidental business signs shall have a maximum face area of two square feet.*
- vi. *Freeway oriented signs. Freeway oriented signs shall be allowed only on parcels of land along I-5 Freeway, west of Castaic Road and East of Old Road. In addition, a business shall be allowed only one freeway oriented sign for every parcel of land.*
- b. *Architectural standards.*
- i. *All commercial buildings, except those in an industrial park, shall have Spanish, Southwestern, or Mediterranean architecture, with a tile roof.*
- ii. *Mirrored glass shall be prohibited on outside building surfaces.*
- c. *Circulation areas.*
- i. *Paving. Pedestrian circulation area and driveway entrances on private property shall be paved with brick or paver tiles;*
- ii. *Pedestrian amenities. For commercial and mixed-use developments, at least two pedestrian amenities shall be provided. Examples of these pedestrian amenities include, but are not limited to:*
- *Benches;*
  - *Bicycle racks;*
  - *Outdoor lights;*
  - *Drinking fountains;*
  - *Landscape buffers;*
  - *Newsstands;*
  - *Planter boxes;*
  - *Trash receptacles; and/or*
  - *Landscaped trellises or breezeways between businesses.*
- d. *Setbacks. The following setback standards shall apply in commercial and industrial zones:*
- i. *All buildings structures, and circulation areas, including parking lot aisles, shall have a minimum setback from the front property line of 10 feet in industrial zones and 20 feet in commercial zones. The setback shall be landscaped and shall include a minimum of one 15-gallon tree for every 150 square feet of setback landscaped area;*
- ii. *In commercial zones, vehicle driveways, pedestrian pathways, and outdoor dining and street furniture, such as chairs, tables, benches, and bicycle racks, shall be permitted in setback areas, provided that a minimum of ten percent of the entire site's net area is landscaped; and*
- iii. *Structures that adjoin or face any non-industrial or non-commercial zoned parcel, or adjoin or face a parcel containing a non-industrial or non-commercial use, shall:*
- (A) *Have a minimum setback of 25 feet from any property line(s) adjoining or facing such parcel. The setback shall be landscaped and shall include a minimum of one 15-gallon tree for every 15 feet along the property line that is adjacent to or closest to the non-industrial or non-commercially zoned or used parcel. If a 25-foot setback is infeasible due to the size of the parcel, a solid masonry wall shall be built half-way between the building and the property line. The wall shall be a minimum of six feet in height in commercial zones and eight feet in height in industrial zones and shall be landscaped with drought-resistant vines along the entire length of the wall.*
- (B) *Locate vehicle access, circulation, parking and loading areas as far as possible from adjoining residential uses.*
- e. *Lot Coverage. Except in Zones CPD and MPD, all new structures have a maximum lot coverage of 70 percent of the lot's gross area.*



- f. *Height. Excluding chimneys and rooftop antennas, all new structures shall have a maximum height of 35 feet above grade if located within 500 feet of a residentially or agriculturally zoned property.*
- g. *Outdoor activities and Storage. All principal uses within 500 feet of a residentially or agriculturally zoned property that are conducted outside an enclosed structure or involve outdoor storage shall require a Conditional Use Permit.*

*Consistency analysis:* Prior to approval of final tract map the design would be required to comply with CSD standards. As presently envisioned, the proposed residential and business / professional office space would both be developed with matching Mediterranean style architecture and will include setbacks, landscaping, and pedestrian amenities that are required by the CSD. Prior to the approval of the final tract map, the applicant would be required to submit building plans including signage, landscaping and circulation / parking plans, which are consistent with the requirement of the CSD, for review and approval. With the implementation of the mitigation measures identified herein and additional measures that may be required as part of the CSD compliance review and approval process, the project would be generally consistent with this ordinance provision.

#### Los Angeles County Zoning Ordinance Consistency

Assuming that the site zoning is changed from A-2-2 with land use designation of U1, U2, U3, M, and HM within ¼ mile urban, to RPD-~~2-51.9~~U (Single-family residential) and M-1-DP (Industrial Development Program) zoning as proposed, the provisions of the RPD-~~2-51.9~~U and M-1-DP zones would apply. The RPD-~~2-51.9~~U zone allows for single-family residences and planned unit development (with CUP) of ~~2-51.9~~ units per acre, provided that at least 30% of the area remain in vegetated open space, building coverage is not to exceed 50% of the net area, building height within the RPD-~~2-51.9~~U zone is limited to a maximum of 35 feet and required front yard, rear yard, and side yard setbacks are a minimum of 20 feet, 15 feet, and five feet, respectively. Two covered parking spaces are required per single-family residence.

The M-1 zone allows for community and financial services, parks and playgrounds, business / professional offices; commercial services, retail sales of new goods and genuine antiques; rentals, outdoor advertising, tailor shops; secondhand stores; limited manufacture and assembly; single-family residences, crops (field, tree, bush, berry, row and nursery stock) and greenhouses and raising of cattle, horses, sheep, goats, poultry, birds, earthworms, etc; and planned unit development (with CUP). The M-1-DP designation would restrict the use to Office Park, which is the use proposed by the applicant. Building height within the M-1-DP zone for the purpose of business / professional office uses is limited to a maximum of 35 feet and required front yard, corner yard, and side yard setbacks are not to exceed 20 feet for front or corner / side yards where property adjoins a parkway, major or secondary highway. With the approval of the proposed zone change the proposed project appears to be consistent with the requirements of the Los Angeles County Zoning Ordinance.

**d. Cumulative Impacts.** Buildout of the uses allowed under the guiding regulatory documents for the Castaic area would continue to transform the area from its historical roots as a transportation corridor town into a more densely populated, suburban community. Under



the Ordinances mandated by the Castaic Area Community Standards District (CSD), and policies contained in the Santa Clarita Valley Area Plan (SCVAP), approved development within the area would shape the community to provide a balance of jobs, housing, industry and community services. Approved and pending development in the Castaic area (5-mile radius around the project site, plus the Newhall and Centennial master planned projects) would add approximately 80,000 residences, 5,700,000 square feet of commercial and 29,500,000 square feet of industrial development. Individual development projects in the region would have the potential to create compatibility conflicts relating to new residential, commercial, and industrial development. Such conflicts would be examined on a case-by-case basis, as part of the development permitting process. Where appropriate, measures will be necessary to minimize and avoid these potential conflicts. Mitigation measures would likely include use of buffer setbacks, site planning features, as well as site specific design measures.



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## 4.16 GLOBAL CLIMATE CHANGE

### 4.16.1 Setting

Global climate change (GCC) is a change in the average weather of the earth that is measured by temperature, wind patterns, precipitation, and storms over a long period of time. The baseline by which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed an unprecedented acceleration in the rate of warming during the past 150 years.

GCC is a documented effect, with the degree to which the change is caused by anthropogenic (man-made) sources still under study. The accelerated pace of climate change has coincided with the global industrial revolution, which has seen the widespread reduction of forests to accommodate urban centers and agriculture, with the use of fossil fuels, primarily burning of coal, oil, and natural gas for energy. Per the United Nations Intergovernmental Panel on Climate Change (IPCC, 2007), the understanding of anthropogenic warming and cooling influences on climate has led to a very high confidence (90% or greater chance) that the global average net effect of human activities since 1750 has been one of warming. Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG (Greenhouse Gases) concentrations per the IPCC (November 2007). While there is some disagreement by individual scientists<sup>1</sup> with some of the findings of the IPCC, the overwhelming majority of scientists working on climate change agree with the main conclusions, as do the vast majority of major scientific societies and national academies of science. Disagreement within the scientific community is always present for all issues, however, the current state of knowledge is substantially in favor of GCC, with eleven of the last twelve years (1995-2006) ranking among the twelve warmest years in the instrumental record of global surface temperature since 1850 (IPCC, 2007). In addition, the majority of scientists agree that anthropogenic sources are a main, if not primary, contributor to GCC.

**a. Greenhouse Gases (GHGs).** Gases that trap heat in the atmosphere are often called greenhouse gases (GHG), analogous to the way in which a greenhouse retains heat. Common GHG include water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxides (N<sub>2</sub>O<sub>x</sub>), fluorinated gases, and ozone (O<sub>3</sub>). GHG are emitted by both natural processes and human activities. Of these gases, CO<sub>2</sub> and CH<sub>4</sub> are emitted in the greatest quantities from human activities. Emissions of CO<sub>2</sub> are largely by-products of fossil fuel combustion, whereas CH<sub>4</sub> results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, which have a much greater heat-absorption potential than CO<sub>2</sub>, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFC), and sulfur hexafluoride (SF<sub>6</sub>), which are byproducts of certain industrial processes (Cal EPA, 2006).

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<sup>1</sup> A list of such scientists can be found at [http://en.wikipedia.org/wiki/List\\_of\\_scientists\\_opposing\\_the\\_mainstream\\_scientific\\_assessment\\_of\\_global\\_warming](http://en.wikipedia.org/wiki/List_of_scientists_opposing_the_mainstream_scientific_assessment_of_global_warming)



The accumulation of GHG in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHG, the earth's surface would be about 34° C cooler (CAT, 2006). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentrations of these gases in the atmosphere beyond the level of naturally occurring concentrations. The following discusses the primary GHGs of concern.

Carbon Dioxide (CO<sub>2</sub>). The global carbon cycle is made up of large carbon flows and reservoirs. Billions of tons of carbon in the form of CO<sub>2</sub> are absorbed by oceans and living biomass (i.e., sinks) and are emitted to the atmosphere annually through natural processes (i.e., sources). When in equilibrium, carbon fluxes among these various reservoirs are roughly balanced (USEPA, April 2008). CO<sub>2</sub> was the first GHG demonstrated to be increasing in atmospheric concentration, with the first conclusive measurements being made in the last half of the 20th Century. Concentrations of CO<sub>2</sub> in the atmosphere have risen approximately 35% since the Industrial Revolution. Per the IPCC (2007), the global atmospheric concentration of carbon dioxide has increased from a pre-industrial value of about 280 parts per million (ppm) to 379 ppm in 2005. The atmospheric concentration of CO<sub>2</sub> in 2005 exceeds by far the natural range over the last 650,000 years (180 to 300 ppm) as determined from ice cores. The annual carbon dioxide concentration growth rate was larger during the last 10 years (1995–2005 average: 1.9 parts per million (ppm) per year), than it has been since the beginning of continuous direct atmospheric measurements (1960–2005 average: 1.4 ppm per year), although there is year-to-year variability in growth rates.

Methane. Methane (CH<sub>4</sub>) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10-12 years), compared to some other GHGs. It is approximately 20 times more effective at trapping heat in the atmosphere than CO<sub>2</sub> (global warming potential [GWP] 20x that of CO<sub>2</sub>). Over the last two hundred and fifty years, the concentration of CH<sub>4</sub> in the atmosphere increased by 148% (IPCC 2007). Anthropogenic sources of CH<sub>4</sub> include landfills, natural gas and petroleum systems, agricultural activities, coal mining, wastewater treatment, stationary and mobile combustion, and certain industrial processes (USEPA, April 2008).

Nitrous Oxide. Concentrations of nitrous oxide (N<sub>2</sub>O) also began to rise at the beginning of the industrial revolution. N<sub>2</sub>O is produced by microbial processes in soil and water, including those reactions which occur in fertilizers that contain nitrogen. Use of these fertilizers has increased over the last century. Its GWP is 300x that of CO<sub>2</sub>.

Fluorinated Gases (HFCS, PFCS and SF<sub>6</sub>). Fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfurhexafluoride (SF<sub>6</sub>), are powerful greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are used as substitutes for ozone-depleting substances such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and halons, which have been regulated since the mid-1980s because of their ozone destroying potential and are phased out under the *Montreal Protocol* and Clean Air Act Amendments of 1990. Fluorinated gases are typically emitted in smaller quantities than CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O, but each molecule can have a much greater global warming effect. SF<sub>6</sub> is the most potent greenhouse gas the IPCC has evaluated.



**b. Greenhouse Gas Inventory.** Worldwide anthropogenic emissions of GHG were approximately 40,000 million metric tons of carbon dioxide equivalent (CDE<sup>2</sup>), including ongoing emissions from industrial and agricultural sources, but excluding emissions from land use changes (i.e., deforestation, biomass decay) (IPCC, 2007). CO<sub>2</sub> emissions from fossil fuel use accounts for 56.6% of the total emissions of 49,000 million metric tons CDE (includes land use changes) and all CO<sub>2</sub> emissions are 76.7% of the total. Methane emissions account for 14.3% and N<sub>2</sub>O emissions for 7.9% (IPCC, 2007).

Total U.S. greenhouse gas emissions in 2006 were estimated at 7,054 million metric tons CDE (USEPA, April 2008), or about 14% of total worldwide GHG emissions. Overall, total U.S. emissions have risen by 14.7% from 1990 to 2006, while emissions fell from 2005 to 2006, decreasing by 1.1% (75.7 MMT CDE). The following factors were primary contributors to this decrease: (1) warmer winter conditions in 2006 as compared to 2005, which decreased consumption of heating fuels, as well as cooler summer conditions, which reduced demand for electricity; (2) restraint on fuel consumption caused by rising fuel prices, primarily in the transportation sector; and (3) increased use of natural gas and renewables in the electric power sector.

The primary GHG emitted by human activities in the United States was CO<sub>2</sub>, representing approximately 84.8% of total GHG emissions (USEPA, April 2008). The largest source of CO<sub>2</sub>, and of overall greenhouse gas emissions, was fossil fuel combustion. CH<sub>4</sub> emissions, which have declined from 1990 levels, resulted primarily from enteric fermentation associated with domestic livestock, decomposition of wastes in landfills, and natural gas systems. Agricultural soil management and mobile source fossil fuel combustion were the major sources of N<sub>2</sub>O emissions. The emissions of substitutes for ozone depleting substances and emissions of HFC-23 during the production of HCFC-22 were the primary contributors to aggregate HFC emissions. Electrical transmission and distribution systems accounted for most SF<sub>6</sub> emissions, while PFC emissions resulted from semiconductor manufacturing and as a by-product of primary aluminum production.

The residential and commercial end-use sectors accounted for 20 and 18 percent, respectively, of CO<sub>2</sub> emissions from fossil fuel combustion in 2006 (USEPA, April 2008). Both sectors relied heavily on electricity for meeting energy demands, with 72 and 79 percent, respectively, of their emissions attributable to electricity consumption for lighting, heating, cooling, and operating appliances. The remaining emissions were due to the consumption of natural gas and petroleum for heating and cooking.

California is a substantial contributor of global GHGs as it is the second largest contributor in the United States and the sixteenth largest in the world (AEP, 2007). Based upon the 2004 GHG inventory data (the latest year available) compiled by the California Energy Commission (CEC, December 2006), California produced 492 MMT CDE (7% of US total). The major source of GHG in California is transportation, contributing 41% of the State's total GHG emissions. Electricity generation is the second largest source, contributing 22% of the State's GHG emissions (CEC, December 2006). Most, 81%, of California's 2004 GHG emissions (in terms of CDE) were carbon

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<sup>2</sup> Carbon dioxide equivalent (CDE or CO<sub>2</sub>E) is a quantity that describes, for a given mixture and amount of GHGs, the amount of CO<sub>2</sub> (usually in metric tons; million metric tons [megatonne] □ MMTCO<sub>2</sub>E □ terragram [Tg] CO<sub>2</sub> Eq; 1,000 MMT □ gigatonne) that would have the same global warming potential (GWP) when measured over a specified timescale (generally, 100 years).



dioxide produced from fossil fuel combustion, with 2.8% from other sources of CO<sub>2</sub>, 5.7% from methane, and 6.8% from nitrous oxide (CEC, December 2006). California emissions are due in part to its large size and large population. By contrast, California in 2001 had the fourth lowest CO<sub>2</sub> emissions per capita from fossil fuel combustion in the country, due to the success of its energy-efficiency and renewable energy programs and commitments that have lowered the State's GHG emissions rate of growth by more than half of what it would have been otherwise (CEC, December 2006). Another factor that has reduced California's fuel use and GHG emissions is its mild climate compared to that of many other states.

**c. Effects of Global Climate Change.** GCC has the potential to affect numerous environmental resources through potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming is taking place, including substantial ice loss in the Arctic (IPCC, 2007).

According to AB 32, some of the potential impacts of global warming in California may include loss of snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Below is a summary of some of the potential effects reported by an array of studies that could be experienced in California as a result of global warming and climate change:

Air Quality. Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the State (CEC, February 2006).

Water Supply. Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. Studies have found that, "Considerable uncertainty about precise impacts of climate change on California hydrology and water resources will remain until we have more precise and consistent information about how precipitation patterns, timing, and intensity will change." (Kiparsky and Gleick, 2003). For example, some studies identify little change in total annual precipitation in projections for California (CAT, 2006). Other studies show significantly more precipitation (California Department of Water Resources (DWR) 2006). Even assuming that climate change leads to long-term increases in precipitation, analysis of the impact of climate change is further complicated by the fact that no studies have identified or quantified the runoff impacts such an increase in precipitation would have in particular watersheds (CAT 2006). Also, little is known about how groundwater recharge and water quality will be affected (Ibid). Higher rainfall



could lead to greater groundwater recharge, although reductions in spring runoff and higher evapotranspiration could reduce the amount of water available for recharge (Ibid).

The California Department of Water Resources (DWR 2006) report on climate change and effects on the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta. concludes that “[c]limate change will likely have a significant effect on California’s future water resources . . . [and] future water demand.” It also reports that “much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain” (DWR, 2006).

This uncertainty serves to complicate the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood (DWR, 2006). DWR adds that “[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future.” Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows (DWR 2006; Cayan 2006, Cayan, D., et al, 2006).

Hydrology. As discussed above, climate changes could potentially affect: the amount of snowfall, rainfall and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of sea water as the oceans warm, and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California’s water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture. California has a \$30 billion agricultural industry that produces half the country’s fruits and vegetables. Higher CO<sub>2</sub> levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thus affect their quality (California Climate Change Center, 2006).

Ecosystems and Wildlife. Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise as discussed previously (1.0-4.5°F [0.6-2.5°C] in the next 50 years, and 2.2-10°F [1.4-5.8°C]) in the next century, with significant regional variation. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea levels could rise as much as two feet along most of the U.S. coast. Rising temperatures could have four major impacts on plants and animals: (1) timing of



ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes such as carbon cycling and storage (Parmesan, C. and H. Galbraith 2004.)

### **4.16.2 Regulatory Setting**

International and Federal. The United States is, and has been, a participant in the United Nations Framework Convention on Climate Change (UNFCCC) since it was signed on March 21, 1994. The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by 5% from 1990 levels during the first commitment period of 2008–2012. It should be noted that although the United States is a signatory to the Kyoto Protocol, Congress has not ratified the Protocol and the United States has not bound itself to the Protocol's commitments (UNFCCC, 2007)

The United States is currently using a voluntary and incentive-based approach toward emissions reductions in lieu of the Kyoto Protocol's mandatory framework. The Climate Change Technology Program (CCTP) is a multi-agency research and development coordination effort (which is led by the Secretaries of Energy and Commerce) that is charged with carrying out the President's National Climate Change Technology Initiative (Climate Change Technology Program, December 2007; <http://www.epa.gov/climatechange/policy/cctp.html>).

To date, the USEPA has not regulated GHGs under the Clean Air Act; however, the U.S. Supreme Court in *Massachusetts v. EPA* (April 2, 2007) held that the USEPA can, and should, consider regulating motor-vehicle GHG emissions. The USEPA has not yet promulgated Federal regulations limiting GHG emissions. In December 2007, the USEPA also denied California's request for a waiver to directly limit GHG tailpipe emissions, which prompted a suit by California in January 2008 to overturn that decision.

California Regulations. Assembly Bill (AB) 1493, requiring the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State was signed into law in September 2002 by Governor Gray Davis. Governor Schwarzenegger issued Executive Order S-3-05 in 2005 that established statewide GHG emissions reduction targets. S-3-05 provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent of 1990 levels (CalEPA 2006).

Governor Schwarzenegger signed AB 32, the "California Global Warming Solutions Act of 2006," into law in the fall of 2006. AB 32 requires the California Air Resources Board (ARB) to adopt regulations by January 1, 2008 to require reporting and verification of statewide GHG emissions. ARB is to produce a plan by January 1, 2009, to indicate how emission reductions will be achieved from significant GHG sources via regulations, market mechanisms, and other actions. In addition, this law requires ARB to adopt regulations by January 1, 2010, to implement the early action GHG emission reduction measures that can be implemented before the adoption of those recommended by the 2009 plan. The bill requires achievement by 2020 of a statewide GHG emissions limit



equivalent to 1990 emissions (essentially a 25% reduction below 2005 emission levels; same requirement as under S-3-05), and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions.

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. This bill directs the California Office of Planning and Research to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, by July 1, 2009. The Resources Agency is required to certify or adopt those guidelines by January 1, 2010.

Executive Order S-01-07 was enacted by Governor Schwarzenegger on January 18, 2007. The order mandates that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020. In addition, a Low Carbon Fuel Standard ("LCFS") for transportation fuels is to be established for California.

In response EO S-3-05, the CalEPA created the Climate Action Team (CAT), which, in March 2006, published the Climate Action Team Report (the "2006 CAT Report"). The 2006 CAT Report identifies a recommended list of strategies that the State could pursue to reduce climate change greenhouse gas emissions. These are strategies that could be implemented by various State agencies to ensure that the Governor's targets are met and can be met with existing authority of the State agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, landfill methane capture, etc.

The ARB in response to the requirements of AB-32 produced a list of 37 early actions for reducing GHG emissions in June 2007. ARB expanded this list in October 2007 to 44 measures that have the potential to reduce GHG emissions by at least 42 million metric tons of CO<sub>2</sub> emissions by 2020, representing about 25% of the estimated reductions needed by 2020. ARB staff is working on 1990 and 2020 GHG emission inventories in order to refine the projected reductions needed by 2020. After completing a comprehensive review and update process, the ARB has approved a 1990 statewide GHG level and 2020 limit of 427 MMT CDE.

For more information on the Assembly Bills and Executive Orders identified above, and to view reports and research referenced above, please refer to the following websites:  
[www.climatechange.ca.gov](http://www.climatechange.ca.gov) and <http://www.arb.ca.gov/cc/cc.htm>.

Local Regulations and CEQA Requirements. GHG emissions contributing to global climate change have only recently been addressed in CEQA documents, such that CEQA and case law do not provide guidance relative to their assessment. Quantitative significance thresholds for this topic have not been adopted by the State of California, or any particular air pollution control district, including the SCAQMD. The Office of Planning and Research is directed under Senate Bill 97, to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions through CEQA by July 1, 2009. In the interim, while those guidelines are being developed, OPR issued informal guidance regarding the steps that should be taken to address climate change in



CEQA documents (OPR, 2008). These steps include the following: 1) identify and quantify the GHG emissions; 2) assess the significance of the impact on climate change; 3) if the impact is significant – identify mitigation and alternatives that would reduce the impact to a level that is less than significant (OPR, 2008).

Los Angeles County has not adopted any specific rules or regulations governing GHG emissions. However, there are County policies that are relevant to this issue. In January 2007, the Los Angeles County Board of Supervisors adopted the Countywide Energy and Environmental Policy (Policy), which provides guidelines for sustainability and green building design within County departments. The Policy states that the County will join the California Climate Action Registry (CCAR) to establish goals for reducing GHG emissions. In addition, the Policy incorporates a sustainable building program into County capital improvement projects and seeks to integrate energy efficient and sustainable designs into future County building plans.

In addition, the recent court settlement regarding the lack of GHG mitigation strategies in the San Bernardino County General Plan prompted Los Angeles County to pursue more immediate and formal mitigation strategies. Accordingly, the County prepared its “Report on the Impact of the State Action Against San Bernardino County Regarding its General Plan Update,” (October, 2007), which contains numerous recommendations for future requirements to combat global warming. The report has three main sections: (i) energy efficiency and climate change; (ii) green buildings; and (iii) low-impact development.

The energy efficiency and climate change section of the County’s report (October, 2007) discusses the potential to reduce County GHG emissions through various energy efficiency, water efficiency, and renewable power resources strategies. The County’s Energy Management Division has a goal of reducing energy consumption by 20% by 2015; since 1995, they have mitigated an estimated 400,000 tonnes of GHGs. The majority of such reductions have been achieved by lighting retrofits in County buildings. In addition, the County’s Facility Retrocommissioning (RCx) program, which applies to County buildings only (and not private developments), upgrades Heating, Ventilation, and Air Conditioning (HVAC) units and other building equipment. There are still 500 medium and large County facilities that are available for the RCx program. Finally, as of January 16, 2007, the County’s Capital Construction Program requires new County buildings greater than 10,000 square feet to achieve Leadership in Energy and Environmental Design (LEED) Silver Certification. This includes 53 projects for the 2007/2008 program year.

The County is also looking into many other programs, such as the Enterprise Energy Management Information System, thermal storage, demand response, combined heat and power systems, and renewable resources. There is no mention of definite standards/regulations regarding these systems. There are some financial incentives, however, that are available for energy efficient projects (e.g., utility incentives; County Capital Lease Program; Productivity Investment Fund Loans; and the California Public Utilities Commission [CPUC] Grant Program).



The green building section of the County's report (October, 2007) provides recommendations for "opportunities to incorporate LEED standards or similar requirements into the County's development standards for all appropriate industrial, commercial, and residential development within unincorporated areas." The County's green building program requires:

- Minimum 70% open space within non-urban hillside management areas;
- Planting of on-site trees within proposed subdivisions;
- Minimum of 2% landscaped area in commercial parking lots;
- Clustered development and transit-oriented development;
- Native and drought-tolerant landscaping;
- Recycling of 50% of construction material and demolition debris for all nonresidential and multi-family residential projects;
- Water efficient landscapes in excess of 2,500 square feet for non-residential and multi-family residential projects; and
- Compliance with Statewide Energy Efficiency Standards (Title 24, Part 6, of the California Code of Regulations).

Proposed recommendations presently being considered by the County for incorporation into the green building program include:

- Requiring commercial developments greater than 25,000 square feet to be LEED Checklist in 2008, LEED Certified in 2009, and LEED Silver in 2010 and 2011;
- Requiring commercial developments greater than 10,000 square feet to be LEED Checklist in 2009, 2010, and 2011;
- Requiring new residential development to comply with either the LEED, California Green Builder or GreenPointRated programs by 2010 and 2011; and
- Amending Title 22 to require shade trees in single lot residential developments and parking lots.

The County's report also contains recommended changes to the zoning standards provided in Title 22, Planning and Zoning Code, of the County Municipal Code, in order to incorporate low-impact development (LID) for better stormwater management.

### **4.16.3 Climate Change Impact Analysis**

The information provided in this section is based on recently established California goals for reducing GHG emissions as well as a project-specific emissions inventory developed for the proposed project. Determining how a proposed project might contribute to climate change, and what the overall effect of an individual project would be based on that contribution is still undergoing debate at this time. Thresholds and methodologies for determining the significance of a project's potential cumulative contribution to global climate change in CEQA documents is rapidly evolving. An individual project (unless it is a massive construction project, such as a dam or a new freeway project, or a large fossil-fuel fired power plant) does not generate sufficient GHG emissions to directly influence global climate change; therefore, the issue of global climate change typically involves an analysis of whether a project's contribution towards a cumulative impact is cumulatively considerable. "Cumulatively considerable" means that the



incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. The following is a good faith effort at disclosing the nature of the project's potential effect with regard to GHG emissions, and suggest measures as appropriate to reduce potential GHG emissions.

**a. Methodology and Significance Thresholds.** This analysis is based on the methodologies recommended by the California Air Pollution Control Officers Association [CAPCOA] (January 2008) *CEQA and Climate Change* white paper. Calculations of carbon dioxide, methane, and nitrous oxide are provided for full disclosure of the magnitude of potential project effects. The analysis focuses on carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), and methane (CH<sub>4</sub>) as these are the GHG emissions that the project would emit in the largest quantities as compared to other GHGs (such as chlorofluorocarbons [CFCs]). Calculations were based on the methodologies discussed in the CAPCOA white paper (January 2008) and included the use of the California Climate Action Registry General Reporting Protocol (April 2008).

Indirect Emissions. Operational emissions of CO<sub>2</sub> associated with space heating and landscape maintenance were quantified using the California Air Resource Board's URBEMIS 2007 (version 9.2.4) computer model. Nitrous oxide (N<sub>2</sub>O) and methane (CH<sub>4</sub>) emissions were quantified using the California Climate Action Registry General Reporting Protocol (April 2008) indirect emissions factors for electricity use (see Appendix D for calculations). The calculations and emission factors contained in the General Reporting Protocol were selected based on technical advice provided to the Registry by the California Energy Commission. This methodology is considered to be reasonable and reliable for use as it has been subjected to peer review by numerous public and private stakeholders and in particular by the California Energy Commission, and is recommended by CAPCOA (January 2008).

Direct Emissions from Mobile Combustion. Emissions of CO<sub>2</sub> from transportation sources were quantified using the California Air Resource Board's URBEMIS 2007 (version 9.2.4) computer model. Nitrous oxide (N<sub>2</sub>O) and methane (CH<sub>4</sub>) emissions were quantified using the California Climate Action Registry General Reporting Protocol (April 2008) direct emissions factors for mobile combustion (see Appendix D for calculations). Total vehicle miles traveled (VMT) was obtained from URBEMIS 2007. Emission rates were based on the vehicle mix output generated by URBEMIS and the emission factors found in the California Climate Action Registry General Reporting Protocol.

It should be noted that one of the limitations to a quantitative analysis is that emission models such as URBEMIS, evaluate aggregate emissions and do not demonstrate, with respect to a global impact, how much of these emissions are "new" emissions specifically attributable to the proposed project in question. For most projects, the main contribution of GHG emissions is from motor vehicles and the total vehicle miles traveled (VMT), but the quantity of these emissions appropriately characterized as "new" is uncertain. Traffic to the professional office component of this project can be comprised of diverted trips from other professional offices (and depending on location, either result in an increase or decrease in VMT), In addition, the traffic associated with the residential portion of the project may be trips diverted from other locales, and consequentially, may result in either higher or lower net VMT. In this instance, it is likely that some of the proposed



project-related GHG emissions associated with traffic and energy demand would be truly “new” emissions; but, it is also likely that some of the emissions represent diversion of emissions from other locations. Thus, although GHG emissions are associated with the project, it is not possible to discern how much diversion is occurring or what fraction of those emissions represent global increases. In the absence of information regarding the different types of trips, the VMT generated by URBEMIS is used as a reasonable and probably conservative estimate.

Thresholds of Significance. The Governor’s Office of Planning and Research (OPR) requested that the ARB technical staff recommend a method for setting thresholds that will encourage consistency and uniformity in the CEQA Analysis of GHG emissions throughout the state. Guidance regarding these thresholds is not currently available, and will likely not become available until 2009. In the interim, CAPCOA, which is composed of representatives of all 35 local air quality agencies in California, conducted an analysis of various approaches and significance thresholds.

AB 32 requires the state to reduce California-wide GHG emissions to 1990 levels by 2020. Reducing greenhouse gas emission levels from 2020 to 1990 levels could require a 28% to 33% reduction as compared to “business-as-usual” GHG emissions, depending on the methodology used to determine the future emission inventories. The exact percent reduction may change slightly once CARB finalizes its 1990 and 2020 inventory estimates. In this context, “business-as-usual” means the emissions that would have occurred in the absence of the mandated reductions (CARB Fact Sheet). The details of the “business-as-usual” scenario are established by CARB in the assumptions it uses to project what the state’s GHG emissions would have been in 2020, and the difference between that level and the level that existed in 1990 constitutes the reductions that must be achieved if the mandated goals are to be met. Therefore, it is conservatively assumed that a 33% reduction beyond “business-as-usual” is necessary for a project’s effects to be considered less than significant. The following market capture thresholds were identified by CAPCOA for consideration.

- **Zero Threshold, 100% of Future Development.** Assuming a zero threshold and the AB 32 2020 targets, this approach would require all discretionary projects to achieve a 33% reduction from projected “business-as-usual” emissions to be considered less than significant (CAPCOA, January 2008).
- **90% of Future Development Threshold.** A method based on a market capture approach that requires mitigation for greater than 90% of likely future discretionary development would use a quantitative threshold of greater than 900 metric tons CDE/year for most projects, which would generally correspond to residential projects of 50 residential units, office projects of approximately 35,000 square feet, retail projects of approximately 11,000 square feet, or supermarket space of approximately 6,300 square feet (CAPCOA, January 2008). Under this threshold, all projects exceeding the aforementioned size would be required to achieve a 33% reduction from projected “business-as-usual” emissions to be considered less than significant (CAPCOA, January 2008).



- **50% of Future Development Threshold.** A 10,000 metric ton significance threshold would correspond to the GHG emissions of approximately 550 residential units, 400,000 square feet of office space, 120,000 square feet of retail, and 70,000 square feet of supermarket space (CAPCOA, January 2008). This threshold would capture roughly half of new residential or commercial development (CAPCOA, January 2008). Under this threshold, all projects exceeding the aforementioned size would be required to achieve a 33% reduction from projected “business-as-usual” emissions to be considered less than significant (CAPCOA, January 2008).

The *CEQA Guidelines* also recognize that there may be a point where a project’s contribution, although above zero, would not be a considerable contribution to the cumulative impact. Therefore, it is determined that the zero threshold would not be appropriate as it would not permit a lead agency to determine that a very small project’s contribution is not cumulatively considerable. Likewise, because CEQA requires maximum protection of the environment, it is determined that the 50% of future development threshold would not capture a substantial enough proportion of discretionary development. Subsequently, the 90% of development threshold is utilized in this analysis to determine whether the project’s effects are cumulatively considerable and warrant reduction through mitigation.

**b. Project Impacts and Mitigation Measures.** The OPR published a Technical Advisory on CEQA and Climate Change (June 2008). The Technical Advisory recommended approach to addressing Climate Change through CEQA review entails three basic steps: 1) identify and quantify the GHG emissions; 2) assess the significance of the impact on climate change; and 3) if the impact is found to be significant, identify alternatives and/or mitigation that will reduce the impact below significance. Following is an analysis of the project’s contribution to the cumulative impact of GCC.

**Impact GCC-1**      **The proposed project would generate about 707 metric tons of carbon dioxide during construction, and would generate about 4,148 metric tons of carbon dioxide equivalents annually, thereby exceeding the 90% of future development California Air Pollution Control Officer’s Association potential threshold. Therefore, project-generated emissions are cumulatively considerable. The impact is Class II, significant but mitigable.**

Temporary Construction Emissions. The proposed project would generate an estimated 779 tons of CO<sub>2</sub> during construction (see Appendix D for URBEMIS results). Unlike the operational emissions that would occur over the life of the project, construction emissions are temporary and are associated with the vehicles that will be used to grade the site and construct the project. Once the project is built, emissions would occur from operational sources such as natural gas, electricity, landscaping equipment, and vehicle trips.

Operational Indirect and Stationary Direct Emissions. Buildout of the project site could generate demand for up to 1,997,500 kilowatt-hours [kWh]/year (Table 4.16-1). The generation of electricity through combustion of fossil fuels typically emits carbon dioxide, and to a smaller extent, nitrous oxide and methane. As discussed above, annual electricity emissions can be



calculated using the California Climate Action Registry General Reporting Protocol, which has developed emission factors based on the mix of fossil-fueled generation plants, hydroelectric power generation, nuclear power generation, and alternative energy sources associated with the regional grid. Carbon dioxide emission estimates using the URBEMIS model also take into account emissions from other operational sources such as natural gas use for space heating. Table 4.16-2 shows that electricity and natural gas consumption associated with operation of the proposed project would generate an estimated 951 metric tons of carbon dioxide equivalents (CDE) annually.

**Table 4.16-1 Estimated Electricity Consumption**

Type of Use	Units	Electricity Demand Factor <sup>1</sup> (kWH/ksf/year)	Annual Electricity Demand (kWH/year)
Commercial	70 ksf	16,750	1,172,500
Residential	70 units	7,000	490,000
<b>Total</b>			<b>1,662,500</b>

ksf □ thousand square feet    kWH □ kilowatt hour  
<sup>1</sup> Source: CAPCOA, January 2008. CEQA and Climate Change.

**Table 4.16-2 Estimated Annual Emissions of Greenhouse Gases From Electricity and Natural Gas**

Source	Annual Emissions	
	Emissions	CDE
Carbon Dioxide (CO <sub>2</sub> )	1,047 tons (short, US)	950 metric tons
Methane (CH <sub>4</sub> ) <sup>2</sup>	0.0051 metric tons	0.1 metric tons
Nitrous Oxide (N <sub>2</sub> O)	0.0028 metric tons	1.0 metric tons
<b>Total</b>		<b>951 metric tons</b>

CDE □ carbon dioxide equivalents  
 Source:  
 Calculation Methodology per California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2, March 2007, page 30-35.  
 See Appendix D for GHG emission factor assumptions.

*Transportation Emissions.* Mobile source GHG emissions were estimated using the average daily trips estimate generated by the project traffic report and the total vehicle miles traveled estimated in URBEMIS 2007 (see Appendix D). The URBEMIS 2007 model estimates that approximately 12,502 daily VMT are associated with the project. Table 4.16-3 shows the estimated mobile emissions of GHGs that would result from project operation. As indicated, annual mobile emissions are estimated 3,196 metric tons.



**Table 4.16-3 Estimated Annual Mobile Emissions of Greenhouse Gases From Vehicle Trips**

Source	Annual Emissions	
	Emissions	CDE
Carbon Dioxide (CO <sub>2</sub> )	2,789 tons (short, US)	2,530 metric tons
Methane (CH <sub>4</sub> ) <sup>2</sup>	1.9 metric tons	44 metric tons
Nitrous Oxide (N <sub>2</sub> O)	2.1 metric tons	622 metric tons
	<b>Total</b>	<b>3,196 metric tons</b>

CDE □ carbon dioxide equivalents

Source:

<sup>1</sup>. Calculation Methodology per California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2, March 2007, page 30-35.  
 See Appendix D for GHG emission factor assumptions.

Combined Stationary and Mobile Source Emissions. Table 4.16-4 combines the operational and mobile GHG emissions associated with the proposed project, which total approximately 4,148 metric tons per year in carbon dioxide equivalency units. This total represents roughly 0.0004% of California's total 2004 emissions of 492 million metric tons. These emission projections indicate that about 23% of the project GHG emissions are associated with electricity usage, while the other 77% are associated with vehicular travel. Please note that as discussed above, the mobile emissions are in part a redirection of existing travel to other locations, and so are already a part of the total California GHG emissions.

**Table 4.16-4 Combined Annual Emissions of Greenhouse Gases**

Emission Source	Annual Emissions
Operational	951 metric tons CDE
Mobile	3,197 metric tons CDE
<b>Total</b>	<b>4,148 metric tons CDE</b>

CDE □ carbon dioxide equivalents

Sources: Operational Emissions from URBEMIS 2007 (version 9.2.4).  
 California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2, March 2007.

The Climate Action Team, established by Executive Order S-3-05 has recommended strategies (Table 4.16-5) to reduce GHG emissions to meet the goals of the Executive Order ([http://www.climatechange.ca.gov/climate\\_action\\_team/index.html](http://www.climatechange.ca.gov/climate_action_team/index.html)). Several of these actions are already required by California regulations. Project consistency with the Climate Action Team Strategies is discussed in Table 4.16-5.



**Table 4.16-5 Project Consistency with 2006 CAT (Climate Action Team) Report  
 Greenhouse Gas Emission Reduction Strategies**

<b>Strategy</b>	<b>Project Consistency</b>
<b>California Air Resources Board</b>	
<u>Vehicle Climate Change Standards</u> AB 143 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the ARB I September 2004.	<b>Consistent</b> The vehicles that travel to and from the Project site on public roadways would be in compliance with ARB vehicle standards that are in effect at the time of vehicle purchase.
<u>Diesel Anti-Idling</u> In July 2004, the ARB adopted a measure to limit diesel-fueled commercial motor vehicle idling	<b>Consistent</b> Current state law restricts diesel truck idling to five minutes or less. Diesel trucks operating from and making deliveries to the project site are subject to this state-wide law.
<u>Hydroflouorocarbon Reduction</u> 1) Ban retail sale of HFC in small cans. 2) Require that only low GWP refrigerants be used in new vehicular systems. 3) Adopt specifications for new commercial refrigeration. 4) Add refrigerant leak-tightness to the pass criteria for vehicular inspection and maintenance programs. 5) Enforce federal ban on releasing HFCs.	<b>Consistent</b> This strategy applies to consumer products. All applicable products would comply with the regulations that are in effect at the time of manufacture.
<u>Alternative Fuels: Biodiesel Blends</u> ARB would develop regulations to require the use of 1 to 4 percent biodiesel displacement of California diesel fuel.	<b>Consistent</b> The diesel vehicles that travel to and from the project site on public roadways could utilize this fuel once it is commercially available.
<u>Alternative Fuels: Ethanol</u> Increased use of E-85 fuel.	<b>Consistent</b> Employees and patron of the project site could purchase flex-fuel vehicles and utilize this fuel once it is commercially available in the region and local vicinity.
<u>Heavy-Duty Vehicle Emission Reduction Measures</u> Increased efficiency in the design of heavy duty vehicles and an education program for the heavy duty vehicle sector.	<b>Consistent</b> The heavy-duty vehicles that travel to and from the project site on public roadways would be subject to all applicable ARB efficiency standards that are in effect at the time of vehicle manufacture.
<u>Achieving 50% Statewide Recycling Goal</u> Achieving the State's 50% waste reduction mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48% has been achieved on a statewide basis. Therefore, a 2% additional reduction is needed.	<b>Consistent</b> The County of Los Angeles in 2005 attained a 49% recycling rate (2007 Los Angeles County Draft Preliminary Plan, pg. 181). The County of Los Angeles Board of Supervisors adopted the Construction and Demolition (C&D) Debris Recycling and Reuse Ordinance on January 4, 2005. The Ordinance added Chapter 20.87 to the Los Angeles County Code which requires projects in the unincorporated areas to recycle or reuse 50 percent of the debris generated. Its purpose is to increase the diversion of construction and demolition debris from disposal facilities and will assist the County in meeting the State of California's 50 percent waste reduction mandate. The County of Los Angeles Recycling Ordinance (90-0167) requires waste haulers to provide recycling services to all residents in the unincorporated areas of the County of Los Angeles.
<u>Zero Waste % High Recycling</u> Efforts to exceed the 50% goal would allow for additional reductions in climate change emissions	<b>Consistent</b> The Castaic Area Town Council website includes contact information for recycling service providers. In addition, the proposed project would comply with local construction and operational recycling ordinance requirements. Both commercial and residential components of the project would be serviced by recyclers. There is potential to exceed the 50% goal.



**Table 4.16-5 Project Consistency with 2006 CAT (Climate Action Team) Report  
 Greenhouse Gas Emission Reduction Strategies**

<b>Strategy</b>	<b>Project Consistency</b>
<b>Department of Forestry</b>	
<u>Urban Forestry</u> A new statewide goal of planting 5 million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.	<b>Consistent</b> The landscaping proposed for the project would include new trees throughout the site helping the state work towards its goal of 5 million trees in urban areas by 2020 (Land Use 4.15).
<b>Department of Water Resources</b>	
<u>Water Use Efficiency</u> Approximately 19 percent of all electricity, 30 percent of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute, and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions.	<b>Consistent</b> Consistent with Section 4.14 Water Service. The project is within the regional planning area for CLWA and the project's demand of 81.5 AFY would not exceed the projected available regional supplies and demands through the year 2030. Furthermore, the project implements interior, exterior, and xeriscaping standards that would ensure conservation measures are in place to minimize the project's impact on regional water sources.
<b>Energy Commission (CEC)</b>	
<u>Building Energy Efficiency Standards in Place and in Progress</u> Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and alterations to existing buildings).	<b>Consistent</b> The project requires construction compliance to Title 24 standards. This project is slated to be 20% more efficient than the energy usage requirements of Title 24.
<u>Appliance Energy Efficiency Standards in Place and in Progress</u> Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).	<b>Consistent</b> Under State law, appliances that are purchased for the project both pre- and post-development would be consistent with energy efficiency standards that are in effect at the time of manufacture.
<b>Business, Transportation and Housing</b>	
<u>Measures to Improve Transportation Energy Efficiency</u> Builds on current efforts to provide a framework for expanded and new initiatives including incentives, tools and information that advance cleaner transportation and reduce climate change emissions.	<b>Consistent</b> The proposed project would have readily available access to Interstate 5, which could reduce the lengths of regional vehicle trips. The project would also introduce office space adjacent to residential development.
<u>Smart Land Use and Intelligent Transportation Systems (ITS)</u> Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors.	<b>Consistent</b> The project locates new commercial office space uses at a location within the City of Castaic that is in close proximity to other residential areas. Proximity and access to the Interstate 5 would improve the commute time of employees of these new office spaces.

The proposed project includes design features and components that would reduce the project's contribution of GHG emissions. The following project characteristics and existing mitigation measures would further reduce this project's contribution to GHG production and GCC. Reductions as documented in the CAPCOA January 2008 whitepaper (Appendix D) are indicated in parenthesis following each measure.

- 1) Development of a pedestrian access network that would include sidewalks on all on-site streets providing unrestricted pedestrian circulation. (2% emissions reduction per MM T-5 of the CAPCOA mitigation measure summary, January 2008).



- 2) The location of Open Space, Parks, Residential Development, and Office Development all within ¼ mile of each other meets the standard required for designation as suburban mixed-use. (3% emissions reduction per MM D-10 of the CAPCOA mitigation measure summary, January 2008).
- 3) Exceedance of Title 24 standards by an additional 20% (5% emissions reduction). See MM AQ-2(a) in Section 4.6 *Air Quality* and emissions reduction quantification in Appendix D.

*Subtotal 10% reduction.*

Additional measures, not quantified in the CAPCOA paper, but still proposed by the applicant and contributing to overall sustainability include the following:

- Xeriscaping (Landscaped areas using vegetation that will eventually naturalize and require minimal irrigation) will reduce the necessary irrigation for Residential and Commercial landscaped areas, thereby reducing energy costs for transporting and applying water. See MM W-2(d) in Section 4.14 *Water Service*. Assumed reduction of 2%.
- Installation of water-less urinals (e.g. [www.FalconWaterFree.com](http://www.FalconWaterFree.com)) in all new construction. Assumed reduction of 2%
- Installation of low flow toilets in all new construction. Installation of water heating systems and pipe insulation in all new construction to reduce water used before the water reaches equipment or fixtures. Also, every lavatory will be required to have self-closing faucets. See MM W-2(a) in Section 4.14 *Water Service*. Assumed reduction of 3%.

*Subtotal 7% reduction.*

The proposed project incorporates design features that would reduce the project's contribution of GHG emissions by an estimated 17% as compared to business as usual conditions; however, this is less than the 33% reduction that is required for consistency with the 2020 provisions of AB 32. This is a significant but mitigable impact.

Mitigation Measures. The following mitigation measure is necessary to ensure that the proposed project does not contribute GHG emissions in excess of those allowed by the year 2020 under AB 32.

**GCC-1 Energy Conservation.** At a minimum, the project shall provide or incorporate the following GHG reduction measures.

- Provide a complimentary electric lawnmower to every residential buyer as well as exterior electrical outlets in the front and rear yards (1% emissions reduction). See MM B-19 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).



- The project shall utilize Energy Star Roof materials. (1% emissions reduction). See MM E-4 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).
- The project shall optimize each building's thermal distribution by separating ventilation and thermal conditioning systems. (5% emissions reduction). See MM E-9 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).
- Project orients about 50% or more of homes and/or buildings to face either north or south (within 30° of N/S). Building design includes roof overhangs that are sufficient to block the high summer sun, but not the lower winter sun, from penetrating south facing windows. Trees, other landscaping features and other buildings are sited in such a way as to maximize shade in the summer and maximize solar access to walls and windows in the winter. (2% emissions reduction). See MM E-7 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).
- Non-roof surfaces with shade, light-colored/high albedo materials (reflectance of at least 0.3) and/or open grid pavement for at least 30% of the site's non-roof impervious surfaces OR use an open-grid pavement system (less than 50% impervious) for a minimum of 50% of the parking lot area. Such mitigation measures would reduce urban heat island effect. (1% emissions reduction). See MM E-8 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).
- Traffic calming measures including roadways designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips. (1% emissions reduction). See MM T-5 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).
- Electric Vehicle charging facilities with preferential parking for each of the commercial buildings. See MM E-11 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 1%.
- Using light colored paving to increase the project's albedo effect and create emissions reductions from energy savings stemming from less need for cooling. See MM E-12 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 1%.
- Solar water heaters to provide a 20-70% reduction in water heating energy costs. See MM E-14 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 1%.
- Certified energy efficient appliances, e.g. Energy Star, to be used throughout the project to provide emissions reductions. See MM E-16 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 2%.
- Use locally made building materials for construction of the project and the associated infrastructure. This would reduce emissions by limiting the length of transport of building materials. See MM C-3 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 1%.



*Subtotal 17% reduction.*

Existing project components and mitigation measures amount to a total emissions reduction of 17%. Mitigation measure GCC-1 would add an additional 17% reduction in GHG emissions. Therefore, the project would exceed the AB 32 2020 required 33% reduction.

Significance After Mitigation. The California Air Pollution Control Officer's (CAPCOA) guidance document for calculating emissions reductions based on individual mitigations is included within the Global Climate Change Appendix near the end of Appendix D. As indicated in the CAPCOA table (labeled Table 16), emissions reductions scores are based on guidance from sources such as the South Coast Air Quality Management District (SCAQMD) and the Center for Clean Air Policy (CCAP), using the lower end of the credit as applicable to apply an extra layer of conservatism. With implementation of mitigation measure GCC-1, the proposed project would have a less than significant impact with respect to climate change. No additional mitigation is required.



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## 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 project includes 70 residential units and 70,000 square feet of office space. Based on a household size of 3.21 persons per household for the Santa Clarita Valley area, the 70 proposed new residential units would generate 225 new residents to the area. Both short and long term employment opportunities are anticipated. Short-term employment would be associated with project construction and it is estimated that the project would involve about 260 short-term construction jobs over approximately a 12 to 20 month land development and housing construction period.

Long-term employment would be associated with the business / professional office buildings. It is anticipated that the commercial office component of the project would generate about 1 employee per 300 square feet of building area. Based on this factor, the proposed 70,000 square feet of new office park development would generate about 233 new jobs. Although some of the housing would likely be filled by current residents of the Santa Clarita Valley, the new housing would also result in people relocating to the area. In this way, the project would generate population growth in the area. A majority of the construction and long term employment would be expected to be filled by the current employment base in the area, however, the new employment would also be expected to generate a small increase in local population.

Within the Santa Clarita Valley residential development has outweighed job development in the recent past, and many people who live in the Santa Clarita Valley commute to the greater Los Angeles area and San Fernando Valley for work. The proposed mixed-use project would contribute three times more jobs than housing, but is generally located in an area that is housing rich. In this regard, the project would help to achieve a balance of housing and jobs within the area. As such the proposed project is not expected to adversely affect jobs / housing balance in the area.

Growth within the region is estimated to be 4.6% annually (County of Los Angeles Public Works Department, Traffic and Lighting) over the next three years. Pending cumulative development within a five-mile radius of the project area consists of 80,000 residential units, which is expected to result in a population increase of about 248,000. It also includes about 5,700,000 sf of commercial (about 19,000 new jobs), and 29,500,000 sf of industrial development (about 58,950 new jobs). With full buildout of the cumulative development the pending development would generate about one new job for every housing unit. Based on a typical job housing ratio goal of 1-1.5:1, the cumulative development would be somewhat housing rich but would not be grossly out of balance.



### **5.1.2 Removal of Obstacles to Growth**

The proposed project would involve the introduction of 70 residential units and 70,000 square feet of office space in an area that is currently served by water, sewer, telephone, cable TV, natural gas, and electrical infrastructure. Relatively minor extensions would be required to connect the project to the existing utility and service infrastructure. In addition, while a new access onto The Old Road and internal roadway network would be developed to serve the project, the project would not result in any major road improvements that would provide excess capacity or otherwise remove an obstacle to growth.

### **5.1.3 Precedent Setting Potential**

The proposed project involves a mix of commercial and residential development with three open space lots preserving the highest points of the onsite topography on a 47.25 acre site. Similar development is already occurring throughout the Castaic and Santa Clarita Valley area. Therefore, the project would not set a precedent for development. In contrast, the project would continue the land use development pattern that has been planned for the area as established by both the Los Angeles County General Plan, the Santa Clarita Valley Area 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.

Development of the project site would permanently alter the project site from a relatively natural state (stabilized naturalized disturbed area) and convert it to a relatively urban use (except for open space areas). Project development would thus remove portions of native biological habitat onsite. 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 proposed 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 onsite, which would effectively 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 onsite.



The addition of 70 residences and 70,000 square feet of office 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 233 jobs and 225 residents that would be generated at the project site would result in increased traffic and additional air emissions that would incrementally further the degradation of local air quality. The project's construction related impact to regional air quality has been identified as unavoidably significant based upon South Coast Air Quality Management District significance thresholds. The project's construction-related noise impact on adjacent sensitive receptors is also unavoidably significant based upon Los Angeles County Noise Ordinance thresholds. However, it should be noted that these impacts are temporary, and that long term noise and air quality impacts were not determined to be significant as a result of implementing this project.

Due to the large amount of cumulative growth in the Castaic and Santa Clarita Valley area, it was determined that cumulative demand for public services (some of which are mitigated through payment of fees) such as schools and sheriff, water and sewer service (service capacity increases through approved supplemental programs and planned expansions) may experience shortages if supplemental resources are not developed to keep pace with construction of approved development. However, these resources have approved expansion programs in place that are designed to increase resource availability as demand increases; therefore the cumulative impacts are not significant.

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 adverse impacts if the project is approved. These unavoidably significant impacts include the following:

- Air Quality (short-term impacts during construction);
- Noise (short-term construction impacts);
- Removal of portions of native biological habitat (cumulative impact);
- Irreversible damage of proposed development due to the conversion of land that is in a relatively natural state (stabilized naturalized disturbed area) to a relatively urban use (irreversible impact).



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## 6.0 ALTERNATIVES

As required by Section 15126(d) of the *State CEQA Guidelines*, this section of the EIR examines a reasonable range of alternatives to the proposed project that could feasibly achieve similar project development objectives. The discussion focuses on alternatives that may be capable of reducing the adverse impacts associated with the proposed project, including the CEQA-required “no project” alternative. Studied alternatives include:

- Alternative 1: No Project – No development
- Alternative 2: All Commercial/Industrial Alternative
- Alternative 3: All Residential Alternative
- Alternative 4: Buildout Under Existing Zoning
- Alternative 5: Buildout Under Existing Santa Clarita Valley Area Plan (SCVAP) Land Use Designations

Table 6-1 provides a summary comparison of the alternatives. Each of these alternatives is described in greater detail and analyzed below.

**Table 6-1 Comparison of Development Potential Under the Project and the Alternatives**

Land Use	Alternatives					
	Proposed Project	Alt 1 No Project	Alt 2 All Commercial/Industrial <sup>a</sup>	Alt 3 All Residential <sup>b</sup>	Alt 4 Existing Zoning <sup>c</sup>	Alt 5 Existing SCVAP Land Use <sup>d</sup>
Residential	70 single-family units	None	None	111 single/multi-family units	23 single family ranchette	88 residential units
Industrial Commercial	70,000 sf office	None	571,420 sf	None	None	166,486 sf of industrial
Neighborhood Park	4.11acre	None	4.11acre	4.11acre	None	4.11acre
Reserved Open Space	30.86acres	None	30.86	30.86	None	<30.86
<b>Total</b>	<b>47.25 acres</b>	<b>47.25 acres</b>	<b>47.25 acres</b>	<b>47.25 acres</b>	<b>47.25 acres</b>	<b>47.25 acres</b>

<sup>a</sup> Assumes generally no development in Hillside Management area, maximum lot coverage (70%) and two stories in all other designations

<sup>b</sup> Assumes 2.73 acres M zone converted to residential density allowance of 6.7-15 units/acre (SCVAP consistent with U3 SCVAP density (M site is relatively flat and at lowest elevation))

<sup>c</sup> Assumes entire project site is built out with two acre ranchettes pursuant to the LACZO A-2-2 designation

<sup>d</sup> Assumes project site is built out pursuant to maximum densities allowed under the SCVAP Land Use designations as shown in Table 4.15-1.



## **6.1 ALTERNATIVE 1: No Project - No Development**

This alternative assumes that the project is not constructed, and that the site remains in its current condition. Existing land use classifications and zoning would still allow for future urban development on the property. 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 an Oak Tree Permit, a Conditional Use Permit for development within the Hillside Management Area, or a Zone Change for development under RPD2-51.9U and M-1 rather than A-2-2 (Heavy Agriculture). Because there would be no new development at this time, this alternative would eliminate the potential for land use compatibility conflicts in the short term. With no new development there would be no environmental impacts concerning land use or planning issues.

### **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 geologic hazards. Because no grading would occur, there would be no increase in or additional exposure to ground rupture, ground shaking or slope stability hazards. Although the proposed project's impacts are considered mitigable, this alternative would have no impact with respect to geologic and seismic issues.

### **6.1.3 Flood Hazard**

The project area is composed of several steep slopes, which currently drain onto adjacent properties at rapid rates. This condition would continue under this alternative. While implementation of this alternative would not result in significant flood hazard impacts, development of the proposed project would reduce runoff to adjacent properties.

### **6.1.4 Fire Hazard**

The project site is located within a Very High Fire Hazard Severity Zone. Under this alternative, no new structures or ignition sources would be added to the project site and the overall potential for wildfire hazard would be reduced compared to the proposed project.

### **6.1.5 Noise Hazard**

The No Project alternative would not result in construction and operational noise impacts and would eliminate the projects significant and unavoidable construction related impacts and significant but mitigable operational impacts.



### **6.1.6 Water Quality**

With respect to water quality, the No Project alternative may have a greater impact than the proposed project because the project area currently contributes more runoff than would be produced under the proposed project. During the record rains of 2004/2005 the project area contributed substantially to offsite deposition of alluvium to the east and south, which necessitated heavy equipment cleanup. Development of the site under the proposed project would increase the level terrain within the project area, and would result in controlled drainage over manufactured vegetated slopes, thereby reducing project runoff. Implementation of the project has the potential to increase sedimentation in the short-term during construction when substantial amounts of bare ground are exposed and would increase concentrations of urban pollutants in area surface waters in the long-term. However, development of the site would require implementation of a stormwater pollution prevention plan during construction and National Pollution Discharge Elimination System (NPDES) requirements for operational activities. Therefore, development of the site would reduce the project's impact when compared with leaving the site in an undeveloped state.

### **6.1.7 Air Quality**

This alternative would not introduce any new air pollutant sources in the short term or the long term. This alternative would eliminate the Class I unavoidable adverse impacts of the project associated with air pollutant emissions exceeding South Coast Air Quality Management District significance thresholds during construction. This alternative would not cause any air quality impacts.

### **6.1.8 Biota**

Wildlife and plant populations would remain at their existing levels under this alternative. This alternative would avoid project related Class II impacts to sensitive habitat, oak trees, and special status species. Therefore, the No Project Alternative's impact would be lower than expected under the proposed project.

### **6.1.9 Archaeological/Historical**

No archaeological or historical resources were observed at the project site. Therefore, similar to the proposed project, this alternative would be expected to have less than significant impacts on cultural resources. By eliminating onsite grading, this alternative would avoid the potential to encounter previously undetected cultural resources. This impact was determined to be potentially significant but mitigable for the proposed project.

### **6.1.10 Visual Qualities**

The No Project alternative would have no impact on viewsheds and ridgelines, light and glare, or consistency with local plans or policies that are intended to guide hillside development and protect the rural character of the community. This alternative would avoid Class II and III impacts that are inherent to urban development of the site.



### **6.1.11 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 1,698 daily vehicle trips, but its effects can be reduced to less than significant with the incorporation of mitigation described herein. The No Project Alternative would not require any traffic or circulation mitigation.

### **6.1.12 Waste Disposal**

The No Project Alternative would not generate any new demand for waste disposal, wastewater disposal or treatment systems and would not require annexation of the site into the Santa Clarita Valley Sanitation District (a consolidation of Districts Nos. 26 and 32) or into the Consolidated Sewer Maintenance District service area. With respect to solid waste, the No Project Alternative would not involve any generation and would thus be superior to the proposed project.

### **6.1.13 Education**

The No Project Alternative would not generate students and would not generate a new demand for educational or library services. Thus, although the proposed project would not create significant or unmitigable impacts related to education, this alternative would have less impact, as it involves no new development.

### **6.1.14 Public Services**

The No Project alternative would not generate traffic or commercial or residential uses that would contribute to increase demand for law enforcement or fire protection services. Although project related impacts to public services would be effectively mitigated, this alternative would have less overall impact on these services since it would not result in any increase demands. Because the No Project Alternative does not involve any new development, it would not contribute to the impact fee programs that are in place to mitigate public service impacts.

### **6.1.15 Water Service**

The No Project Alternative would not create any additional demand for water service and would not require annexation into the Newhall County Water District service area. Although project related impacts to water service could be mitigated to less than significant, this alternative would avoid impacts by eliminating, at least over the short term, the increased demand for service.

### **6.1.16 Global Climate Change**

The No Project Alternative would not have any impacts with respect to global climate change and would be superior to the proposed project.



## **6.2 ALTERNATIVE 2: All Commercial/Industrial Development**

Under this alternative the project site would develop as all commercial/industrial to avoid potential incompatibilities associated with mixed-use development and the residential component of the project. This scenario assumes that no development would occur within the majority of the Hillside Management area, except for access roads, and that 70% lot coverage would occur over the balance of the site. Under these assumptions, this alternative would result in about 570,000 square feet of commercial industrial development. Unlike the proposed project, which balances the grading on site, this alternative may require exporting of cut material offsite.

### **6.2.1 Land Use and Planning**

The existing Santa Clarita Valley Area Plan (SCVAP) land use designations on the project site are U1, U2 and U3, Hillside management (1/4 mile Urban) and M (refer to Figure 4.15-1). These uses translate to a mix of residential and industrial development. Development of all commercial/industrial uses on the site would result in an inconsistency with existing land use policy and would require an amendment to the Santa Clarita Valley Area Plan.

An all commercial/industrial scenario would be compatible with the existing building supply yard business located along the eastern boundary of the property; however, could be incompatible with existing residential uses located north, northwest, south and west of the property. In this regard, this scenario would result in similar potentially adverse land use compatibility issues as identified for the proposed project. Elimination of the residential component, while inconsistent with the current General Plan land use designation, would eliminate noise impacts due to vehicle generated noise on I-5.

### **6.2.2 Geology**

Similar to the proposed project, seismic effects would occur with implementation of the all commercial/industrial scenario because the development would still result in the development of structures in areas subject to ground rupture and ground shaking. The all commercial/industrial scenario would have lesser impacts associated with these hazards because the structures would not be designed for human habitation. Impacts would be classified significant but mitigable.

Similar grading, topographic modification, and slope stability hazards would occur under the all commercial/ industrial scenario and it is anticipated that substantial grading would be necessary to effectively implement this alternative. Grading and slope stability impacts would be the same as under the proposed project (Class II, significant but mitigable).

### **6.2.3 Flood Hazard**

The project site is composed of several steep slopes which currently drain onto adjacent properties at rapid rates and the project's post developed condition results in reduced runoff to adjacent properties. An increased amount of discharge is conveyed through the existing 7' x 3'



reinforced concrete box, which crosses under The Old Road and discharges on the eastern side of I-5 into an existing natural drainage channel. Development under the all commercial/industrial scenario would be expected to concentrate development within the lower and flattest portions of the property. This alternative would increase runoff due to an increase in impermeable surface but, similar to the proposed project, would likely reduce runoff velocities due to slope modifications and onsite drainage modifications. Compared to the proposed project, this alternative would result in higher runoff velocities because the steepest areas of the site would remain undeveloped in their current state. However, this alternative would be required to design facilities in accordance with Los Angeles County Ordinances and the overall impact of this alternative would be about the same as that for the proposed project.

#### **6.2.4 Fire Hazard**

The fire hazard impacts under the all commercial/industrial scenario would be essentially the same as the proposed project because additional structures would be placed within a Very High Fire Hazard Severity Zone. Similar to the proposed project, these impacts can be mitigated to a level that is less than significant. As with the proposed project, this alternative would also facilitate access by the Fire Department in the event of a wildfire emergency.

#### **6.2.5 Noise Hazard**

Construction noise would still place heavy equipment within 60 feet of a sensitive receptor under the all commercial/industrial scenario. Similar to the proposed project, this would result in a Class I unavoidably significant impact.

Operational noise impacts under an all commercial/industrial project would reduce the effects of I-5 on sensitive receptors by eliminating the noise sensitive residential use. However, this alternative would be expected to increase onsite noise generation due to increased truck traffic and other operational noise such as loading and unloading. This increased onsite noise generation could result in compatibility conflicts with existing and approved residential development that adjoins the property. However, with appropriate buffers and limitations on the timing of loud noise generating activities, these compatibility impacts could be reduced to less than significant. Overall this alternative would be slightly preferable to the proposed project from a noise perspective, however under either scenario, operational noise levels would be expected to be reduced to less than significant.

#### **6.2.6 Water Quality**

With respect to water quality, the all commercial/industrial development would have similar impacts as the proposed project. Both this alternative and the 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. Compliance with National Pollution Discharge Elimination System (NPDES) requirements would reduce project water quality impacts to a less than significant level.



### **6.2.7 Air Quality**

The all commercial/industrial alternative would have similar air quality impacts as the proposed project and, similar to the project, would likely result in Class I, significant and unavoidable, construction impacts due to the amount of grading that is necessary for development at this site. Urbemis screening of a 565,000 sf commercial/industrial development suggested that carbon monoxide (CO) thresholds would be exceeded under this alternative. However, the projected exceedance was not substantial and is likely mitigable. Therefore, the air quality impacts associated with this alternative are roughly the same as the proposed project.

### **6.2.8 Biota**

Under the commercial industrial alternative, it is assumed that development would be primarily concentrated outside of the hillside management area and that development within this area would be primarily limited to emergency access. Therefore the all commercial/industrial alternative could have a lesser impact on biological resources than the proposed project, because it is presumed that the majority of the Hillside Management area would remain undisturbed. However, industrial development in the U1, U2, U3 and M areas would still require removal of oak trees, and pre-construction surveys for special status species. This would be a Class II, *significant but mitigable* impact, the same as would occur with implementation of the proposed project.

### **6.2.9 Archaeological/Historical**

No archaeological or historical resources were observed at the project site. Nevertheless, there is potential for previously undetected cultural resources to be discovered and impacted during site grading. Similar to the proposed project, these potential impacts are mitigable. Therefore, this alternative has the same potential for adverse impacts as the proposed project.

### **6.2.10 Visual Qualities**

Under this alternative, it is assumed that development would be mostly concentrated within the eastern part of the project site, which is closer to the traffic corridor. Therefore, the views of the project site from public viewing areas would likely be essentially the same as those under the proposed project.

Similar to the proposed project, this alternative would also contribute to increased light and glare. These effects would be mitigable with the implementation of measures similar to those applied to the proposed project.

Consistency with the Community Standards District and Hillside Management Area Plan (HMA) and Hillside Design Guidelines would depend upon specific design plans for an all commercial industrial alternative. For instance, development that is within 50 feet of the crest of the designated Primary Significant Ridgeline would be inconsistent with the provisions of the CSD and would be considered significant impact. However, if designed to be consistent with



the CSD and HMA plan / guidelines, these impacts would be similar to those described for the proposed project.

### **6.2.11 Transportation and Circulation**

An all commercial/industrial development would generate about 3,967 ADT (based on a trip rate of 6.96 (Urbemis default)), which would be more than twice as much as the proposed project (1,698 ADT). Therefore, this alternative would result in a greater impact than the proposed project. However, similar to the proposed project, traffic impacts would be mitigable through payment of fees to fund future roadway and circulation system improvement projects.

### **6.2.12 Waste Disposal**

The proposed project would generate 0.134 cfs of wastewater during peak conditions. The all commercial/industrial alternative would be expected to generate a little more than twice as much based on standard generation rates for residential and commercial/industrial uses. Therefore while an all commercial/industrial alternative would have a greater impact than the proposed project, the alternative would not generate wastewater in excess of projected treatment capacity (9.3 MGD of remaining capacity at the Saugus and Valencia reclamation plants). Similar to the proposed project, the impact of this alternative would be considered Class III, less than significant.

With respect to solid waste, an all commercial/industrial alternative could have the potential to generate additional hazardous waste, depending on the type of business, and would likely generate more solid waste. Existing ordinances and programs require waste to be recycled and properly disposed of, the same as with the proposed project. The impacts would be the same as with the proposed project Class II, significant but mitigable.

### **6.2.13 Education**

The proposed project would generate a total of 63 students, with 45 projected to attend Castaic Union School District (grades K-8) and 18 projected to attend Hart Union School District. The all commercial/industrial alternative would not directly generate students. It would be expected to result in indirect impacts on schools due to relocation of residents to fill job opportunities; however this impact is expected to be less than significant with the payment of school impact fees, as appropriate.

### **6.2.14 Public Services**

The proposed project would generate demand for law enforcement and fire protection service, primarily due to traffic impacts and new development. Public services demand for the all commercial/industrial alternative would be similar to that described for the proposed project. Impacts for CHP services would be expected to be slightly greater because they are closely related to ADT generation, which would increase under this alternative. However, the resultant impacts to public services are considered Class II, significant but mitigable.



### **6.2.15 Water Service**

The proposed project would require annexation into the Newhall County Water District service area and would generate demand for 63 acre-feet/year (afy), and the proposed commercial component would generate demand for 11.8 AFY (74.8afy total). Assuming that water service increases proportionately with wastewater service, the all commercial/industrial alternative would generate 2.5 times more water demand than the proposed project and would result in a demand of 203 acre-feet/year. NCWD concludes that regional supplies including planned improvements are adequate to serve the regional growth in normal, single dry and multiple dry years through the year 2030. Therefore, similar to the proposed project, impacts of this alternative on water service are considered Class III, *less than significant*.

### **6.2.16 Global Climate Change**

The all commercial/industrial development would generate about twice as much traffic as the proposed project and would likewise generate more carbon dioxide (CO<sub>2</sub>). This alternative would generate about 8,000 metric tons of CO<sub>2</sub>, which is a little less than two times the amount contributed by the project. However, the same as the proposed project, the impact would be Class II, significant but mitigable with incorporation of greenhouse gas reductions strategies.

## **6.3 ALTERNATIVE 3: All Residential Development**

Under this alternative the project would develop as an all-residential project, which would potentially avoid incompatibilities associated with the mix of uses on site and the mix of uses surrounding the site. This alternative assumes maximum development of the 2.73-acre M-designated site with a density equivalent to the U-3 density of 15 units/acre in addition to development of the remainder of the site as 70 Single Family House units. The result would be 111 residential units consisting of a mix of multifamily and single family units.

### **6.3.1 Land Use and Planning**

The existing SCVAP land use designations are U1, U2 and U3, Hillside Management (1/4 mile Urban) and M (refer to Figure 4.15-1). Development of the all-residential alternative would require a General Plan Amendment to change the existing land use designation from M (Industrial) to a designation that allows residential use.

An all residential alternative would be generally consistent with the existing residential development north, northwest, south and west of the property but would likely result in greater potential for land use conflicts related to the adjoining building supply yard commercial / industrial business and the heavily traveled I-5. However, with the mitigation measures identified herein, together with other site specific measures incorporated into design, these impacts could be mitigated to a level that is less than significant. Overall, while similar to the proposed project, this alternative is less desirable than the proposed project as it would involve a change in the site's General Plan land use designation.



### **6.3.2 Geology**

Similar to the proposed project, seismic effects would occur with implementation of the all residential scenario because the development would still place residences and structures in areas subject to ground rupture and ground shaking.

Similar grading, topographic modification, and slope stability hazards would occur under the all residential due to the amount of grading that would be required. Therefore grading and slope stability hazards for the all-residential alternative would be roughly the same as those described for the proposed project (Class II, significant but mitigable).

### **6.3.3 Flood Hazard**

The project site is composed of several steep slopes which currently drain onto adjacent properties at rapid rates and the project's post developed condition results in reduced runoff to adjacent properties. An increased amount of discharge is conveyed through the existing 7' x 3' reinforced concrete box, which crosses under The Old Road and discharges on the eastern side of I-5 into an existing natural drainage channel. Development under the all-residential alternative, which allows more development within the Hillside Management area, would be required to incorporate many of the same design features as the proposed project, thereby resulting in reduced discharge to adjacent properties and may likewise result in increased discharge through the 7' x 3' reinforced concrete box culvert that crosses beneath The Old Road and discharges east of I-5. However, this alternative would be required to design facilities in accordance with Los Angeles County Ordinances and the overall impact of this alternative would be about the same as that for the proposed project.

### **6.3.4 Fire Hazard**

The fire hazard under the all-residential alternative would be about the same as the proposed project because, additional structures would be placed within a Very High Fire Hazard Severity Zone. As with the proposed project, this impact can be mitigated with the mitigation measures identified herein. Similar to the proposed project, this alternative would also improve access for the Fire Department in the event that there is a wildfire emergency.

### **6.3.5 Noise Hazard**

Similar to the proposed project, the all-residential alternative would generate construction noise within 60 feet of a sensitive receptor. This short-term noise impact would exceed recognized noise impact thresholds and would thereby result in a Class I unavoidably significant impact.

This alternative would result in greater long-term noise impacts because residential structures would be placed closer to I-5, which is the major noise source noise in the area. The noise levels adjacent the eastern project boundary adjacent The Old Road and I-5 (78 dBA CNEL) are within the Normally Unacceptable range; however, construction of an all residential alternative would be viable with incorporation of mitigation measures such as a sound barrier wall and interior design features that include air conditioning/mechanical ventilation, solid core doors, double



paned windows. Similar to the proposed project, long term noise impacts would be considered a Class II, significant but mitigable impact.

### **6.3.6 Water Quality**

The all-residential alternative would have similar water quality impacts as the proposed project. All development alternatives would increase sedimentation in the short-term during construction and would increase concentrations of urban pollutants in area surface waters in the long-term. Compliance with National Pollution Discharge Elimination System (NPDES) requirements would reduce all projects' water quality impacts to a less than significant level.

### **6.3.7 Air Quality**

The all residential alternative would also have similar air quality impacts as the proposed project and would likely result in Class I, unavoidably significant construction impacts due to the substantial grading that is necessary for development at this site. Urbemis screening for a 111 unit residential development did not exceed operational thresholds. Therefore, the long-term air quality impacts associated with the all-residential alternative are considered to be Class III, less than significant.

### **6.3.8 Biota**

Under this alternative, similar impacts would occur as with those of the proposed project. However, it is anticipated that less open space would be preserved under this alternative because additional acreage would be required to support the 40 additional homes. While this impact would be expected to be somewhat greater than described for the proposed project, the resultant impacts would be expected to be mitigable using the same mitigation measures identified for the proposed project.

### **6.3.9 Archaeological/Historical**

No archaeological or historical resources were observed at the project site. Nevertheless, there is potential for previously undetected cultural resources to be discovered and impacted during site grading. Similar to the proposed project, these potential impacts are mitigable. Therefore, this alternative has the same potential for adverse impacts as the proposed project.

### **6.3.10 Visual Qualities**

Under this alternative, it is presumed that development would occur within approximately the same areas as the proposed project, except that the industrial (M) designated land use, adjacent to the traffic corridor (see Figure 2-6), would be re-designated for residential use. The visual impact would likely be Class III, less than significant with adherence to Castaic Area Community Standards District (CSD) requirements, the same as for the proposed project. Similar to the proposed project, this alternative would increase light and glare, over current conditions. This impact would be mitigable through implementation of measures identified for the proposed project.



Consistency with the CSD and Hillside Management Area Plan guidelines would depend upon specific design plans for an all-residential alternative. Development that is within 50 feet of the designated Primary Significant Ridgeline would be inconsistent with the provisions of the CSD and would be considered significant impact. However, if designed to be consistent with the CSD and HMA guidelines, these impacts would be similar to those described for the proposed project.

### **6.3.11 Transportation and Circulation**

The all-residential alternative would generate approximately 636 fewer trips (total of 1,062 trips) than the proposed mixed-use project, which generates 1,698 ADT (based on trip generation rates provided by the traffic consultant). Therefore, the all-residential alternative would result in a lower impact, but would still require mitigation in terms of project design and impact fees.

### **6.3.12 Waste Disposal**

The proposed project would generate 0.134 cfs of wastewater during peak conditions. The all-residential alternative would generate approximately 40% less wastewater based on standard generation rates for residential and commercial/industrial use. Therefore an all-residential alternative would have a lesser impact than the proposed project. Similar to the proposed project, the impact of this alternative would be less than significant.

With respect to solid waste, all residential alternatives would have similar impacts as compared with the proposed project (70,000 square feet of professional office use and 70 residential units). The lack of commercial/industrial use could have reduced potential for solid waste/hazardous waste depending on the type of businesses located within an M-1 industrial designated zone. Nevertheless, the impacts would still be Class II, significant but mitigable, the same as with the proposed project.

### **6.3.13 Education**

The proposed project would generate a total of 63 students, with 45 projected to attend Castaic Union School District (grades K-8) and 18 projected to attend Hart Union School District. The all-residential alternative would generate about 100 students with 72 projected to attend Castaic Union School District and 28 projected to attend Hart Union School District. Impacts resulting from this alternative could be mitigated through payment of education fees. Thus the impacts associated with this alternative would be the same as the proposed project, Class II, significant but mitigable.

### **6.3.14 Public Services**

The proposed project would generate demand for law enforcement and fire protection service, primarily due to traffic impacts and residential development. The all-residential alternative would generate 41 more residences, and thus would require slightly more law enforcement and fire protection service. However, based on 3.1 persons per household (Castaic Town Council



Website) the increase is not substantial enough to trigger the need for a new staff member [1000 residents (Captain Patti A. Minutello, Santa Clarita Valley Station, 5/5/2005)] or new facility. Similar to the proposed project, the impact of this alternative on public services would be Class II, significant but mitigable.

### **6.3.15 Water Service**

The proposed project would require annexation into the Newhall County Water District service area and would generate demand for 63 acre-feet/year (afy), while the proposed commercial component would generate demand for 11.8 afy (74.8 afy total). Assuming that water service decreases proportionately to sewer service, the all-residential alternative would generate a water demand equivalent to about 40% less than that of the proposed project. NCWD concludes that regional supplies including planned improvements are adequate to serve the regional growth in normal, single dry and multiple dry years through the year 2030. Therefore, similar to the proposed project the impact of this alternative on water supply is considered Class III, less than significant.

### **6.3.16 Global Climate Change**

The all residential development (111 dwelling units) would generate less traffic than the proposed project, and would likewise generate less carbon dioxide (CO<sub>2</sub>). This alternative would generate about 3,000 metric tons of CO<sub>2</sub>, which about 25% less than the amount contributed by the project. However, the same as the proposed project, the impact would be Class II, significant but mitigable with incorporation of greenhouse gas reductions strategies.

## **6.4 ALTERNATIVE 4: Buildout under Existing Zoning**

Under this alternative the project would develop under the existing Los Angeles County Heavy Agricultural zoning (A-2-2). The Los Angeles County Zoning Ordinance designates the site as Heavy Agriculture A-2-2, having a minimum lot size of two acres. Therefore, based on a minimum lot size of two acres, the 47.25 acre project site would accommodate 23 (23.625) residential lots. Access to each of the lots would depend on the layout of the project, but it is reasonable to conclude that some of lots could be accessed by a central access road, off of which private drives extend to individual residences. In addition, it would make sense to provide direct access to some lots from The Old Road, if the lots are in closer proximity to The Old Road as compared with a main access road. No open space or park would be included as part of this alternative.

The two-acre parcels would essentially cover the entire site. The required grading and the infrastructure including the roadwork, storm drains, storm drain structures and sewer lines that would be needed for this alternative, would be similar to those required for the proposed project, but would be sized based on 23 residences and installed in accordance with project access.



### **6.4.1 Land Use and Planning**

The proposed project would be consistent with the Los Angeles County Zoning Ordinance, which designates the site as agricultural, allowing residential development with two-acre minimum lot sizes. However, the existing Santa Clarita Valley Area Plan (SCVAP) land use designations of U1, U2 and U3, Hillside Management (HM 1/4 mile Urban) and M (refer to Figure 2-6), are not entirely compatible with the A-2-2 designation. The A-2-2 zoning designation implements the Los Angeles County General Plan designation of non-urban low and medium density residential. The A-2-2 designations were applied broadly within the context of viewing the entire Los Angeles County region and were applied to this site prior to the adoption of the SCVAP, which applies designations within the Santa Clarita Valley area based on the vision for that area specifically.

The SCVAP was adopted in 1990 and encourages greater urbanization through the U1, U2, U3 and M designations, which now supersede the Los Angeles County General Plan designation of non-urban low and medium density residential. The HM 1/4 mile Urban directs to specialized levels of intensity due to the variable slopes of the onsite topography. The A-2-2 designation does not fully implement the vision of the SCVAP because of the SCVAP more closely matches the intensities that would be suitable given the topographical complexities of the site. Therefore, development of the site with (23) two-acre home sites under the A-2-2 designation is less compatible with the SCVAP as compared with the proposed project. In addition, development of the existing zoning alternative would require a General Plan amendment to allow among other items changes of the existing land use designations, from M (Industrial) and steeper areas of the Hillside Management areas to a designation that allows residential use.

The existing zoning alternative could result in ranchette type development, which would not be consistent with the existing higher density developments to the north (condos; Tract 34365), northwest (mobile home park), and approved to the south (residential Tract 46798), while it would be more compatible with the west-side land use, which currently has a single residence on a large parcel. The two-acre ranchette type development could also create compatibility conflicts with the existing industrial development to the east in combination with the traffic corridor of the I-5.

Other potential compatibility conflicts could arise from agricultural uses that are permitted under the A-2-2 designation, as this designation allows for crops (field, tree, bush, berry, row and nursery stock), greenhouses and raising of cattle, horses, sheep, goats, poultry, birds, earthworms, etc. Farming operations that involve animals could create odors and noises that might be disturbing to the higher density residential developments north and northwest of the site and planned for construction south of the site.

The existing zoning designation of Heavy Agricultural use, which pre-dates the SCVAP land-use designations, is based on the dominant types of uses in the wider Los Angeles County region in an earlier time. The SCVAP designated land uses for this site are compatible with the existing and projected adjacent land uses in the vicinity of the project area. The SCVAP focuses the vision for future development as applicable to the Santa Clarita Valley specifically. Therefore, this alternative is inferior to the proposed project because it does not fulfill the vision



and guidance provided within the SCVAP.

### **6.4.2 Geology**

Similar to the proposed project, seismic effects would occur with implementation of the existing zoning scenario because the development would still place residences and structures in areas subject to ground rupture and ground shaking.

Similar grading pattern, topographic modification, and slope stability hazards would occur under the existing zoning scenario due to the amount of grading that would be required to build the access road and create buildable pads. Therefore grading and slope stability hazards for the existing zoning alternative would be roughly the same as those described for the proposed project (Class II, *significant but mitigable*).

### **6.4.3 Flood Hazard**

The project site is composed of several steep slopes which currently drain onto adjacent properties at rapid rates and the project's post developed condition results in reduced runoff to adjacent properties. An increased amount of discharge is conveyed through the existing 7' x 3' reinforced concrete box, which crosses under The Old Road and discharges on the eastern side of I-5 into an existing natural drainage channel. Development under the existing zoning alternative would sprawl the homes and access routes throughout the site, rather than clustering homes as would occur with the proposed project. This alternative would provide less impervious surface from homes and elimination of commercial, but would require additional driveways to access each of the two-acre home sites. The Drainage Concept for this alternative would be similar to that of the proposed project, and this alternative would be required to design facilities in accordance with Los Angeles County Ordinances and the overall impact of this alternative would be about the same as that for the proposed project.

### **6.4.4 Fire Hazard**

The fire hazard under the existing zoning alternative would be similar to the proposed project, but fewer residences would be constructed. Nevertheless, structures would be placed within a Very High Fire Hazard Severity Zone. In addition, the private driveways would be required to incorporate turnout areas to comply with Fire Department requirements to assure adequate ingress and egress. The mitigation measures for this alternative would be similar to those identified for the proposed project. Similar to the proposed project, this alternative would also require all-weather access by the Fire Department.

### **6.4.6 Noise Hazard**

Similar to the proposed project, the existing zoning alternative would generate construction noise within 60 feet of a sensitive receptor. This short-term noise impact would exceed recognized noise impact thresholds and would thereby result in a Class I unavoidably significant impact.



This alternative would result in greater long-term noise impacts because residential structures would be placed closer to I-5, which is the major noise source noise in the area. The noise levels adjacent the eastern project boundary adjacent The Old Road and I-5 (78 dBA CNEL) are within the Normally Unacceptable range. The proposed project includes sound walls for exterior spaces where the ambient exterior noise levels exceed 65 dBA. If this alternative were constructed, it would be more difficult to buffer the exterior spaces as the lots are two acres in size. In addition, given the topographic variation onsite, individual lots may have substantial elevational differences. These two characteristics indicate that sound walls may not be effective or financially feasible. This could result in a Class I, unavoidably significant impact with respect to long term noise exposure.

Interior noise levels could be reduced to below significance thresholds through incorporation of mitigation measures that require interior design features such as air conditioning/mechanical ventilation, solid core doors, double paned windows. Similar to the proposed project, long term noise impacts with respect to interior noise levels would be considered a Class II, significant but mitigable impact.

#### **6.4.6 Water Quality**

The existing zoning alternative would have similar water quality impacts as the proposed project, but because the development intensity is lower, the pollutant loading from automobiles would be lower as well. If agricultural uses are developed as allowed under the existing zoning, other pollutants such as manures, fertilizers and pesticides could be transported to Castaic Creek during rain events. All development alternatives would increase sedimentation in the short-term during construction and would increase concentrations of urban pollutants in area surface waters in the long-term. Compliance with National Pollution Discharge Elimination System (NPDES) requirements would reduce all projects' water quality impacts to a less than significant level.

#### **6.4.7 Air Quality**

The existing zoning alternative would also have similar air quality impacts as the proposed project and could result in Class I construction impacts during grading due to the proximity of sensitive receptors adjacent the northern project boundary. The same as with the proposed project, this alternative would not exceed operational thresholds. In addition, because this project would generate less traffic, the long term operational air quality impacts would be less than the impact of the proposed project or any of the other alternatives (barring the No-Project alternative). However, it should be noted that the proposed project does not have significant operational air quality impacts.

#### **6.4.8 Biota**

Under this alternative, the entire property would be developed as two-acre ranchettes. The individual property owners would have control over biological resources that remain once the properties are developed with infrastructure and homes. No biological resources or native habitats would be preserved in open space and each of the lots could be developed with



agricultural and residential uses. This impact is greater than what would occur with the proposed project, due to a lack of open space areas. However, once the plan details for this alternative are fully developed, this project may include features such that it would not have substantial adverse effects on sensitive species. In addition, mitigation similar to that of the proposed project could be included, which would reduce impacts to a level that is less than significant. Thus, the impacts are considered Class II, significant but mitigable, the same as for the proposed project.

#### **6.4.9 Archaeological/Historical**

No archaeological or historical resources were observed at the project site. Nevertheless, there is potential for previously undetected cultural resources to be discovered and impacted during site grading. Similar to the proposed project, these potential impacts are mitigable. Therefore, this alternative has the same potential for adverse impacts as the proposed project (Class II, significant but mitigable).

#### **6.4.10 Visual Qualities**

Under this alternative, it is presumed that the development would be spread over the entire project site, rather than clustered as in the proposed project. However, the visual impact would likely involve some of the same issues as the proposed project with respect to modified slopes. The nature of the visual impact would be different than the proposed project as the houses would be scattered throughout the site rather than clustered, and there would be no reserved open space. This alternative would have less potential for light and glare as compared with the proposed project, because the development intensity would be lower. However, this alternative would still introduce light and glare and the visual impacts associated with this alternative would be mitigable through incorporation of landscaping requirements and lighting standards, the same as for the proposed project.

Consistency with the Castaic Area Community Standards District and Hillside Management Area Plan guidelines would depend upon specific plan details for this alternative. For instance, development that is within 50 feet of the designated Primary Significant Ridgeline would be inconsistent with the provisions of the CSD and would be considered significant impact. However, this alternative would aim at a design consistent with the CSD and HMA guidelines, and as such the visual impacts would be similar to those described for the proposed project.

#### **6.4.11 Transportation and Circulation**

The existing zoning alternative would generate a total of 230 trips, which is 1,468 fewer trips than the proposed mixed-use project with 1,698 ADT (based on trip generation rates provided by the traffic consultant). Therefore, the existing zoning alternative would result in a lower impact. Additional analysis may indicate traffic impacts, however, based on the magnitude of trip reduction, it is reasonable to conclude that some of the project's traffic impacts would be reduced to a level of insignificance.



#### **6.4.12 Waste Disposal**

The proposed project would generate 0.134 cfs of wastewater during peak conditions. Based on standard generation rates for residential use, the existing zoning alternative would generate approximately 86% less wastewater than the proposed project. However, this estimate presumes residential use, and additional wastewater could be generated if agricultural uses were developed. As the development would be spread throughout the site, the overall extent of the required sewer lines serving the houses in this alternative (in lineal feet per lot) are expected to be more than what is required for the proposed project. Nevertheless, due to the decrease in development intensity, this alternative would be expected to have a lesser impact on the sewer trunk capacity than the proposed project. However, it is important to note that the proposed project's impact with respect to sewage disposal is less than significant.

With respect to solid waste, development under an A-2-2 designation would be anticipated to have reduced solid waste impacts. However, small scale agricultural development on large lots could have the potential to increase minor amounts of pesticides/herbicides or motor oil products that might be used in association with larger landscapes and landscape maintenance equipment. Nevertheless, the reduced density of this alternative would result in lesser impacts, though the same mitigation would apply to ensure disposal and recycling in accordance with requirements.

#### **6.4.13 Education**

The proposed project would generate a total of 63 students, with 45 projected to attend Castaic Union School District (grades K-8) and 18 projected to attend Hart Union School District. The existing zoning alternative would generate about 22 students with 16 projected to attend Castaic Union School District and 6 projected to attend Hart Union School District. Therefore, this project would generate fewer students as compared with the proposed project, but impacts would still be Class II, significant but mitigable through payment of school fees.

#### **6.4.14 Public Services**

The proposed project would generate demand for law enforcement and fire protection service, primarily due to traffic impacts and residential development. The existing zoning alternative would generate 46 fewer residences, and thus would require less law enforcement and fire protection service. Similar to the proposed project, the impact of this alternative on public services would be Class II, significant but mitigable.

#### **6.4.15 Water Service**

The proposed project would require annexation into the Newhall County Water District service area and would generate demand for 63 acre-feet/year (afy), and the proposed commercial component would generate demand for 11.8 AFY (74.8afy total). Assuming that water service decreases proportionately to sewer service, the existing zoning alternative would generate a water demand equivalent to 86% less than that of the proposed project. NCWD concludes that regional supplies including planned improvements are adequate to serve the regional growth in



normal, single dry and multiple dry years through the year 2030. Therefore, similar to the proposed project the impact of this alternative on water supply is considered Class III, less than significant.

#### **6.4.16 Global Climate Change**

The all residential buildout under existing zoning development would result in development of 23 two-acre ranchettes, which would not exceed the suggested 90% market capture threshold (50 residential units) as discussed in Section 4.16 Global Climate Change. Such a project is estimated to result in about 500–600 tons of carbon dioxide (CO<sub>2</sub>), which is below the 900 ton threshold. As such, the Global Climate Change impacts would be Class III, less than significant.

### **6.5 ALTERNATIVE 5: Buildout under Existing Santa Clarita Valley Area Plan Land Use Designations**

Within Los Angeles County there are smaller geographic areas that are guided by area plans and/or community standards districts. The community of Castaic, which includes the project site, is guided by the Santa Clarita Valley Area Plan (SCVAP) as well as the Castaic Area Community Standards District (CSD). These two guidance documents supersede the Los Angeles County General Plan and the Zoning Ordinance when there are conflicts. The SCVAP land-use designation for the site includes Residential (U1, U2 and U3), Hillside Management (1/4 mile Urban) and Industrial (M) - refer to Figure 2-6. These designations were applied based on general site topographic constraints as well as based on the vision for future development within the Castaic area.

Alternative four (see Section 6.4 above) considered a development under the current Los Angeles County zoning in conjunction with a General Plan Amendment to change the current SCVAP-designated industrial land use to residential use. It follows that as a plausible variation of Alternative four, this Alternative five considers keeping the dominant SCVAP residential and industrial land-use designations in place, and use of these designations as the basis for changing the current zoning to conform to the existing SCVAP land uses.

Under this alternative the project would involve the maximum development allowable under the Santa Clarita Valley Area Plan (SCVAP). As indicated in Table 6-1 and 4.15-1, this would include 88 (88.78) single family residences and 166,486 sf of industrial use. This project would not involve density transfers or clustering and would result in development that is built out at varying densities within each of the respective pockets of land use. The absence of density transfer / clustering would also dictate extensive localized grading at some locations in order to create pads suitable for residential development (e.g. the steeper northeast section designated as U1). At the same time the main access road, which would be needed to interconnect the isolated pockets of SCVAP-designated residential / industrial land use areas, would require grading similar to that of the proposed project.

#### **6.5.1 Land Use and Planning**

The existing SCVAP land use designations for the site are residential (U1, U2 and U3), Hillside



Management 1/4 Mile Urban (HMO 1/4) and Industrial (M). These various land use designations, are generally located in isolated pockets on the site (refer to Figure 2-6). This alternative would require zone changes from the existing Heavy Agricultural (A-2-2) to facilitate residential development at a range of densities consistent with the SCVAP land use designations. In this alternative the residential units and the industrial use are located in precisely the specific locations designated by SCVAP. As this alternative is a development strictly according to the SCVAP land use designations, there are no density transfers from steeper areas to the more level areas, and also no clustering of the development in the level areas. If density transfer / clustering were adapted for this alternative, it would be a more intensive version of the proposed project. A park would be provided in this alternative, equivalent to that of the proposed project. The open space provided by this alternative would be reduced compared with that of the proposed project, as additional grading would be needed, in particular for residential lots located in the Hillside Management areas.

In order to achieve the 88 residential units, the plan would dictate a range of densities – e.g. 15 dwellings per acre at the northwest corner (designated as U3), 6.6 dwellings per acre in the mid-south section (U2 designation) and up to 3.3 units per acre in the northeast (U-1) section of the project. The higher densities would preclude single family residential lots, in favor of condominium-type units.

The grading required for the access roads to interconnect these isolated pockets of development would partially eliminate the landform features, which are kept intact in the proposed project and used as natural buffer zones. Furthermore, the grading required for the 28 residential units located in the Hillside Management areas (see Table 4.15-1), would be higher for this alternative as compared with the proposed project, due to the lack of clustering, which would also reduce open space areas.

At the northeast portion of the site, existing slopes would require extensive grading and would position residential development adjacent to the traffic corridor of The Old Road and I-5. The grading required to site residential development in this location would eliminate some of the hillslopes that have been avoided under the proposed project, and convert the open space provided under the proposed project to residential use, further fragmenting the open space areas.

This alternative generally locates the residential and industrial uses next to similar existing adjacent uses, as intended by the SCVAP Ordinance. Landscaping and setback buffers would be required to reduce internal compatibility conflicts due to the mix of residential and industrial uses. Therefore, the project's effect on land use and planning would be similar to the proposed project, having Class II, significant but mitigable impacts related to internal compatibility. The effect of not clustering development has negative physical environmental effects that include fragmentation of open space areas, and additional grading of natural landform features to facilitate access between the different areas of site development. In addition, because localized cuts would be necessary in areas containing hillslopes to assure that allowed development is sited in the location it is zoned for, export of cut material may be required. Soil export would result in additional secondary air quality impacts due to emissions from trucks. However, clustering is not fully advocated by the CSD unless particular findings are made, and

so the impacts with respect to Policy Consistency maybe technically the same as the proposed project, Class III, less than significant.

### **6.5.2 Geology**

Similar to the proposed project, seismic effects would occur with implementation of the existing land use designation scenario; however, the impacts would be Class II, significant but mitigable through compliance with California Building Code regulations and geotechnical recommendations. The fault setback zone would, similar to the proposed project, allow no structures in this zone (Class III). Lack of clustering and density transfers would result in additional grading at some locations and for some sections of the access road. The project would have similar slope stability hazards as those of the proposed project due to grading in the Hillside Management area. The slope stability hazards would be Class II, significant but mitigable through implementation of the mitigation measures identified for the proposed project.

The net result of a wider access road and the additional localized grading could substantially increase in the required volume of grading compared with the proposed project. Most of this grading would involve cuts in the hillsides, with minimal additional fill requirements. Therefore, the grading is not expected to be balanced on site, and export of the graded material would be needed. The higher level of grading required for this alternative could also result in grading portions of the Castaic Area Community Standards District Primary Significant Ridgeline that are proposed to remain intact under the proposed project.

### **6.5.3 Flood Hazard**

The project site is composed of several steep slopes which currently drain onto adjacent properties at rapid rates and the project's post developed condition results in reduced runoff to adjacent properties. An increased amount of discharge is conveyed through the existing 7' x 3' reinforced concrete box, which crosses under The Old Road and discharges on the eastern side of I-5 into an existing natural drainage channel. Development under the existing land use designation alternative, which would not cluster development, is likely to further decrease peak runoff velocities, by replacing steep slopes with graded pads and drainage improvements. The impact of this alternative would be Class II, significant but mitigable, the same as the proposed project.

### **6.5.4 Fire Hazard**

The fire hazard under the existing land use designation alternative with 88 dwelling units would be expected to be higher than that of the proposed project with 70 residential units, because a higher number of structures would be placed within a Very High Fire Hazard Severity Zone. The increased size of the industrial / commercial element of the project (166,486sf compared with the proposed project 70,000sf) would also introduce additional structures in the High Fire Hazard Severity Zone. Also, the Fire Department requires a second access for this alternative as the number of residential dwellings exceeds the 75-units threshold allowed for a single access. However, because a second access is not feasible for the site, either



the number of units have to be reduced to 75 or other mitigation measures acceptable to the Fire Department may be introduced. Such measures may include providing fire sprinklers to a number of residential units located farthest along the access road, and /or increasing the width of the access road. However, even with these mitigation measures, in the absence of a second access road, the fire hazard maybe considered to be higher than that of the proposed project.

Other mitigation measures for this alternative would be similar to those identified for the proposed project. Similar to the proposed project, this alternative would also require all-weather access by the Fire Department.

### **6.5.6 Noise Hazard**

Similar to the proposed project, the existing land use designation alternative would generate construction noise within 60 feet of a sensitive receptor. This short-term noise impact would exceed recognized noise impact thresholds and would thereby result in a Class I unavoidably significant impact.

This alternative could result in greater long-term noise impacts because an industrial use would be likely to generate more noise than an office use; however, this ultimately depends on the type of use selected. In addition, the development of residential uses that are not clustered and are spread throughout the site, particularly in the northeast portion of the site, could expose a greater number of receptors to noise levels in excess of standards. The noise levels adjacent the eastern project boundary adjacent The Old Road and I-5 (78 dBA CNEL) are within the Normally Unacceptable range. The project could be designed to include sound walls and building construction materials that would assure that noise levels in interior as well as exterior usable spaces would be below thresholds. Therefore, the overall impact is roughly the same as the proposed project, Class I for construction and Class II, significant but mitigable for long term operational impacts.

### **6.5.6 Water Quality**

The existing land use designation alternative would have similar water quality impacts as the proposed project. All development alternatives would increase sedimentation in the short-term during construction and would increase concentrations of urban pollutants in area surface waters in the long-term. Compliance with National Pollution Discharge Elimination System (NPDES) requirements would reduce all projects' water quality impacts to a less than significant level.

### **6.5.7 Air Quality**

The existing land use designation alternative would also have similar air quality impacts as the proposed project and would likely result in Class I construction impacts due to the substantial grading that is necessary for development at this site. In addition, as the development would not be clustered, it is presumed that additional grading would be necessary to provide additional access routes. Urbemis screening for this alternative indicates that there would not be an exceedance of operational thresholds. Therefore, the long-term air quality impacts



associated with the existing zoning alternative are considered to be less than significant.

### **6.5.8 Biota**

Under this alternative, the development would not be clustered, and especially in the steeper areas under Hillside Management, the dwellings would be spread over the entire site. This would likely involve greater disturbance to the native vegetation and result in less open space. This could result in additional impacts to oak trees and riparian vegetation. This effect would be more pronounced especially in the steeper northeast area where extensive grading would be needed to develop the residential lots. These impacts could be reduced through design controls, but avoidance would likely result in a reduction of units. Nevertheless, because of a non-clustered design that would reduce consolidated open space lots, this alternative would have greater biological resource impacts than the proposed project.

### **6.5.9 Archaeological/Historical**

No archaeological or historical resources were observed at the project site. Nevertheless, there is potential for previously undetected cultural resources to be discovered and impacted during site grading. Similar to the proposed project, these potential impacts are mitigable. Therefore, this alternative has the same potential for adverse impacts as the proposed project.

### **6.5.10 Visual Qualities**

Under this alternative, it is presumed that development would not be clustered. Thus, the expanses of open space would not be present and the visual impacts would likely be greater than occur with the proposed project. The visual impact would however be mitigable through implementation of measures (adding trees) identified for the proposed project. Similar to the proposed project, this alternative would increase light and glare, over current conditions. This impact would be mitigable through implementation of measures identified for the proposed project.

Consistency with the Castaic Area Community Standards District and Hillside Management Area Plan guidelines would depend upon specific design plans for an existing land use designation alternative. Development that is within 50 feet of the designated Primary Significant Ridgeline would be inconsistent with the provisions of the CSD and would be considered significant impact. Grading in the steeper northeast section, designated for residential use (U1) in the Santa Clarita Valley Area Plan, would potentially be in violation of a CSD-designated Primary Significant Ridgeline. However, if designed to be consistent with the CSD and HMA guidelines, these impacts would be similar to those described for the proposed project.

### **6.5.11 Transportation and Circulation**

This alternative would generate approximately 189 more trips (total of 1,887 trips) than the proposed project, which generates 1,698 ADT (based on trip generation rates provided by the traffic consultant). The trips were estimated in Urbemis assuming a light industrial use in the



M-designated area. Therefore, this alternative would have a greater impact, though the impacts are still likely to be Class II, significant but mitigable.

#### **6.5.12 Waste Disposal**

The proposed project would generate 0.134 cfs of wastewater during peak conditions. The existing land use designation alternative would generate about 20% more wastewater based on standard generation rates. Therefore this alternative would have a greater impact than the proposed project. However, because there is capacity to treat the wastewater, the impact of this alternative would be Class III, less than significant.

This alternative would have greater impacts than the proposed project due to the increased density, though the uses would be similar to the proposed project. The impacts would be the same as with the proposed project, Class II, significant but mitigable with application of the same mitigation measures.

#### **6.5.13 Education**

The proposed project would generate a total of 63 students, with 45 projected to attend Castaic Union School District (grades K-Eight) and 18 projected to attend Hart Union School District. The existing land use designation alternative would generate about 80 students with 58 projected to attend Castaic Union School District and 22 projected to attend Hart Union School District. Impacts resulting from this alternative could be mitigated through payment of education fees. Thus the impacts associated with this alternative would be the same as the proposed project, Class II, significant but mitigable.

#### **6.5.14 Public Services**

The proposed project would generate demand for law enforcement and fire protection service, primarily due to traffic impacts and residential development. This alternative would generate 19 more residences, and thus would require slightly more law enforcement and fire protection service. However, based on 3.1 persons per household (Castaic Town Council Website) the increase is not substantial enough to trigger the need for a new staff member (1000 residents) or new facility. Similar to the proposed project, the impact of this alternative on public services would be Class II, significant but mitigable.

#### **6.5.15 Water Service**

The proposed project would require annexation into the NCWD service area and would generate demand for 63 acre-feet/year (AFY), and the proposed commercial component would generate demand for 11.8 AFY (74.8 AFY total). Assuming that water service increases proportionately to sewer service, the all-residential alternative would generate a water demand equivalent to 25% more than that of the proposed project. NCWD concludes that regional supplies including planned improvements are adequate to serve the regional growth in normal, single dry and multiple dry years through the year 2030. Therefore, similar to the proposed



project the impact of this alternative on water supply is considered Class III, less than significant.

### **6.5.16 Global Climate Change**

The buildout under existing SCVAP land use designation would involve development of up to 88 residential units and 166,486 square feet of commercial/industrial development. This alternative would generate about 5,000 tons of carbon dioxide (CO<sub>2</sub>), which is about 20% more than the proposed project, but the impact would be Class II, significant but mitigable, the same as 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?*

The Castaic area contains other properties that could be suitable for development of this project; however, it is not considered economically feasible to develop the project on another site. The project design has been specifically adapted to this site, avoiding and mitigating hazards, while preserving biologic and aesthetic resources. Further, the project applicant does not have access to other sites that would allow the project objectives to be met and it is uncertain, and thus speculative, if the applicant could feasibly purchase another site that would be less environmentally sensitive or offer the same economic return in exchange for this property. Consequently, alternative sites are not discussed further in this EIR.

## **6.7 ALTERNATIVES CONSIDERED BUT REJECTED**

The proposed project has been redesigned to avoid impacts to Open Space Lot 71, which contains an ephemeral stream and a riparian forest / habitat area and to reduce impacts to oak trees. Another alternative considered utilizing the entire site as a single parcel under the Heavy Agriculture designation of the Los Angeles County General Plan; however this alternative,



which is in essence a variation of Alternative four, was rejected because the Santa Clarita Valley Area Plan designations more closely correspond to the proposed project than to uses allowed within the underlying zoning.

A further alternative was considered with a lower density of residential element consisting of 50 single family homes with average lot sizes of about 10,000sf, together with a commercial element similar to the proposed project. However, this larger-lot alternative was rejected due to reduced compatibility with the adjacent land uses and also due to the higher per unit cost of the project, which would not result in an economically viable project, and therefore not meet the project objectives. The developments immediately adjacent to the project site primarily consist of high-density residential and commercial use. More specifically, these adjacent land uses are as follow: an existing high-density condominium project to the north (zoned RPD-6.5U), an Auto Sales / Repair business approved to the north across from The Old Road, a high-density 115-unit mobile home park to the northwest (zoned R-3-10U), the traffic corridor of Freeway I-5 and The Old Road to the northeast, commercial / industrial use (currently a building materials yard business) to the east, a single family home on a large parcel to the west, and an approved (zoned RPD-3.5U) condominium development to the south (Tract 46798). Given these immediately adjacent land uses with higher residential density, and the fact that the project site is in the traffic corridor of I-5, evidently a larger-lot lower-density residential development would not appear to be a suitable and compatible choice. In addition, given the isolated locations of SCVAP residential land use designations for the site, the same project road network, infrastructure and development footprint would be required for this larger lot alternative as the proposed project. The grading volume for this alternative and the proposed project would therefore be the same. Given the topography of the site, the grading and infrastructure constitute the major cost components of this project. Thus the costs associated with the land development would remain the same while the number of residential units are decreased, leading to an appreciable increase in cost per residential unit. This higher per unit cost would not meet the cost constraints of the project objectives. Therefore, this lower density alternative was rejected as it was deemed unsuitable for the given site, incompatible with adjacent land uses, and also it would not provide the economic return and is, therefore, not consistent with the objectives of the proposed project.

## **6.8 ENVIRONMENTALLY SUPERIOR ALTERNATIVE**

Table 6-2 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 (Rank: superior [+], similar [=], or inferior [-]).

Each of the alternatives includes at least one environmental impact that would be environmentally superior to the proposed project in at least one issue area, with the exception of the Alternative five, Existing SCVAP Land Use Designations.

Alternative 1 – The *No Project –No Development Alternative* is considered environmentally superior for most issue areas, as it would have no impact. However it is inferior to the proposed project in two areas (water quality and flood hazard) and would not fulfill the basic



objective of the project, which is to develop the project site with a balance of residential and business/professional development. Furthermore, the No Project alternative would not preclude the site from eventual development in accordance with the existing SCVAP land use designation for the site. The No Project Alternative also does not meet the financial objectives of the project.

**Table 6-2 Comparison of Alternatives' Impacts**

Issue	Proposed Project	Alt 1 No Project		Alt 2 All Industrial		Alt 3 All Residential		Alt 4 Existing Zoning		Alt 5 Existing Land Use	
	class	class	rank	class	rank	class	rank	class	rank	class	rank
<b>Land Use</b>											
Compatibility	II	IV	+	II	=	II	=	II	-	II	-
Policy Consistency	III	IV	+	I	-	I	-	III	-	III	-
<b>Geology</b>											
Seismic Issues (rupture, shaking)	II, III	IV	+	II, III	=	II, III	=	II, III	=	II, III	=
Grading/Slope Stability	II	IV	+	II	=	II	=	II	-	II	=
<b>Flooding Hazard</b>	II	IV	-	II	=	II	=	II	=	II	=
<b>Fire Hazard</b>	II	IV	+	II	=	II	=	II	=	II	-
<b>Noise Hazard</b>											
Construction	I	IV	+	I	=	I	=	I	=	I	=
Operational	II	IV	+	II	=	II	-	I, I	-, -	II	=
<b>Water Quality</b>	II	IV	-	II	=	II	=	II	=	II	=
<b>Air Quality</b>											
Construction	I	IV	+	I	=	I	=	I	=	I	=
Operational	III	IV	+	II	-	III	=	III	+	III	=
<b>Biota</b>											
Important Habitats	II	IV	+	II	+	II	=	II	-	II	-
Sensitive Species	II	IV	+	II	+	II	=	II	=	II	-
<b>Archaeological/Historical</b>	II	IV	+	II	=	II	=	II	=	II	=
<b>Visual</b>											
Viewsheds/Ridgelines	III	IV	+	III	=	III	=	III	=	III	=
Light and Glare	II	IV	+	II	=	II	=	II	+	II	=
HMA & CSD Consistency	III	IV	+	III	=	III	=	III	=	III	=
<b>Transportation/Circulation</b>	II	IV	+	II	-	II	+	II	+	II	-
<b>Waste Disposal</b>	III	IV	+	II	-	II	+	III	+	II	-
<b>Education</b>	II	IV	+	II	+	II	-	II	+	II	-
<b>Public Services</b>	III	IV	+	III	+	III	-	III	+	II	-
<b>Water Service</b>	II	IV	+	II	-	II	+	II	+	II	-
<b>Global Climate Change</b>	II	IV	+	II	-	II	-	III	+	II	-

Key: Class I, unavoidably significant      Class II, significant but mitigable  
 Class III, less than significant      Class IV, no impact

Alternative 2 - All Commercial/Industrial Development is superior to the proposed project in four areas (Biota – important habitats, Biota – sensitive species, education and public services) and inferior to the proposed project in six areas (policy consistency, flooding hazard, operational air quality, transportation, waste disposal and water service).



Alternative 3 - *All Residential Development* is superior to the proposed project in three areas (transportation, waste disposal, and water service), and inferior to the proposed project in three areas (policy consistency, education and public services).

Alternative 4 - *Buildout under Existing Zoning* is superior to the proposed project in eight issue areas. These are operational air quality, light/glare, transportation/circulation, waste disposal, education, public services, water service, and global climate change. The benefits in these areas result from reduced density, which would correspondingly reduce light/glare, traffic and air quality impacts, in addition to demand for waste disposal, education, public services, and water service. This alternative is inferior in five issue areas. These are the areas of land use compatibility, policy consistency, grading, operational noise and important biological habitats. This project would be adverse in these issue areas primarily because the entire project site would be subject to development, whereas the proposed project reserves more than 28 acres in open space. In addition, this alternative would result in distribution of residential receptors closer to the I-5 noise source. The low density development in combination with variable hillside topography would likely result in unmitigable impacts with respect to noise levels in exterior habitable spaces. This type of low density development is more likely to be in conflict with the existing industrial use adjacent the eastern site boundary and conflict with higher density development to the north and northwest, and approved for development to the south. Moreover, the infrastructure cost associated with development of scattered residences and more extensive roadwork would make the project financially infeasible. It should also be noted that the Santa Clarita Valley Area Plan (SCVAP) land use designations for this site, including residential (U1, U2, U3), industrial (M) and Hillside Management (¼ mile Urban), supersede the Los Angeles County General Plan / Zoning. Relying on the same planning principals which have been used to develop the SCVAP - such as designating the site land uses consistent with existing adjacent land use - it would be rational to propose changing the existing zoning based on the dominant SCVAP land use designations, rather than seeking a General Plan Amendment to change SCVAP land uses to comply with the existing zoning.

Moreover, the per lot cost of the infrastructure and grading for this alternative with fewer lots would be significantly higher than that of the Proposed Project, as this alternative would use the infrastructure less efficiently than the Proposed Project. As such this alternative would not be a financially viable project as compared with the Proposed Project.

*Alternative 5 - Buildout under existing Santa Clarita Valley Area Plan Land Use Designations*, without the benefit of density transfers and clustering, is not superior to the proposed project in any issue area and is inferior to the proposed project in the issue areas of land use compatibility, land use policy consistency, flood hazard, fire hazard, biological resources, transportation/circulation, waste disposal, education, public services, and water service. This is primarily because this alternative does not take advantage of density transfers and utilize clustering to maximize open space areas and concentrate development. In addition, the industrial uses that would be allowed would create potential for internal conflicts, whereas the applicant's proposed office use is more compatible with adjacent residential development and likewise does not conflict with the adjacent existing industrial use (building supply yard adjacent the eastern project boundary). The impacts associated with transportation/circulation, waste disposal, education, public services and water service are greater due to increased



development intensity as compared with the proposed project (18 additional residential units and 76,486 sf of commercial space as an industrial use).

This alternative examines impacts without use of additional tools such as density transfers and clustering, which advocate minimized grading, increased open space, preservation of natural buffer zones / landform, etc. This alternative could also potentially violate the Castaic Area Community Standards District's Ridgeline Preservation Ordinance unless certain areas already designated for residential land use are excluded from such use (mainly the northeast section of the site). In essence the disadvantages of this alternative stems from the absence of density transfers (from steeper areas to flatter regions of the site), and an avoidance of clustering (of the units in the more level areas). If density transfer and clustering were to be incorporated in this alternative, the result would essentially be denser version of the proposed project. Given such reasoning, this alternative would in practice not be a rational choice and it could essentially be categorized as a variation of a "No Project" alternative. However, this alternative is included to demonstrate that development strictly under the SCVAP land uses, without density transfers / clustering, has been given due consideration.

The only alternative to reduce the two Class I, unavoidably significant impacts (construction air quality and construction noise) in addition to the irreversible environmental effects of converting the site to urban uses and removal of native biological habitat that are associated with the proposed project is the No Project - No Development Alternative. The proximity of sensitive receptors to the site triggers the Class I unavoidably significant temporary air quality and noise impacts that would occur with construction of any project on the site. As discussed in Section 5.0 Other CEQA required Discussions, there are two other unavoidably significant impacts. The cumulatively significant effect resulting from the removal of portions of native biological habitat would only be avoided under the No Project Alternative and the significant irreversible effect of converting the project site to a relatively urban use would likewise only be avoided under the No Project Alternative. However, as previously stated in this section, the No Project Alternative does not preclude future development of the site under a different proposal, such as Alternative five, which explores buildout of the site under the existing Castaic Area Community Standards District and Santa Clarita Valley Area Plan designations/standards.

An agricultural development alternative would likely require less grading for development; however, an agricultural use would be less consistent than the proposed project on surrounding development and may be associated with additional adverse environmental effects such as odors and water quality issues. A lower density type of residential development with larger lots could require similar amounts of grading for additional access roads, and would appear to be unsuitable for the site, which is in the traffic corridor of I-5 and adjacent to relatively high-density existing condominium and mobile home park developments, and also adjacent to existing commercial / industrial use.

The proposed project has been designed in accordance with the Santa Clarita Valley Area Plan, the Los Angeles County's Hillside Design Guidelines and the Castaic Area Community Standards District (CSD). As previously discussed, the proposed project would result in 11.18 acres of single family residential use, 5.21 acres of business/professional office use, and 30.86 gross acres of open space and park. The proposed project utilized appropriate density transfers



to move development from steeper areas to the more level areas of the site, and it has been designed to cluster development in these level areas of the site, maximize open space, avoid the wetland/riparian habitat, retain 11 of the 24 onsite oak trees, balance cut and fill onsite, avoid structural placement within a fault hazard setback zone, and preserve the peaks of a CSD Primary Significant Ridgeline. The proposed project would add to the professional level employment base within the community of Castaic and would add housing in an area that is planned for housing pursuant to the Los Angeles County General Plan and Santa Clarita Valley Area Plan. The proposed project would be compatible with existing and planned surrounding development and mitigation measures that have been incorporated into the project would reduce project specific impacts to below significance thresholds for all impacts except the following four:

- Air Quality (short-term construction impacts);
- Noise (short-term construction impacts);
- Removal of portions of native biological habitat (cumulative impact); and
- Irreversible damage of proposed development due to the conversion of land that is in a relatively natural state (stabilized naturalized disturbed area) to a relatively urban use (irreversible impact).

Due to the proximity of sensitive receptors, the temporary air quality and noise impacts could not be avoided under any development scenario. In addition, the irreversible impacts associated with removal of portions of native biological habitat (cumulative impact) and irreversible damage of proposed development due to the conversion of land that is in a relatively natural state would likewise not be avoided under any development scenario. Therefore, the proposed project appears to be well suited for the project site.



## 7.0 REFERENCES AND REPORT PREPARERS

### 7.1 Bibliography

- Abrams, L. 1923. *Illustrated Flora of the Pacific States*, Volumes. I, II, and III. Stanford University Press, Stanford, California.
- Abrams, L. 1960. *Illustrated Flora of the Pacific States*. Volume IV. Stanford University Press, Stanford, California.
- Association of Environmental Professionals (AEP). June 29, 2007. Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents.
- Atwood, JL and JS Bolsinger (1992). "Elevational Distribution of California Gnatcatchers in the United States" *J. Field Ornithology* 63(2): 159-168.
- Bennett, A. F. 1990. Habitat corridors and the conservation of small mammals in a fragmented forest environment. *Landscape Ecol.* 4:109-122.
- Bloom Biological, Inc., "Interim Report of Winter Surveys of Special-Status Bird Species on Portions of Newhall Land and Farming Company Property (Including Newhall Ranch), Los Angeles County, California" (February 28, 2008)
- Bolt, Beranek and Newman, "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances," prepared for the U.S. Environmental Protection Agency, 1971.
- California Air Pollution Control Officers Association (CAPCOA), January 2008. *CEQA and Climate Change*, <http://www.capcoa.org/>.
- California Air Resources Board, Climate Change Emission Control Fact Sheet, 2007. [http://www.arb.ca.gov/cc/factsheets/cc\\_newfs.pdf](http://www.arb.ca.gov/cc/factsheets/cc_newfs.pdf)
- California Climate Action Registry, April 2008. California Climate Action Registry General Reporting Protocol: Reporting Entity-Wide Greenhouse Gas Emissions. Version 3.0, [http://www.climateregistry.org/resources/docs/protocols/grp/GRP\\_V3\\_April2008\\_FINAL.pdf](http://www.climateregistry.org/resources/docs/protocols/grp/GRP_V3_April2008_FINAL.pdf).
- California Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the California Legislature. 2006. [http://www.climatechange.ca.gov/climate\\_action\\_team/reports/2006-04-03\\_FINAL\\_CAT\\_REPORT\\_EXECSUMMARY.PDF](http://www.climatechange.ca.gov/climate_action_team/reports/2006-04-03_FINAL_CAT_REPORT_EXECSUMMARY.PDF)
- California Climate Change Center, Climate Scenarios for California, 2006.



California Department of Fish and Game. Date unknown. News Room - California Black Bear Public Safety Incidents. DFG Office of Communications, Education & Outreach, Sacramento, CA. Online:  
[http://www.dfg.ca.gov/news/issues/bear/bear\\_incidents.html](http://www.dfg.ca.gov/news/issues/bear/bear_incidents.html)

California Department of Fish and Game. July 1998. Black Bear Management Plan. Wildlife Programs Branch, Sacramento, CA. Online:  
<http://www.dfg.ca.gov/wildlife/hunting/bear/docs/BlackBearMgmtPlan.pdf>.

California Department of Fish and Game. January 2001. *Rarefind Database*. California Department of Fish and Game, natural Heritage Division, Sacramento, CA

California Department of Fish and Game. 2006. California Natural Diversity Database. RAREFIND 3.0.5 Software.

California Department of Fish and Game. February 2006. Special Animals. 45 pgs. Habitat Conservation Division, Wildlife and Habitat Data Analysis Branch.

California Department of Fish and Game, California Natural Diversity Database (CNDDDB). March 2007.

California Department of Fish and Game. April 2007. Special Plants List. 78 pgs. Natural Heritage Division, Natural Diversity Data Base.

California Department of Fish and Game. 2008a. Black Bear Population Information. DFG Hunting Program. Online:  
<http://www.dfg.ca.gov/wildlife/hunting/bear/population.html>.

California Department of Fish and Game. 2008b. Mountain Lions in California. Online:  
<http://www.dfg.ca.gov/news/issues/lion.html>.

California Department of Fish and Game. 2008c. Coyotes in California. Online:  
<http://www.dfg.ca.gov/news/issues/coyote.html>.

California Department of Water Resources. July 2006. Progress on Incorporating Climate Change into Management of California's Water Resources.

California Energy Commission, February 2006. Scenarios of Climate Change in California: An Overview. CEC-500-2005-186-SF.

California Energy Commission, December 2006. Inventory of California Greenhouse Gas Emissions and Sinks: 1990-2004. Staff Final Report. CEC-600-2006-013-SF.

California Environmental Protection Agency, March 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature.



- California Native Plant Society (CNPS) 2002. *Electronic Inventory of Rare and Endangered Vascular Plants of California*. California Native Plant Society, Sacramento, California.
- California Native Plant Society. 2006. California Native Plant Society's Inventory of Rare and Endangered Plants of California. 7th Edition. Online: <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>
- California Natural Diversity Data Base (CNDDB). 2005. *List of special plants*. Heritage Section, California Department of Fish and Game. (January 2005).
- California, State of. 2002. *CEQA: California Environmental Quality Act, Statutes and Guidelines*. Governor's Office of Planning and Research, Sacramento.
- Cayan, Dettinger, and Knowles 2006. "Trends in snowfall versus rainfall in the western US," *Journal of Climate*.
- Cayan et al. 2006. "Mapping New Terrain--Climate Change and America's West," Report of the Consortium for Integrated Climate Research in Western Mountains.
- Climate Change Technology Program, December 2007; <http://www.epa.gov/climatechange/policy/cctp.html>).
- Caltrans, 2004. *2003-Annual Average Daily Truck Traffic on the California State Highway System*
- Campbell, K.W. 1989. Preliminary Report on Empirical Studies of Vertical Strong Ground Motion for the Diablo Canyon Site, California, Prepared for the U.S. Geological Survey, Reported to the U.S. Nuclear Regulatory Commission, dated October 1988.
- C.M. Harris. 1979. *Handbook of Noise Control*.
- Castaic Area Town Council. Website [www.castaic.org](http://www.castaic.org). 2005
- Castaic Area Town Council & Land Use Committee Meeting Agendas. 2004-2005
- Castaic Lake Water Agency. "Urban Water Management Plan." 2000. <http://www.clwa.org/about/publications.cfm>
- Castaic Lake Water Agency, Water Currents, "Crisis in the Sacramento-San Joaquin River Delta Continues with Court Ruling," and "Impacts of the Federal Court Decisions on Imported Water from the State Water Project," Fall 2007 & Spring 2008, available at <http://www.clwa.org/about/pdfs/Water%20Currents%20Fall%202007.PDF>
- Castaic Union School District. "Castaic Union School District - Assessor Map." 2005.
- Center for Biological Diversity (CBD), Santa Clara Valley Audubon Society, Defenders of Wildlife, San Bernardino Audubon Society, California State Park Rangers Association, and Tri-County Conservation League. 2003. Petition to the State of California Fish and Game



Commission and Supporting Information for Listing the California Population of the Western Burrowing Owl (*Athene cunicularia hypugaea*) as an Endangered or Threatened Species Under the California Endangered Species Act. Submitted April 8, 2003.

City of Santa Clarita website. August 2005. The OVOV Process; Technical Background Reports; Maps; 6.6-3 Noise Contours Section 1. <http://www.santa-clarita.com/vgp/tbr.asp>

Compliance Biology, Inc., "Results of Focused California Gnatcatcher Surveys on the Valencia Commerce Center SCP Site; Los Angeles County, California" (August 28, 2008)

Compliance Biology, Inc., "Results of Focused Coastal California Gnatcatcher Surveys; Prospective Water Tank Locations, River Park Project, Los Angeles County, California" (2003)

Compliance Biology, Inc., "Results of Focused Survey for Coastal California Gnatcatcher Surveys; River Park Project, Santa Clarita, Los Angeles County, California" (January 24, 2003)

Compliance Biology, Inc., "Biological Resource Assessment, Castaic Mesa Project, Los Angeles County, California" (October 16, 2006)

Congestion Management Plan for Los Angeles County. 2004. Los Angeles County Metropolitan Transportation Authority.

Department of Water Resources (DWR). May 2005. Excerpts from Working Draft of 2005 State Water Project Delivery Reliability Report.

Dudek and Associates, Inc., "Del Valle Training Center Access Road Maintenance Project – California Gnatcatcher Monitoring, County of Los Angeles, California" (October 3, 2008)

Dudek and Associates, Inc., "Documentation of California Gnatcatcher Observation at Newhall, Valencia Commerce Center Project on 10/5/07" (October 8, 2007), memorandum from J. Priest.

Dudek and Associates, Inc., "Focused California Gnatcatcher Survey, Landmark Village Project, Los Angeles County, California" (July 9, 2007)

Dudek and Associates, Inc., "Biological Resources Technical Report for the Newhall Ranch High Country Specific Management Area and the Salt Creek Area" (2006)

Dudek and Associates, Inc., "Biological Resources Technical Report for the Entrada Site, Los Angeles County, California" (2006)

EIP Associates. "Biological Resources Technical Report: Tract # 53933, Castaic, Los Angeles County, California." Prepared for: Bahram Safavi. November 2003. 10661-00.



- EIP Associates. 2004. Santa Clarita Valley General Plan Technical Background Report.
- Falcon Water Free. [www.FalconWaterFree.com](http://www.FalconWaterFree.com)
- Federal Highway Administration's Traffic Noise Model®, TNM.
- Garrett, K., and J. Dunn. 1981. Birds of southern California: status and distribution. Los Angeles Audubon Soc., Los Angeles, CA. 408 pp
- Governor's Office of Planning and Research, June 2008. CEQA and Climate Change Technical Advisory. <http://www.opr.ca.gov/index.php?a=planning/publications.html#pubs-T>.
- Guthrie, D.A., "Bird Observations for Spring 2004 in the Proposed Homestead and Chiquito Areas, near Valencia, California" (August 24, 2004)
- Guthrie, D.A., "Bird Observations for Spring 2004 in the Proposed Potrero Valley, Long Canyon, Oak Valley and Onion Fields Development Areas near Valencia, California" (August 24, 2004)
- Guthrie, D.A., "Bird Observations in the Proposed Magic Mountain Entertainment Project Area, near Valencia, California, 2004" (August 24, 2004)
- Guthrie, D.A., "Bird Observations during 2004 at Castaic Junction, an Area on the North Side of the Santa Clara River at the Junction of State Route 126 and Interstate 5, near Valencia, California" (August 24, 2004)
- Harris, Cyril M. *Handbook of Noise Control*. 1979.
- Harris, L. D., and P.B. Gallagher. 1989. *New Initiatives for Wildlife Conservation; The Need for Movement Corridors*. Pages 11-34 in G. Mackintosh, ed. *Preserving Communities and Corridors*. Defenders of Wildlife., Washington, D.C. 96pp.
- Hart Union School District. "Long-Range School Attendance Boundary Map." 2005. <http://www.hartdistrict.org/departments/stu-services/boundaryMap0303.pdf>
- Hart Union School District. "William S. Hart Union High Scholl District, Current and Planned Facilities (2004-2007)," 2005.
- Hickman, J. ed. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press, Berkeley, California.
- Highway Capacity Manual, Highway Research Board Special Report 209. 2000. Transportation Research Board, National Research Council.
- Highway Design Manual, Fifth Edition. 2001. Caltrans.



- Historical Environmental Archeological Research Team. "A Phase 1 Archeological Study: For Tentative Tract Number 53933, A 47+/- Acre Parcel of Land Located in Castaic, County of Los Angeles, California." Prepared for: Rincon Consultants, Inc. February 2005.
- Holland, R. F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Non-game Heritage Program, State of California Department of Fish and Game, Sacramento, California.
- Holland, V.L. and D.J. Keil. 1990. *California Vegetation*. Biological Sciences Department California Polytechnic State University, San Luis Obispo, California.
- Idriss, I.M., Earthquake Ground Motions, Lecture Notes, Course of Strong Ground Motion, Earthquake Engineering Research Institute, Pasadena, California , April 10-11, 1987.
- Impact Sciences. November 2006. Draft Environmental Impact Report – Landmark Village (Newhall Ranch Company). SCH No. 2004021002.  
<http://planning.lacounty.gov/spLandmark.htm>.
- Intergovernmental Panel on Climate Change [IPCC], 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- Intergovernmental Panel on Climate Change, November 2007. Climate Change 2007: Synthesis Report; Summary for Policymakers. [http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4\\_syr.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf); [http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4\\_syr\\_spm.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf).
- Jepson Online Exchange. 2006. The University and Jepson Herbaria, University of California, Berkeley. Online: <http://ucjeps.berkeley.edu/interchange.html>.
- Joyner, W.B., and Boore, D.M., 1981. Peak Horizontal Acceleration and Velocity from strong motion records, including records from the 1979 Imperial Valley, California Earthquake: Seismology Society of America Bulletin, Vol. 71, p.2011-2038.
- Kimley-Horn and Associates, 2007. Drainage Concept/Hydrology Study/SUSMP For Tract No. 53933.
- Kiparsky, Michael and Peter H. Gleick. 2003. Climate Change and California Water Resources: A Survey and Summary of the Literature. California Energy Commission Report 500-04-073
- Leighton and Associates, Inc. 1989. Preliminary Geotechnical Investigation and Fault-Rupture Hazard Study, Proposed Condominium Tract 46798, Castaic, County of Los Angeles, CAProject No. 7881423-02.



Leighton and Associates, Inc. 1992. "Preliminary Geotechnical Evaluation." Prepared for Can Shelter. 2911145-01.

Lemons, P., "Focused California Gnatcatcher Surveys for Mission Village, Los Angeles County, California" (January 26, 2008)

Los Angeles, County of, Chief Executive Office. "Report on the Impact of the State Action Against San Bernardino County Regarding its General Plan Update" October 2007

Los Angeles, County of, Department of Regional Planning. "All Cases Files since January 1, 2001 in the Castaic Canyon Zoned District" and "Cases Filed in the Castaic Canyon Zoned District Between 1/1/1999 and 08/05/2004." Daniel Fierros and Hsiao-Ching Chen.

Los Angeles, County of, Department of Regional Planning. Agenda and Cases. "Centennial Specific Plan Project Description, Notice of Preparation." March 2004.  
[http://planning.co.la.ca.us/SP02\\_232\\_not\\_prep.pdf](http://planning.co.la.ca.us/SP02_232_not_prep.pdf)

Los Angeles, County of, Department of Regional Planning. Agenda and Cases. "Newhall Ranch Specific Plan and Water Reclamation Plant, Notice of Preparation." June 2001.  
[http://planning.co.la.ca.us/PR94087\\_stf\\_rpt.pdf](http://planning.co.la.ca.us/PR94087_stf_rpt.pdf)

Los Angeles, County of, Department of Regional Planning. "Castaic Area Community Standards District." November 2004.

Los Angeles, County of, Department of Regional Planning. "General Plan." January 1993.  
[http://elib.cs.berkeley.edu/cgi-bin/doc\\_home?elib\\_id=791](http://elib.cs.berkeley.edu/cgi-bin/doc_home?elib_id=791)

Los Angeles, County of, Department of Regional Planning. "Hillside Design Guidelines."  
[http://planning.co.la.ca.us/drpf\\_Hillside\\_Design\\_Guide.pdf](http://planning.co.la.ca.us/drpf_Hillside_Design_Guide.pdf)

Los Angeles, County of, Department of Regional Planning. "Santa Clarita Valley Area Plan." December 1990.

Los Angeles, County of, Department of Regional Planning. "Zoning Ordinance Summary."  
[http://planning.co.la.ca.us/drpf\\_sum.html](http://planning.co.la.ca.us/drpf_sum.html).

Los Angeles, County of, Fire Department, Land Development Unit and Fire Prevention Division. "Water System Requirements" and "Conditions of Approval for Subdivision." November, 2003.

LSA Associates, Inc. October 2007. Air Quality Study I-5 HOV and Truck Climbing Lanes Project Technical Addendum.

MacArthur, R. H. and E. O. Wilson. 1967. *The Theory of Island Biogeography*. Princeton University Press, Princeton, New Jersey.

Manual on Uniform Traffic Control Devices. 2003. Federal Highway Administration.



- Mock, P. 2004. California Gnatcatcher (*Poliophtila californica*). In The Coastal Scrub and Chaparral Bird Conservation Plan: a strategy for protecting and managing coastal scrub and chaparral habitats and associated birds in California. California Partners in Flight. <http://www.prbo.org/calpif/htmldocs/scrub.html>
- Natural Resources Defense Council v. Kempthorne, 506 F.Supp.2d 322, 387-388 (E.D.Cal. 2007)
- Newhall County Water District. "Master Water Plan for Castaic Water System." Prepared by Albert A. Webb Associates. April 1998. W.O. 97-3507
- Newhall County Water District. "Water Supply Assessment." Prepared by Stetson Engineers, Inc. November 2004. [http://www.ncwd.org/News/WaterSupplyAssessment/WSA%20final\(030705\)+Figures.pdf](http://www.ncwd.org/News/WaterSupplyAssessment/WSA%20final(030705)+Figures.pdf)
- Noss, R. 1983. A Regional Landscape Approach to Maintain Biodiversity. Bioscience 33(11): 700-706.
- Parmesan C, Galbraith H. 2004. Observed Ecological Impacts of Climate Change in North America. Arlington, VA: Pew Cent. Glob. Clim. Change
- Penrod, K., C. Cabanero, P. Beier, C. Luke, W. Spencer, and E. Rubin. 2005. South Coast Missing Linkages Project: A Linkage Design for the Sierra Madre-Castaic Connection. South Coast Wildlands, Idyllwild, CA. [www.scwildlands.org](http://www.scwildlands.org).
- Proceedings of the Missing Linkages: Restoring Connectivity to the California Landscape conference, San Diego, California, 2000. Written and compiled by K. Penrod. Online: [http://www.calwild.org/resources/pubs/linkages/table\\_of\\_contents.htm](http://www.calwild.org/resources/pubs/linkages/table_of_contents.htm).
- Report on the Castaic Bridge and Major Thoroughfare Construction Fee District. Department of Public Works, County of Los Angeles.
- Santa Clarita, City of. "Santa Clarita Valley Subdivision Activity Map." March 2005 (City), June 2004 (County).
- Santa Clarita, City of, Public Libraries. "[Map to] A Santa Clarita Valley Cluster Library: Valencia, Newhall, and Canyon Country/Jo Ann Darcy." March 2005. <http://www.colapublib.org/libs/canyoncountry/clustermap.html>
- Simberloff, D., and J. Cox. 1987. Consequences and costs of conservation corridors. Conservation Biology 1:63-71.
- SR Consultants, Inc. 11/07/2002. Slope Analysis Exhibit.
- Traffic Impact Analysis Report Guidelines. 1997. County of Los Angeles.



Treiman, J.A., 1986. Landslide Hazards in the West ½ of the Newhall Quadrangle, Los Angeles, CA. Landslide Hazard Identification Map #2, California Division of Mines and Geology.

Trees, Etc. "Oak Tree Report: Vesting Tentative Tract 53933, The Old Road, Castaic, Los Angeles County, Ca." Prepared for: Bahram Safavi. February 2004. 536-1-04.

Trip Generation, 7th Edition. 2003. Institute of Transportation Engineers.

United States Environmental Protection Agency. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*. 1971.

Urban Water Management Plan, 2005. Prepared for Castaic Lake Water Agency (CLWA), CLWA Santa Clarita Water Division, Newhall County Water District, Valencia Water Company, Los Angeles County Waterworks District No. 36/Cooperating Agency. Prepared by Black& Veatch et.al.

United Nations Framework Convention on Climate Change ([www.unfccc.int](http://www.unfccc.int)), 2007.

USDA. 1999. Southern California Mountains and Foothills Assessment, Habitat Species and Conservation Issues. General Technical Report GTR-PSW-172. Pacific Southwest Research Station, Forest Service.

U.S. Environmental Protection Agency (USEPA). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2006. April 15, 2008 Final.

*Watershed Enforcers v. California Department of Water Resources*, Case No. RG06292124, Order Alameda County Sup. Ct. March 22, 2007.

William Cotton and Associates. 1988. Late Pleistocene and Holocene Paleoseismicity of the San Gabriel Fault, Saugus/Castaic Area, Los Angeles County, California. Final Technical Report. U.S. Geological Survey Contract No. 14-08-0001-G1196.

Zeiner, D., W.F. Laudenslayer, Jr., and K.E. Mayer. 1988 - 1990. California's Wildlife. California Statewide Wildlife Habitat Relationship System, Volumes I, II, & III. California Department of Fish and Game.

## **7.2 Persons Contacted**

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## 8.0 ADDENDA and ERRATA/ COMMENTS and RESPONSES

The changes incorporated into this EIR involve clarifications resulting from comments received from staff and public agencies during two separate public review periods. The public review process for this project is described in greater detail starting under subsection 8.2, *Comments and Responses* on page 8-13.

### 8.1 ADDENDA and ERRATA

This section of the Revised Draft EIR for the Lake View Estates Mixed Use Project presents modifications to the Draft EIR text based on comments received and the County's responses, which are included below in Section 8.2. Deletions are noted by ~~strikeout~~ and insertions by underline. Individual typographical corrections are not specifically stated.

Globally, the proposed zoning of RPD-2.5U has been replaced with a zoning of RPD-1.9U. The 2.5U designation would allow for more residential units than the 70 units that is actually proposed by the TR53933 project. Thus, Department of Regional Planning staff has requested that the residential zoning be modified to RPD-1.9U to more accurately reflect the number of units actually proposed by the project. In-line with this zone modification from RPD-2.5U to RPD-1.9U for the project, the EIR has been modified to reflect a residential zoning of RPD-1.9U. A review of the EIR with respect to modification of residential zoning from RPD-2.5U to RPD-1.9U indicates that EIR analyzes the project based on 70 Single Family Residences (SFR). Therefore, regardless of the residential zoning label of RPD-2.5U or RPD-1.9U, the project would provide 70 SFR and the EIR analyzes the impacts associated with that number of units. The project is consistent with the RPD 2.5U designation at 1.9U per acre because it does not exceed the 2.5U limit on the designation. Nevertheless, the EIR has been modified to provide consistency with the number of residential units that are proposed in the TR53933 subdivision.

#### Section 4.3 *Fire Hazard*

The following additional language was modified in FH-1(b) in Section 4.3 *Fire Hazard* in response to comment 8.2.

- The commercial development ~~may~~requires fire flows up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to a five-hour duration (three hydrants flowing simultaneously). Final fire flows will be based on the size of the buildings, their relationship to other structures, property lines, and types of construction used;
- Single-family detached homes shall require a minimum fire flow of 1,250 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration, over and above maximum daily domestic demand. One hydrant flowing simultaneously may be used to achieve the required fire flow. When there are five or more



**Section 8.0 Addenda and Errata/Comments and Responses**

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units taking access on a single driveway, the minimum fire flow shall be increased to 1,500 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration;

- Provide Fire Department or City approved street signs and building access numbers prior to occupancy.
- A minimum of four commercial fire hydrants and four residential fire hydrants shall be installed.

*Section 4.4 Noise Hazard*

The following changes were made on page 4.4-12 in response to comment 3.3.

**N-3(b) Exterior Noise.** At a minimum, residential lots ~~1-8, 16-21, 60-67 and 70~~ shall incorporate six-foot tall solid block sound barrier walls at the edge of the property facing I-5 on the side and rear yard property boundaries or surrounding the exterior usable space of the rear yard.

**N-3(c) Second Story Interior Noise.** Residential lots ~~1-8, 16-21, 60-67 and 70~~ shall incorporate second story insulation to achieve an interior second story noise level of 45 dBA.

*Section 4.5 Water Quality*

Section 4.5.3 starting on page 4.5-6 was deleted in entirety in response to comment 12.1.

The following changes were made in response to comment 12.2.

County of Los Angeles County Department of Public Works Department is responsible for the maintenance and operation of the local sewer lines within the unincorporated County area CSMD line.

The following changes were made in response to comment 12.3.

In addition, the plans for the necessary sewer collection infrastructure will need to be reviewed ~~by and approved by both the~~ Los Angeles County Public Works and approved by the Sanitation Districts.

*Section 4.6 Air Quality*

The following changes were made on page 4.6-6 in Section 4.6 *Air Quality* in response to comment 4.1.



**Impact AQ-1 ~~Project construction would generate air pollutant emissions that exceed SCAQMD daily construction thresholds for ozone precursors NO<sub>x</sub> and VOC (=ROG). Project construction would also generate PM<sub>10</sub> emissions that exceed daily SCAQMD construction thresholds and LSTs for the area. LSTs for PM<sub>2.5</sub> would also be exceeded. Construction impacts are considered Class I, significant and unavoidable.~~**

The computer program URBEMIS calculates construction emissions based on grading (~~Phase I~~) and building construction (~~Phase II~~). No demolition scenarios were analyzed for this EIR because the project site is currently undeveloped.

During project grading (~~Phase II~~), the earth that underlies the site would be turned over and pushed around, exposing the soils to wind erosion and dust entrainment by onsite operating equipment.

The following changes were made on page 4.6-7 in Section 4.6 *Air Quality* in response to comment 4.1.

The construction scenario was intended to mimic worst-case scenario conditions and as a result assumes that project construction commences during the summer (June 2010 ~~07~~) when ozone is most problematic. Additionally, it assumes that ~~12~~ 4 diesel operated construction vehicles would all be working simultaneously throughout the six-month grading period eight hours/day, 22 days/month. The building phase assumes that ~~18~~ 21 diesel operated construction vehicles are operating over a 14 month period to complete construction of the 70 residences and 70,000 square feet of office space<sup>1</sup>. Table 4.6-5 shows worst-case estimated daily emissions during the grading (~~Phase II~~) and building (~~Phase III~~) construction tasks.

**Table 4.6-5 ~~Estimated Maximum Daily Air Pollutant Emissions During Construction~~**

Activity	Unmitigated Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	Exhaust PM <sub>10</sub>	Fugitive Dust PM <sub>10</sub>	PM <sub>2.5</sub>
Site Grading Off Road	28.69	180.63 *	238.09	6.55	572.86 *	64.46 *
Worker Trips	0.29	0.35	6.92	0.01	0.02	0.03
<b>Maximum Phase II Grading<sup>1</sup></b>	<b>28.98</b>	<b>180.98 *</b>	<b>245.01</b>	<b>6.56</b>	<b>572.88 *</b>	<b>64.49 *</b>
1st Year Building Construction	33.17	221.79 *	266.34	8.58	0.00	7.89
1st Year Worker Trips	0.48	0.28	5.90	0.01	0.09	0.09
2 <sup>nd</sup> Year Building Construction	33.17	243.51 *	271.61	7.90	0.00	7.27
2 <sup>nd</sup> Year Worker Trips	0.88	0.52	10.90	0.20	0.18	0.20
2 <sup>nd</sup> Year Architectural Coatings off gas	75.83 *	0.00	0.00	0.00	0.00	0.00
3rd Year Asphalt Paving	4.63	24.76	34.31	0.68	0.00	0.63
3rd Year Asphalt Paving Worker Trips	0.02	0.01	0.23	0.00	0.00	0.00

<sup>1</sup> The modeling was conducted for an earlier version of the project which included 90,000 square feet of commercial space and is thus considered conservative.



<b>Maximum Phase III Construction<sup>2</sup></b>	<b>75.83*</b>	<b>222.07*</b>	<b>277.06</b>	<b>7.90</b>	<b>0.09</b>	<b>7.89*</b>
<b>SCAQMD Thresholds</b>	<b>75</b>	<b>100</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
<b>LSTs<sup>3</sup></b>	<b>N/A</b>	<b>310</b>	<b>1,252</b>	<b>12</b>	<b>12</b>	<b>6</b>

*Source: URBEMIS 2002, Version 8.7; see Appendix D for calculations.*

<sup>1</sup> Totals include emissions associated with site grading, and worker trips.

<sup>2</sup> Maximum daily emissions based on highest in either construction year 1, 2 or 3.

<sup>3</sup> LSTs are for a five acre project in SRA-13 at a distance of 82 feet from the site boundary

\* Indicates exceedance of the daily significance threshold

**Table 4.6-5 Estimated Maximum Daily Air Pollutant Emissions During Construction**

Activity	Unmitigated Emissions (lbs/day)					
	VOC	NOx	CO	Exhaust PM <sub>10</sub>	Fugitive Dust PM <sub>10</sub>	PM <sub>2.5</sub>
Mass Grading	11.42	96.24	45.97	4.66	644.58 *	138.90 *
Trenching	2.09	17.75	9.30	0.88	0.01	0.81
Asphalt	5.11	23.26	13.78	1.64	0.05	1.52
Building Construction	24.42	98.67	67.49	4.59	0.15	4.27
<b>SCAQMD Thresholds</b>	<b>75</b>	<b>100</b>	<b>550</b>	<b>150</b>	<b>150</b>	<b>55</b>
<b>LSTs<sup>3</sup></b>	<b>N/A</b>	<b>310</b>	<b>1,252</b>	<b>12</b>	<b>12</b>	<b>6</b>

*Source: URBEMIS 2002, Version 8.7; see Appendix D for calculations.*

<sup>1</sup> Totals include emissions associated with site grading, and worker trips.

<sup>2</sup> Maximum daily emissions based on highest in either construction year 1, 2 or 3.

<sup>3</sup> LSTs are for a five acre project in SRA-13 at a distance of 82 feet from the site boundary

\* Indicates exceedance of the daily significance threshold

The grading phase of construction is expected to generate a substantial amount of fugitive dust because of the 20 to 130 foot deep cuts and 30 to 80 foot deep fills that would involve earth moving and equipment movement on bare earth for a six-month period. Approximately 572.88 644.58 lbs of fugitive dust/day is estimated to be produced during grading activities. This quantity of PM<sub>10</sub> would exceed both SCAQMD daily construction emission thresholds and the LST for SRA 13. In addition, PM<sub>2.5</sub> and NOx would exceed SCAQMD daily construction emission thresholds, while PM<sub>2.5</sub> would also exceed the and LST thresholds.

Phase III emissions are associated with construction of the 70 residences and 70,000 square feet of business professional office use. This phase of construction is anticipated to exceed South Coast Air Quality Management District (SCAQMD) thresholds for emissions of VOCs, and NOx, while PM<sub>2.5</sub> would exceeded for LST. Maximum daily Phase III building construction emissions are expected to exceed the NOx SCAQMD threshold by approximately 122 lbs/day. VOC emissions are expected to exceed SCAQMD thresholds during application of architectural coatings, which is projected to generate about 75.83 pounds of VOC per day during the building phase (Phase III), assuming that application requires 2 months and commences upon completion of construction. This exceeds the SCAQMD's 75 pounds per day significance threshold for VOC by 0.83 lb/day. However, actual exceedance of the 75 pounds per day threshold is dependent on a number of factors such as the types of coatings utilized, the number of structures under application simultaneously, and the timing of the applications. For



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~~example if work with architectural coatings commences on portions of the project sequentially while construction is still in progress, rather than upon completion of all of the buildings as is assumed by the computer modeling program, the daily threshold may not be exceeded. However, other emissions from vehicles would also then contribute to the total amount of VOCs produced daily.~~

The following changes were made on page 4.6-9 in Section 4.6 *Air Quality* in response to comments 4.2 and 4.4.

**AQ-1(a) Fugitive Dust Control Measures:**

- Water trucks shall be used during construction to keep all areas of vehicle movements damp enough to prevent dust from leaving the site. At a minimum, this will require three daily applications (start of workday, midday and at the end of the workday). Increased watering is required whenever wind speed exceeds 15 mph. Grading shall be suspended if wind gusts exceed 25 mph.
- The amount of disturbed area shall be minimized, active grading shall not exceed 7.25 acres per day, and onsite vehicle speeds shall be limited to 15 mph or less on all unpaved areas. The developer shall pave roads and shoulders as soon as feasible.
- Unpaved haul roads shall be watered a minimum of three times per day.
- If ~~importation, exportation and~~ stockpiling of fill material is involved, earth with 5% or greater silt content that is stockpiled for more than two days shall be covered, kept moist, or treated with earth 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.~~
- After clearing, grading, earth-moving or excavation is completed, the disturbed area shall be treated by ~~watering, revegetation, or by~~ spreading earth binders (non-toxic soil stabilizers) according to manufacturer's specifications until the area is paved or otherwise developed. Staging and parking areas shall also be stabilized by paving or with soil stabilizers.
- ~~Any material transported offsite shall be securely covered to prevent excessive amounts of dust.~~
- Install wheel washers where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site on each trip.

The following change was made on page 4.6-9 in Section 4.6 *Air Quality* in response to comment 4.3.

**AQ-1(c) NOx Control Measures:**



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- ~~Cooled Exhaust Gas Recirculation shall be required on all heavy duty diesel construction equipment during the grading and construction phases to reduce NOx emissions by 40% and PM<sub>10</sub> emissions by 90%;~~
- Equipment engines should be maintained in good condition and in proper tune as per manufacturer’s specifications;
- Schedule construction periods to occur over a longer time period (i.e. lengthen from 60 days to 90 days) during the smog season so as to minimize the number of vehicles and equipment operating simultaneously; and
- Use new technologies to control ozone precursor emissions as they become readily available.

The following change was made on page 4.6-9 in Section 4.6 *Air Quality* in response to comments 4.1 and 4.2.

**Table 4.6-6 Estimated Mitigated Maximum Daily Air Pollutant Emissions During Construction**

	Emissions (lbs/day)					
	VOC	NOx	CO	Exhaust PM <sub>10</sub>	Fugitive Dust	PM <sub>2.5</sub>
Maximum Daily Emissions	52.00	97.66	34.54	0.94	183.33 *	19.33 *
Maximum Daily Emissions	19.60	98.67	67.49	4.74	65.90 *	18.05 *
SCAQMD Thresholds	75	100	550	150	150	55
<sup>1</sup> LSTs	N/A	310	1,252	12	12	6

Source: URBEMIS 2007~~2~~ calculations. See Appendix D for calculations.

\* Indicates exceedance of a significance threshold.

<sup>1</sup>LSTs are specific to SRA 13 for a five-acre project with receptors located within 82 feet of the project boundary

The mitigated ~~183.33~~ 65.90 lbs/day that is projected to occur while grading in the northwest corner of the site would exceed the LST until grading occurred more than ~~656~~ 328 feet from the sensitive receptor, at which point allowable emissions would be ~~232~~ 102 lbs/day.

The following changes were made on page 4.6-12 in Section 4.6 *Air Quality* in response to comment 4.1.

The results yielded a determination that the concentration of PM<sub>10</sub> at the nearest sensitive receptor would exceed the 50 µg per cubic meter threshold by ~~229.8~~ 50 µg.



**Table 4.6-7 Operational Emissions Associated with the Proposed Project (lbs/day)**

Emission Source	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>
Vehicle	13.25	14.97	163.86	18.95
Area	7.71	1.50	4.30	0.02
<b>Total Emissions</b>	<b>20.96</b>	<b>16.46</b>	<b>168.15</b>	<b>18.96</b>
<u>Vehicle</u>	<u>10.49</u>	<u>14.40</u>	<u>132.13</u>	<u>1.40</u>
<u>Area</u>	<u>5.18</u>	<u>1.69</u>	<u>7.10</u>	<u>0.02</u>
<b>Total Emissions</b>	<b>15.67</b>	<b>16.09</b>	<b>139.23</b>	<b>1.42</b>
SCAQMD Thresholds	55	55	550	150

Source: URBEMIS 2007<sub>2</sub> calculations. See Appendix D for calculations.

The following changes were made on page 4.6-13 in Section 4.6 *Air Quality* in response to comment 4.1.

**Table 4.6-8 Mitigated Operational Emissions Associated with the Proposed Project (lbs/day)**

Emission Source	VOC	NO <sub>x</sub>	CO	PM <sub>10</sub>
Vehicle	12.73	14.26	156.09	18.05
Area	7.70	1.38	4.20	0.02
<b>Total Emissions</b>	<b>20.43</b>	<b>15.63</b>	<b>160.28</b>	<b>18.07</b>
<u>Vehicle</u>	<u>10.49</u>	<u>14.40</u>	<u>132.13</u>	<u>1.40</u>
<u>Area</u>	<u>5.16</u>	<u>1.37</u>	<u>6.92</u>	<u>0.02</u>
<b>Total Emissions</b>	<b>15.65</b>	<b>15.77</b>	<b>139.05</b>	<b>1.42</b>
SCAQMD Thresholds	55	55	550	150

Source: URBEMIS 2007<sub>2</sub> calculations. See Appendix D for calculations.

#### Section 4.7 *Biota*

The following clarifications were made to setting information in Section 4.7 *Biota* in response to staff biologist comments.

Per Pendrod et al. (2005), the project area does not compose a significant part of the linkage design for the Sierra-Madre Castaic connection and the site does not contain any high value habitat linkages. However, the Missing Linkages study does indicate that the project site is within a corridor that could connect habitat on the eastern and western sides of I-5 in the event that I-5 is modified in the future to provide wildlife crossings.

The following clarifications were made to the cumulative impacts discussion on page 4.7-38 in Section 4.7 *Biota* in response to staff biologist comments.



The project site is partially isolated by residential development on the north and south, and commercial use and I-5 to the east, which also presents a significant migratory barrier to most vertebrate species and prevents the property from functioning as a significant wildlife corridor. However, as previously discussed on page 4.7-11, the project area is located in an area that could become a corridor in the future if wildlife crossings are constructed to link the project vicinity with the property along the eastern side of I-5. It is noted that the design of the tract map includes open space surrounding the commercial and residential development on the periphery of the project site (see Figure 2-4). These open space areas including lots 72, 73, and 74 in combination with offsite areas to the north and to the west could serve to provide a connection from The Old Road to the ridgeline that extends westward offsite (see Figure 2-3, 2-4 and Figure 4.9-1). Nevertheless at present and under current conditions, I-5 presents a substantial barrier to east-west wildlife mobility.

Mitigation measures BIO-1(a), BIO-1(c) and BIO-1(d) were modified in response to comment 2.2 and Mitigation Measures BIO-1(a) and BIO-1(c) were further modified in response to staff biologist comments (see staff biologist memo regarding coastal sage scrub mitigation practices in Appendix E).

**BIO-1(a)** Temporarily disturbed areas shall be revegetated with native vegetation in the same proportions and species as the natural habitat removed. Preconstruction detailed surveys of vegetation on at least three (3) blocks of 50 x 50 meters on the site shall be used to determine the native coastal scrub vegetation of the site [also see mitigation measure BIO-1(c-d)]. These proportions may be modified by County Fire Department and County Public Works as needed for safety reasons. If the 80% coastal sage scrub vegetative coverage (plants typical of the removed coastal sage scrub community in proportion to natural coverages) is not met within three years, the monitoring effort shall be extended to five years. If not met at the end of five years, the monitoring effort shall be extended another five years and again tested at the end of five years for meeting success criteria. This extension process should continue until the success criteria are met. Annual monitoring reports shall be prepared and submitted to the County Director of Regional Planning that include qualitative and quantitative data regarding the success of the revegetation effort, comparison to performance criteria, and recommendations for the successful completion of the restoration effort.

A landscape plan that includes control of invasive non-native plants shall be submitted for review and approval by the County of Los Angeles Department of Regional Planning prior to the issuance of a grading permit. The landscape plan shall limit irrigation to within Fuel Modification Zone A and shall utilize only locally indigenous plant species and varieties.



During grading and construction, a wheel well and undercarriage washing station shall be installed at project site entrances to serve the purpose of removing dust and plant parts from entering and exiting vehicles in order to prevent transport of invasive weed species onto and off of the site. The wheel washing station shall consist of a lined aggregate pit (2-3" aggregate), designed such that the washed seeds and plant parts filter through timbers and gravel onto a geotech cloth. At the end of construction, the pit shall be disassembled and back-filled, and the geotech cloth shall be carefully removed with all contents and taken to a disposal site and buried deeply so that the invasive plant parts and propagules will not spread to other areas.

Pressurized washing shall be done for all vehicles (1) before coming to the site, (2) upon entry, and (3) at the end of each day when grading an area with exotic plants, and (4) before moving the vehicle to another site. Vehicle operators shall fill out a log book kept in a waterproof container at each washing station that can be checked by the biologist in charge of biological mitigation.

- BIO-1(c)** The 8.5 acres of removed coastal sage scrub shall be replaced mitigated at a ratio of 1:1, combining planting and protection of coastal sage scrub. Fuel modification zones shall not be included as mitigation areas. This Mitigation areas shall be set aside and protected in perpetuity from further development, and shall be contiguous with other coastal sage scrub. In the event that the California Department of Fish and Game (CDFG) becomes a responsible agency under the California Endangered Species Act pursuant to additional field work conducted under Mitigation Measures BIO-4(b-c) and/or BIO-5 (a-b, & d) the CDFG shall retain the right to supersede these coastal sage scrub mitigation requirements through modification or addition pursuant to nexus. Covenants, Conditions & Restrictions (CC&R's) and/or deed restrictions or conservation easements shall be developed to protect this area the mitigation area, and adequate fencing shall separate all preserved lands from developed areas in order to prevent pets, vehicles, and people from impacting the area.

If coastal sage scrub habitat is restored onsite on manufactured slope or non-native grassland habitat areas that are outside the fuel modification zones in accordance with mitigation measure BIO-1(a & d), the plantings shall be monitored for at least three years to determine if the restoration plantings have been successful. Success criteria shall be developed as part of the planting plans and shall be no less than 80% vegetative coverage by native plants at the conclusion of the restoration effort. If the 80% coastal sage scrub



vegetative coverage (plants typical of the removed coastal sage scrub community in proportion to natural coverages) is not met within three years, the monitoring effort shall be extended to five years. If not met at the end of five years, the monitoring effort shall be extended another five years and again tested at the end of five years for meeting success criteria. This extension process should continue until the success criteria are met. Annual monitoring reports shall be prepared and submitted to the County Director of Regional Planning that include qualitative and quantitative data regarding the success of the revegetation effort, comparison to performance criteria, and recommendations for the successful completion of the restoration effort.

If there is not sufficient suitable replacement habitat remaining onsite and outside of the fuel modification zones, the applicant shall either purchase and set-aside the residual amount of habitat needed with suitable conservation easements or restrictive covenants as necessary to provide for long term preservation, or shall acquire mitigation credits from a suitable bank. If mitigation credits are acquired from a bank, the applicant shall provide evidence of same to the County Department of Regional Planning prior to site occupancy.

- BIO-1(d)** Revegetation and landscaping plans for the ~~graded road~~ restoration and revegetation areas on the project site shall be reviewed and approved by the County before issuance of a grading permit. Plant species, seed mixes, weed suppression, planting methodology, and irrigation schedule shall be prepared by a qualified biologist or landscape architect and shall utilize locally indigenous species from onsite habitats [see also mitigation measure BIO-1(a)]. No species identified as invasive by the CNPS, California Invasive Plant Council, other databases and Los Angeles County Department of Regional Planning Biologist or staff shall be utilized in the landscape plans. The plan shall be reviewed and approved by Department of Regional Planning.

Figure 4.7-2 and mitigation measures BIO-5(a-d) were modified in response to comment 2.3.

- BIO-5(a)** Pre-construction surveys shall be conducted ~~if vegetation clearing and construction activities are proposed during CAGN breeding season (beginning January 15<sup>th</sup>).~~ Prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub, a survey would be conducted to locate gnatcatchers within 100 feet of the outer extent of projected soil disturbance activities and the locations should be clearly marked and identified on the construction/grading plans. A biological monitor will also be present at the initiation of vegetation clearing to provide an education



program to the construction operators regarding the efforts needed to protect the CAGN and other special-status species. Fencing or flagging would be installed around the limits of grading prior to the initiation of vegetation clearing.

A qualified monitoring biologist as approved by the jurisdictional agencies shall be onsite during any clearing of coastal sage scrub. The developer will notify USFWS/CDFG at least fourteen (14) calendar days prior to the clearing of any habitat determined by the pre-construction survey to be occupied by gnatcatcher to allow USFWS/CDFG to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist would flush CAGN and other special-status species (such as loggerhead shrike) from occupied habitat areas immediately prior to brush clearing and earth-moving activities.

Coastal sage scrub identified for protection and located within the likely dust drift radius of construction areas would be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.

**BIO-5(a-b)** Not more than two weeks prior to ground disturbing construction within coastal sage scrub, chaparral, and annual grassland habitats, a preconstruction survey for the coast horned lizard, coastal western whiptail, 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 appropriate habitat within a nearby known preserve. These species shall be translocated as close to the site as possible in order to maintain the species' microhabitat to the greatest extent possible. During grading and vegetation clearing, wildlife escape routes shall be allowed and cornering wildlife shall be avoided to the greatest extent possible (eg. using flagging rather than silt fencing to demarcate site boundaries).

**BIO-5(bc)** Prior to grading, a qualified biologist shall be retained by the applicant as the biological monitor subject to the approval of the County of Los Angeles (see also BIO-3(b) above). During earthmoving activities, the biological monitor shall be present to relocate any vertebrate species that may come into harm's way to an appropriate offsite location of similar habitat.

**BIO-5(ed)** Before implementation of this project, trapping is recommended using live traps. If trap-and-release protocols determine the presence



of San Diego desert woodrat, these animals would be relocated to safe, public land retained in open space land use designations with suitable habitats.

Mitigation measure BIO-5(d) was further modified in response to comment 2.4.

**BIO-5(d)** Prior to any vegetation clearance or grading, Before implementation of this project, trapping for San Diego woodrat is recommended required using live traps. If trap-and-release protocols determine the presence of San Diego desert woodrat, these any captured animals would be relocated to safe, public land retained in open space land use designations with suitable habitats. If live-trapping at identified woodrat stick nests does not capture the occupant, a silt fence shall be constructed to isolate the stick nest from the development area, with the base of the silt fence either buried or sandbagged to prevent animals from entering the project area from underneath the fence. The stick nest would then be removed by hand by a biologist to remove the occupant(s) and allow their escape to adjacent undisturbed habitat. A similar silt fence shall be placed at the edge of the grading envelope and remain in place and maintained until completion of ground disturbance activities. The monitoring biologist(s) shall acquire appropriate approvals from the California Department of Fish and Game as necessary to perform the salvage activities.

The DEIR and Revised DEIR did not specify a limitation on the number of oaks that could be encroached upon as there are a total of 24 oak trees on site and 9 oak trees adjacent to the site. The Oak Tree permit allows for removal of up to 13 healthy oak trees and encroachment of up to 20 oak trees provided that encroachment protection is provided pursuant to the County Forester's recommendations. The following changes were made to clarify that up to 20 oak trees could be encroached upon in accordance with the permit.

Page 4.7-35

Up to 20 Other oaks on the site and adjacent to the site (OP-9, located adjacent the western boundary) are located in close proximity to grading and could be inadvertently damaged during construction if precautionary measures are not implemented.

Page 4.7-36 (second bullet of mitigation measure BIO-7) and repeated in the Executive Summary.

- Identifying specific protective measures for protecting and maintaining all oaks within potential encroachment areas (up to 20 oaks encroached upon);

Section 4.11 *Waste Disposal*

The following changes were made on page 4.11-1.



**Section 8.0 Addenda and Errata/Comments and Responses**

According to LACSD this 15-inch diameter trunk sewer has a design capacity of 3.1 million gallons per day (MGD) and conveyed a peak flow of ~~2.2~~ 1.7 MGD when last measured in 201008.

The three-phase Castaic Relief Trunk Sewer is currently in design and the estimated design completion date for the first phase is June 2010 ~~should be in service by the end of 2009.~~

Section 4.13 *Public Services*

The following changes were made to Table 4.13-1 and Table 4.13-2 on page 4.13-1 in response to comment 8.1

**Table 4.13-1 Fire Emergency Response Capabilities, Station 149**

Equipment	Distance (Miles)	Time (Minutes)	Staffing
1 Fire Engine	1.3 miles	4 minutes	3
1 Paramedic Squad	1.3 miles	4 minutes	2
<u>1 Patrol Vehicle</u>	<u>1.3 miles</u>	<u>Not applicable</u>	<u>shared</u>

*Source: Los Angeles County Fire Department, Chief P. Michael Freeman and Captain Mark Kyllingstad, May 2005; and comment letter 8, see Section 8.0 Addenda Errata/Comments and Responses*

**Table 4.13-2 Fire Emergency Response Capabilities, Station 76**

Equipment	Distance (Miles)	Time (Minutes)	Staffing
1 Fire Engine	3.5 miles	11.7 minutes	4
1 Brush Patrol Unit	<del>23.5</del> miles	<del>4.5-5.5 minutes</del> <u>Not applicable</u>	0*
1 Hazardous Materials Squad	<del>23.5</del> miles	11.7 minutes	5

*Source: Los Angeles County Fire Department, Chief P. Michael Freeman and Captain Mark Kyllingstad, May 2005; and comment letter 8, see Section 8.0 Addenda Errata/Comments and Responses*

\*Staffed as necessary.

The impact discussion on page 4.13-3 was clarified in response to comment 8.1. The modified text is shown below.

Response times are estimated at six minutes for first arriving units in the Castaic area ~~and response time to the project area from the closest station are is~~ approximately four minutes. Response times for the Valencia Station are 11.7 minutes (see Table 4.13-2).

Section 4.14 *Water Service*

The following changes were made on page 4.14-7 in Section 4.14 *Water Service* in response to comment 5.



The majority of the site is within NCWD boundaries; however, the northeastern portion of the property is outside of the NCWD boundaries, but within the NCWD Sphere of Influence, and is within the service area for Los Angeles County Waterworks District #36.

#### Section 4.15 *Land Use*

The following changes were made on page 4.15-30 in response to letter 11, comments 11.1 and 11.2.

In addition, according to the Los Angeles County Department of Parks and Recreation, Park Obligation Worksheet, payment of ~~\$125,735,122,972~~ in in-lieu fees has been deemed appropriate to create a public park space off site, in line with the Quimby Act.

The fee was calculated based on ~~an acreage County valuation of a representative land value of \$177,092,173,200 for park planning area 35B (Castaic/Val Verde).~~ Therefore, the project would be required to contribute ~~\$125,735,122,972~~ towards this fee program ( $0.71 \times \underline{\$177,092,173,200} = \underline{\$125,735,122,972}$ ).

~~However, it is expected that a credit may be received for providing a private park on-site.~~

The following changes were made on page 4.15-9 in response to letter 12, comment 12.1.

*Consistency analysis:* The proposed project would not build residences or commercial structures to LEED certification, ~~and is not subject to the LID ordinance because the Application was deemed complete prior to the ordinance becoming effective.~~ However, mitigation measure GCC-1 documents a variety of measures to reduce energy consumption. In addition, the project incorporates a mixed use design, xeriscaping, low flow fixtures, and would be designed to reduce energy conservation by 20% beyond Title 24. Table 4.5-1 includes a list of proposed LID BMPs (Best Management Practices) and analyzes the project's compatibility with future Los Angeles County LID requirements. Implementation of the proposed LID BMPs would improve groundwater recharge, flood management, and water quality.

The following changes were made on page 4.15-10 in response to letter 12, comment 12.1.

*Consistency analysis:* ~~A list of the proposed project's proposed Low Impact Development (LID) Best Management Practices (BMPs) is located in Table 4.5-1. Table 4.5-1 analyzes the project's compatibility with future Los Angeles County LID requirements. Implementation of the proposed LID BMPs would improve groundwater recharge, flood management, and water quality. Additionally, ¶The proposed project contains mitigation measures aimed at promoting water conservation for the residential and commercial uses. Proposed interior~~



conservation, exterior conservation, reclaimed water, and xeriscaping mitigation measures are outlined in detail in Section 4.14 Water Service. These mitigation measures would maximize the project's future water source reliability.

Consistency with LACGP Housing Policy #15 to encourage the use of energy-saving technologies, on a cost-effective basis, in the design, construction, and operating systems of existing and new residential buildings to reduce utility costs to future residents, would render the project consistent with Policy AR 3.4. ~~At this stage, specific energy saving technologies are unknown but~~ The project would comply with this policy through the implementation of mitigation measures listed in Section 4.6 Air Quality as well as GCC-1 in Section 4.16 Global Climate Change.

The following changes were made on page 4.15-13 in response to letter 12, comment 12.1.

*Consistency analysis:* ~~A list of the proposed project's proposed LID BMPs (Best Management Practices) is located in Section 4.5 Water Quality Table 4.5-1. Table 4.5-1 analyzes the project's compatibility with future Los Angeles County LID requirements. Implementation of the proposed LID BMPs would improve groundwater recharge, flood management, and water quality. The proposed project is not subject to the LID ordinance because the Application was deemed complete prior to the ordinance becoming effective. However, the project incorporates xeriscaping, low flow fixtures, and reduces runoff to surrounding properties as compared with existing conditions (see Section 4.2 Flood Hazard, Table 4.2-5).~~

The following changes were made on page 4.15-16 in response to letter 12, comment 12.1.

*Consistency analysis:* ~~A list of the proposed project's proposed LID BMPs is located in Table 4.5-1. Table 4.5-1 analyzes the project's compatibility with future Los Angeles County LID requirements. The proposed project is not subject to the LID ordinance because the Application was deemed complete prior to the ordinance becoming effective. However, the project incorporates xeriscaping, low flow fixtures, and reduces runoff to surrounding properties as compared with existing conditions (see Section 4.2 Flood Hazard, Table 4.2-5).~~



## 8.2 COMMENTS and RESPONSES

CEQA Guidelines Section 15088 requires that the lead agency evaluate public comments on environmental issues included in a Draft EIR and prepare written responses to those comments.

Pursuant to CEQA Guidelines Section 15088(b), "The written responses shall describe the disposition of significant environmental issues raised (e.g., revisions to the proposed project to mitigate anticipated impacts or objections). In particular, the major environmental issues raised when the lead agency's position is at variance with recommendations and objections raised in the comments must be addressed in detail giving reasons why specific comments and suggestions were not accepted." The Guidelines call for responses that contain a "good faith, reasoned analysis" with statements supported by factual information.

This section of the Revised Draft EIR for the Lake View Estates Mixed Use Project EIR contains all of the written comments received in response to the Draft EIR public circulation periods. The Draft EIR was circulated for a 45-day public review period from March 9, 2009, through April 23, 2009. Eight written comment letters were received, responses to the comments were formulated, and the EIR was revised showing changes in ~~striketrough~~ and underline format. Changes that were made to the EIR in response to comments are outlined in the beginning of this section under Addenda Errata. The Revised Draft EIR was re-issued for a second 45-day public review period from May 3, 2010 through June 17, 2010. This 45-day public review period was formally extended to June 28, 2010 through redistribution of the EIR upon discovery that two EIR sections were missing from May 3, 2010 distribution. Four written comment letters were received, responses to the comments were formulated, and the EIR was further revised showing changes in ~~striketrough~~ and underline format.

This document together with the circulated Revised Draft EIR, constitutes the Final EIR to be presented to the County of Los Angeles Regional Planning Commission for consideration of certification prior to decisions on acceptance and approval of the Lake View Estates Mixed Use Project. Specific comments contained within any particular written letter have been numbered in order to provide a reference to it in the response. Each letter is presented first, with the responses following.



<u>Commenter</u>	<u>Page</u>
<u>2009 Public Circulation</u>	
1. Terry Roberts, State of California Governor's Office of Planning and Research, State Clearinghouse and Planning Unit, April 24, 2009	8-18
2. Edumud J. Pert, California Natural Resources Agency, Department of Fish and Game, April 20, 2009.	8-25
3. David Koontz, AICP, City of Santa Clarita, April 23, 2009	8-36
4. Susan Nakamura, South Coast Air Quality Management District, April 10, 2009	8-41
5. Steve Burger, Land Development Division, Department of Public Works, April 16, 2009	8-50
6. Stephen R. Maguin, County Sanitation Districts of Los Angeles County, March 10, 2009	8-52
7. Julie Yom, Park Planner, County of Los Angeles, Department of Parks and Recreation, April 1, 2009	8-54
8. Frank Vidales, Acting Chief, Forestry Division Prevention Services Bureau, County of Los Angeles Fire Department, June 25, 2009	8-56
<u>2010 Public Circulation</u>	
9. Chris Dellith, Senior Biologist, United States Department of the Interior, Fish and Wildlife Service, June 14, 2010	8-62
10. Stephen R. Maguin, Chief Engineer and General Manager, County Sanitation Districts of Los Angeles County, May 5, 2010	8-77
11. Joan Rupert, Department of Parks and Recreation, Environmental & Regulatory Permitting Section, May 12, 2010	8-79
12. Steve Burger, Land Development Division, Department of Public Works, July 7, 2010.	8-83





ARNOLD SCHWARZENEGGER  
GOVERNOR

STATE OF CALIFORNIA  
GOVERNOR'S OFFICE of PLANNING AND RESEARCH  
STATE CLEARINGHOUSE AND PLANNING UNIT



CYNTHIA BRYANT  
DIRECTOR

April 24, 2009

Letter 1

Michele Bush  
Los Angeles County Department of Regional Planning  
320 W. Temple Street  
Los Angeles, CA 90012

Subject: Lake View Estates Project, Vesting Tentative Tract Map No. 53933, Project No. 03-304  
SCH#: 2005051009

Dear Michele Bush:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on April 23, 2009, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

"A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts  
Director, State Clearinghouse

Enclosures

cc: Resources Agency

APR 29 2009

**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2005051009  
**Project Title** Lake View Estates Project, Vesting Tentative Tract Map No. 53933, Project No. 03-304  
**Lead Agency** Los Angeles County

**Type** EIR Draft EIR

**Description** The enclosed Draft EIR has been prepared for the above project located in the unincorporated area of Castaic of the County of Los Angeles, west of the Golden State (5) Freeway, and ~1/5-mile south of Parker Road. The proposed project site is 47.25 acres in size and is currently vacant. The proposed project is for the subdivision of the existing 4 parcels into 70 single family residential lots (11.18 acres), 3 commercial lots (5.21 acres), 4 open space lots (21.28 acres), and 1 park site for recreational use of the project's residents (4.11 acres). The project is also designed with a detention basin that would occupy a separate lot (0.48 acre), while roads would occupy the remaining area (4.99 acres). The project is requesting a Conditional Use Permit for development within a Hillside Management area, a Zone Change from A-2-2 to RPD-2.5U (42.04 acres) and from A-2-2 to M-1-DP (5.21 acres), and an Oak Tree Permit to remove 13 oak trees. Grading is estimated at 640,000 cubic yards of cut and fill, to be balanced onsite.

**Lead Agency Contact**

**Name** Michele Bush  
**Agency** Los Angeles County Department of Regional Planning  
**Phone** (213) 974-6461 **Fax**  
**email**  
**Address** 320 W. Temple Street  
**City** Los Angeles **State** CA **Zip** 90012

**Project Location**

**County** Los Angeles  
**City**  
**Region**  
**Lat / Long** 34° 1.8' 29" N / 118° 8.6' 37" W  
**Cross Streets** Parker Road, The Old Road  
**Parcel No.** 2865-012-002; 005; 014; 015  
**Township** 5N **Range** 17W **Section** 25 **Base** SBB&M

**Proximity to:**

**Highways** Golden State (5)  
**Airports** No  
**Railways** No  
**Waterways** No  
**Schools** Castaic MS & ES  
**Land Use** Vacant/Non-urban, Low & Medium Density Residential: Urban (U1, U2, U3). Industrial (M), Hillside Management Area (HM)

**Project Issues** Air Quality; Archaeologic-Historic; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Noise; Public Services; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Traffic/Circulation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Landuse; Cumulative Effects; Aesthetic/Visual; Biological Resources; Growth Inducing; Vegetation; Toxic/Hazardous; Solid Waste; Recreation/Parks; Population/Housing Balance; Other Issues

**Reviewing Agencies** Resources Agency; Department of Fish and Game, Region 5; Cal Fire; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 7; Regional Water Quality Control Board, Region 4; Native American Heritage Commission

**Document Details Report  
State Clearinghouse Data Base**

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*Date Received* 03/09/2009

*Start of Review* 03/09/2009

*End of Review* 04/23/2009



South Coast Region  
4949 Viewridge Avenue  
San Diego, CA 92123  
(858) 467-4201  
http://www.dfg.ca.gov

April 20, 2009

Ms. Michele Bush  
Los Angeles County Department of Regional Planning  
320 West Temple Street, Room 1348  
Los Angeles, CA 90012  
FAX #: (213) 217-5108

RECEIVED  
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**Subject: Draft Environmental Impact Report for Lake View Estates Project,  
Los Angeles County, SCH # 2005051009**

Dear Ms. Bush:

The Department of Fish and Game (Department) has reviewed the Draft Environmental Impact Report (DEIR) for a proposed project that includes a subdivision that would allow for development of a 47.25-acre parcel with residential and business/office park uses. The applicant requests approval to allow development of about 70,000 square feet of business/office park uses (reduced from 150,000 square feet of commercial development in the initial study) on three lots, 70 single-family residences, four open space lots, a separate lot for a detention basin, and one park site. The proposed project would also require the issuance of a Los Angeles County Oak Tree Permit to remove 13 oak trees.

The project site is currently vacant and supports several vegetative communities including coastal sage scrub, chaparral, and oak trees. The project is located in the unincorporated community of Castaic, within Los Angeles County, California. The site is adjacent to existing and approved developments and it has frontage on The Old Road, which parallels the Golden State Freeway/ Interstate 5 (I-5) on the west. A building materials yard business (zoned Industrial) is located along the site's eastern boundary. A condominium development (zoned RPD-6.5U) consisting of 75 units is located on approximately 10 gross acres and borders the project to the north (Tr. 34365). A 115-unit mobile home park (zoned R-3-10U) is located to the northwest of the site. An approved tentative tract map for condominium development (zoned RPD-3.5U) is located along the south boundary (Tr. 46798). On the western edge of the project site, there is a single family house on a large undeveloped parcel. To the north of the project, there is an approved auto sales/repair business across The Old Road, which is currently under construction.

We prepared the following statements and comments pursuant to our authority as Trustee Agency with jurisdiction over natural resources affected by the project under the California Environmental Quality Act (CEQA Section 15386) and Responsible Agency (Section 15381) over those aspects of the proposed project that come under the purview of the California Endangered Species Act (Fish and Game Code Section 2050 et seq.) and Fish and Game Code Section 1600 et seq. regarding impacts to streams and lakes.

**Impacts to Biological Resources**

- 1. Coastal Sage Scrub – Mitigation measure BIO-1(c) states "The 8.5 acres of removed coastal sage scrub shall be replaced at a ratio of 1:1. This mitigation land shall be set aside and

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protected in perpetuity from further development, and shall be contiguous with other coastal sage scrub. Covenants, Conditions, & Restrictions (CC&R's) and/or deed restrictions or conservation easements shall be developed to protect this area, and adequate fencing shall separate all preserved lands from developed areas in order to prevent pets, vehicles, and people from impacting the area."

- a. The Department recommends that coastal sage scrub (CSS) within the fuel modification zone be considered a permanent impact and included in the replacement mitigation acreage calculations for the project.
- b. To assure adequate resources and expertise in protecting mitigation lands for project impacts, the Department recommends that mitigation land be preserved in perpetuity in a conservation easement held by a local land conservancy. Management monies should be provided in the form of an endowment to assure adequate management funding in perpetuity.

2. Special Status Species - Mitigation Measure BIO-5(a) states "Not more than two weeks prior to ground disturbing construction within coastal sage scrub, chaparral, and annual grassland habitats, a preconstruction survey for the coast horned lizard, coastal western whiptail, 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 appropriate habitat within a nearby known preserve...."

- a. The DIER does not discuss impacts to coastal California gnatcatcher (CGN). A CGN was observed near at Commerce Center area in 2008 within just a few miles south of the project site indicating a population within the area. The DEIR should describe the habitat value of the CSS on the project site in relation to breeding, foraging and habitat connectivity for CGN. Areas of CSS also provide important refugia for CGN during wildfire events that frequent the area and this should be acknowledged in the DEIR for the project.
- b. Preconstruction surveys for CGN are inadequate to determine presence, absence and use of the project site by CGC. The U.S. Fish and Wildlife Service (USFWS) should be contacted to confirm the level of survey effort to maximize detection on the property. The Department recommends USFWS level protocol surveys for CGN. Further consultation with USFWS under the Federal Endangered Species Act will be required if the project will result in take or likely to adversely effect a federally listed species.
- c. Efforts should be made to determine presence for San Diego desert wood rat, a California Species of Special Concern, and to relocate their stick nests and salvage individuals.
- d. Salvage and relocation of special status species (not otherwise regulated under the state and federal endangered species acts) to locations other than immediately adjacent appropriate habitats, must be reviewed and approved in advance by a local Department representative and be included on the Scientific Collectors Permit issued to individuals performing any salvage activities requiring capture and/or handling of special status species.

Ms. Michele Bush  
April 20, 2009  
Page 3 of 3

The Department recommends that the above concerns be addressed in the CEQA document for the project.

Thank you for this opportunity to provide comment. Please contact Mr. Scott Harris, Environmental Scientist, at (626) 797-3170 if you should have any questions and for further coordination on the proposed project.

Sincerely,



Edmund J. Pert  
Regional Manager  
South Coast Region

cc: Ms. Helen Birss, Los Alamitos  
Ms. Betty Courtney, Newhall  
Ms. Terri Dickerson, Laguna Niguel  
Mr. Dan Blankenship, Newhall  
Mr. Scott Harris, Pasadena  
Mr. Chris Dellith, US Fish and Wildlife Service, Carlsbad  
✓ State Clearinghouse, Sacramento

SPH: sph  
*Spharris/Los Angeles County Regional Planning, Lake View Estates/DEIR 2009*

*Letter 1*

**COMMENTER:** Terry Roberts, State of California Governor's Office of Planning and Research, State Clearinghouse and Planning Unit, April 24, 2009

**DATE:** April 20, 2009

Response 1

The commenter indicates that the DEIR was submitted to selected State agencies for review and that comments submitted on behalf of those agencies are attached. One letter from the California Natural Resources Agency Department of Fish and Game was attached. The commenter indicates that the comments are forwarded for use in preparation of a final environmental document and states that any further correspondence about the comments should be directed to the commenting agency. The commenter closes by stating that the project is in compliance with State Clearinghouse review requirements for draft Environmental Documents pursuant to the California Environmental Quality Act.

The California Natural Resources Agency Department of Fish and Game letter is included following this response and is responded to separately. No additional response is required.





California Natural Resources Agency  
**DEPARTMENT OF FISH AND GAME**  
 South Coast Region  
 4949 Viewridge Avenue  
 San Diego, CA 92123  
 (858) 467-4201  
 http://www.dfg.ca.gov

**ARNOLD SCHWARZENEGGER, Governor**  
**DONALD KOCH, Director**



Letter 2

April 20, 2009

APR 21 2009

Ms. Michele Bush  
 Los Angeles County Department of Regional Planning  
 320 West Temple Street, Room 1348  
 Los Angeles, CA 90012  
 FAX #: (213) 217-5108

**Subject: Draft Environmental Impact Report for Lake View Estates Project,  
 Los Angeles County, SCH # 22005051009**

Dear Ms. Bush:

The Department of Fish and Game (Department) has reviewed the Draft Environmental Impact Report (DEIR) for a proposed project that includes a subdivision that would allow for development of a 47.25-acre parcel with residential and business/office park uses. The applicant requests approval to allow development of about 70,000 square feet of business/office park uses (reduced from 150,000 square feet of commercial development in the initial study) on three lots, 70 single-family residences, four open space lots, a separate lot for a detention basin, and one park site. The proposed project would also require the issuance of a Los Angeles County Oak Tree Permit to remove 13 oak trees.

The project site is currently vacant and supports several vegetative communities including coastal sage scrub, chaparral, and oak trees. The project is located in the unincorporated community of Castaic, within Los Angeles County, California. The site is adjacent to existing and approved developments and it has frontage on The Old Road, which parallels the Golden State Freeway/ Interstate 5 (I-5) on the west. A building materials yard business (zoned Industrial) is located along the site's eastern boundary. A condominium development (zoned RPD-6.5U) consisting of 75 units is located on approximately 10 gross acres and borders the project to the north (Tr. 34365). A 115-unit mobile home park (zoned R-3-10U) is located to the northwest of the site. An approved tentative tract map for condominium development (zoned RPD-3.5U) is located along the south boundary (Tr. 46798). On the western edge of the project site, there is a single family house on a large undeveloped parcel. To the north of the project, there is an approved auto sales/repair business across The Old Road, which is currently under construction.

We prepared the following statements and comments pursuant to our authority as Trustee Agency with jurisdiction over natural resources affected by the project under the California Environmental Quality Act (CEQA Section 15386) and Responsible Agency (Section 15381) over those aspects of the proposed project that come under the purview of the California Endangered Species Act (Fish and Game Code Section 2050 et seq.) and Fish and Game Code Section 1600 et seq. regarding impacts to streams and lakes.

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1  
2

protected in perpetuity from further development, and shall be contiguous with other coastal sage scrub. Covenants, Conditions, & Restrictions (CC&R's) and/or deed restrictions or conservation easements shall be developed to protect this area, and adequate fencing shall separate all preserved lands from developed areas in order to prevent pets, vehicles, and people from impacting the area."

- a. The Department recommends that coastal sage scrub (CSS) within the fuel modification zone be considered a permanent impact and included in the replacement mitigation acreage calculations for the project.
- b. To assure adequate resources and expertise in protecting mitigation lands for project impacts, the Department recommends that mitigation land be preserved in perpetuity in a conservation easement held by a local land conservancy. Management monies should be provided in the form of an endowment to assure adequate management funding in perpetuity.

2

2. Special Status Species - Mitigation Measure BIO-5(a) states "Not more than two weeks prior to ground disturbing construction within coastal sage scrub, chaparral, and annual grassland habitats, a preconstruction survey for the coast horned lizard, coastal western whiptail, 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 appropriate habitat within a nearby known preserve...."

- a. The DIER does not discuss impacts to coastal California gnatcatcher (CGN). A CGN was observed near at Commerce Center area in 2008 within just a few miles south of the project site indicating a population within the area. The DEIR should describe the habitat value of the CSS on the project site in relation to breeding, foraging and habitat connectivity for CGN. Areas of CSS also provide important refugia for CGN during wildfire events that frequent the area and this should be acknowledged in the DEIR for the project.
- b. Preconstruction surveys for CGN are inadequate to determine presence, absence and use of the project site by CGN. The U.S. Fish and Wildlife Service (USFWS) should be contacted to confirm the level of survey effort to maximize detection on the property. The Department recommends USFWS level protocol surveys for CGN. Further consultation with USFWS under the Federal Endangered Species Act will be required if the project will result in take or likely to adversely effect a federally listed species.

3

- c. Efforts should be made to determine presence for San Diego desert wood rat, a California Species of Special Concern, and to relocate their stick nests and salvage individuals.
- d. Salvage and relocation of special status species (not otherwise regulated under the state and federal endangered species acts) to locations other than immediately adjacent appropriate habitats, must be reviewed and approved in advance by a local Department representative and be included on the Scientific Collectors Permit issued to individuals performing any salvage activities requiring capture and/or handling of special status species.

4

The Department recommends that the above concerns be addressed in the CEQA document for the project.

Thank you for this opportunity to provide comment. Please contact Mr. Scott Harris, Environmental Scientist, at (626) 797-3170 if you should have any questions and for further coordination on the proposed project.

Sincerely,



Edmund J. Pert  
Regional Manager  
South Coast Region

cc: Ms. Helen Birss, Los Alamitos  
Ms. Betty Courtney, Newhall  
Ms. Terri Dickerson, Laguna Niguel  
Mr. Dan Blankenship, Newhall  
Mr. Scott Harris, Pasadena  
Mr. Chris Dellith, US Fish and Wildlife Service, Carlsbad  
State Clearinghouse, Sacramento

SPH: sph  
*Spharris/Los Angeles County Regional Planning, Lake View Estates/DEIR 2009*

*Letter 2*

**COMMENTER:** Edmund J. Pert, California Natural Resources Agency, Department of Fish and Game

**DATE:** April 20, 2009

Response 2.1

The commenter summarizes the project and existing physical setting as described in the Notice of Availability and project description. The commenter also indicates that they have prepared comments pursuant to their authority as a trustee agency under CEQA and a responsible agency with respect to Fish and Game Code Section 2050 et seq (Endangered Species Act) and Section 1600 regarding alterations to lakes and streams. The project does not involve any direct impacts to DFG jurisdictional areas under Section 1600 et. seq. as no jurisdictional waters lie within the site, and so the DFG is not a responsible agency under that statute. However, it is noted that in the event that a species listed under the California Endangered Species Act should be discovered during a subsequent survey, such as those surveys required under mitigation measures BIO-4 (b-c), the Department of Fish and Game would become a responsible agency.

Response 2.2

The commenter quotes mitigation measure BIO-1(c) and requests that the acreage located within the fuel modification zone also be replaced, and recommends that an endowment be created to manage a conservation easement that would be held by a local land conservancy.

The DEIR discussion under Impact BIO-1 acknowledges that there are 8.5 acres of coastal sage scrub habitat that would be lost due to grading onsite. Under the fuel modification plan that is shown on Figure 4.3-1, a buffer of 100 feet from structures would be modified. In most locations, the graded areas and the fuel modification areas overlap because grading extends beyond the proposed pads to stabilize adjacent slopes. A comparison of the graded areas and the fuel modification areas indicates that a total of 7,316 square feet or about 0.17 acre of coastal sage scrub that lies outside of the grading boundary would be affected by trimming for fuel modification. However, it is also noted that the AutoCAD mapping analysis likewise indicated the total area of coastal sage scrub habitat affected as 7.15 acres rather than the 8.5 acres discussed in the EIR analysis. Therefore, the EIR analysis estimate of 8.5 acres is considered conservative in addressing impacts to coastal sage scrub, including habitat that is located within the proposed fuel modification zone.

The commenter suggests that the coastal sage scrub vegetation established as mitigation lands be placed in a conservation easement with an endowment for use for long term management. The applicant intends to meet at least a portion of the mitigation needs within the graded slope areas within the site that are not within the fuel management areas. Mitigation measure BIO-1(c) states that the coastal sage scrub mitigation land shall be “set aside and protected in perpetuity with covenants, conditions & restrictions and /or deed restrictions or conservation easements.” Therefore, the mitigation already includes a preservation mechanism, including



the potential use of a conservation easement as suggested by the commenter. To clarify the mitigation measurements for coastal sage scrub habitat, mitigation measures BIO-1(a), BIO-1(c) and BIO-1(d) have been modified as follows.

**BIO-1(a)** Temporarily disturbed areas shall be revegetated with native vegetation in the same proportions and species as the natural habitat removed. Preconstruction detailed surveys of vegetation on at least three (3) blocks of 50 x 50 meters on the site shall be used to determine the native coastal scrub vegetation of the site [also see mitigation measure BIO-1(c-d)]. These proportions may be modified by County Fire Department and County Public Works as needed for safety reasons. If the 80% coastal sage scrub vegetative coverage (plants typical of the removed coastal sage scrub community in proportion to natural coverages) is not met within three years, the monitoring effort shall be extended to five years. If not met at the end of five years, the monitoring effort shall be extended another five years and again tested at the end of five years for meeting success criteria. This extension process should continue until the success criteria are met. Annual monitoring reports shall be prepared and submitted to the County Director of Regional Planning that include qualitative and quantitative data regarding the success of the revegetation effort, comparison to performance criteria, and recommendations for the successful completion of the restoration effort.

A landscape plan that includes control of invasive non-native plants shall be submitted for review and approval by the County of Los Angeles Department of Regional Planning prior to the issuance of a grading permit. The landscape plan shall limit irrigation to within Fuel Modification Zone A and shall utilize only locally indigenous plant species and varieties.

During grading and construction, a wheel well and undercarriage washing station shall be installed at project site entrances to serve the purpose of removing dust and plant parts from entering and exiting vehicles in order to prevent transport of invasive weed species onto and off of the site. The wheel washing station shall consist of a lined aggregate pit (2-3" aggregate), designed such that the washed seeds and plant parts filter through timbers and gravel onto a geotech cloth. At the end of construction, the pit shall be disassembled and back-filled, and the geotech cloth shall be carefully removed with all contents and taken to a disposal site and buried deeply so that the invasive plant parts and propagules will not spread to other areas.

Pressurized washing shall be done for all vehicles (1) before coming to the site, (2) upon entry, and (3) at the end of each day when grading an



area with exotic plants, and (4) before moving the vehicle to another site. Vehicle operators shall fill out a log book kept in a waterproof container at each washing station that can be checked by the biologist in charge of biological mitigation.

- BIO-1(c)** The 8.5 acres of removed coastal sage scrub shall be replaced mitigated at a ratio of 1:1, combining planting and protection of coastal sage scrub. Fuel modification zones shall not be included as mitigation areas. This Mitigation areas shall be set aside and protected in perpetuity from further development, and shall be contiguous with other coastal sage scrub. In the event that the California Department of Fish and Game (CDFG) becomes a responsible agency under the California Endangered Species Act pursuant to additional field work conducted under Mitigation Measures BIO-4(b-c) and/or BIO-5 (a-b, & d) the CDFG shall retain the right to supersede these coastal sage scrub mitigation requirements through modification or addition pursuant to nexus. Covenants, Conditions & Restrictions (CC&R's) and/or deed restrictions or conservation easements shall be developed to protect this area the mitigation area, and adequate fencing shall separate all preserved lands from developed areas in order to prevent pets, vehicles, and people from impacting the area.

If coastal sage scrub habitat is restored onsite on manufactured slope or non-native grassland habitat areas that are outside the fuel modification zones in accordance with mitigation measure BIO-1(a & d), the plantings shall be monitored for at least three years to determine if the restoration plantings have been successful. Success criteria shall be developed as part of the planting plans and shall be no less than 80% vegetative coverage by native plants at the conclusion of the restoration effort. If the 80% coastal sage scrub vegetative coverage (plants typical of the removed coastal sage scrub community in proportion to natural coverages) is not met within three years, the monitoring effort shall be extended to five years. If not met at the end of five years, the monitoring effort shall be extended another five years and again tested at the end of five years for meeting success criteria. This extension process should continue until the success criteria are met. Annual monitoring reports shall be prepared and submitted to the County Director of Regional Planning that include qualitative and quantitative data regarding the success of the revegetation effort, comparison to performance criteria, and recommendations for the successful completion of the restoration effort.

If there is not sufficient suitable replacement habitat remaining onsite and outside of the fuel modification zones, the applicant shall either



purchase and set-aside the residual amount of habitat needed with suitable conservation easements or restrictive covenants as necessary to provide for long term preservation, or shall acquire mitigation credits from a suitable bank. If mitigation credits are acquired from a bank, the applicant shall provide evidence of same to the County Department of Regional Planning prior to site occupancy.

- BIO-1(d)** Revegetation and landscaping plans for the ~~graded road~~ restoration and revegetation areas on the project site shall be reviewed and approved by the County before issuance of a grading permit. Plant species, seed mixes, weed suppression, planting methodology, and irrigation schedule shall be prepared by a qualified biologist or landscape architect and shall utilize locally indigenous species from onsite habitats [see also mitigation measure BIO-1(a)]. No species identified as invasive by the CNPS, California Invasive Plant Council, other databases and Los Angeles County Department of Regional Planning Biologist or staff shall be utilized in the landscape plans. The plan shall be reviewed and approved by Department of Regional Planning.

### Response 2.3

The commenter quotes the language from mitigation measure BIO-5(a) which requires a pre-construction survey of the project site not more than two weeks prior to ground disturbing activities to check for special status wildlife and relocate them as appropriate. The commenter opines that the EIR should discuss impacts to California gnatcatcher (CAGN), and indicates that a gnatcatcher was recently observed in 2008 a few miles southwest of the site in the Commerce Center area near the intersection of SR 126 and I-5. The commenter requests an evaluation of the habitat value on site in relation to breeding, foraging and habitat connectivity for CAGN.

The *californica* subspecies of the gnatcatcher (coastal California gnatcatcher) is listed as a Species of Special Concern in California and was listed as Threatened by the U.S. Fish and Wildlife Service in 1993 (USFWS 1993). Critical habitat for CAGN was originally designated by the USFWS in 2000. Critical habitat is a specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The critical habitat boundary was re-proposed in 2003 as illustrated in Figure 4.7-2 in Section 4.7 *Biota* of the Draft EIR. That figure showed the nearest location of the then proposed critical habitat to be located southwest of the intersection of SR 126 and I-5, and southwest of the Santa Clara River, or approximately 3 miles south of the project site. This furthest north extent of then proposed critical habitat is in the general vicinity of the 2008 observation. In December 2007, final critical habitat for the CAGN was designated that changed the northern boundary of critical habitat to a location more than 5 miles further south. The project site lies about 9 miles north of currently designated CAGN critical habitat (Federal Register, Vol. 72 (243), page 72213; December 19, 2007). Figure 4.7-2 of the EIR has been revised accordingly.



While designation of critical habitat is an indication of where core populations lie, it does not mean that CAGN is excluded from other areas. A review of recent CAGN reports in the general vicinity indicate that the bird sighting reported by the commenter for 2008 may refer to birds seen in 2007 (Compliance Biology, August 28, 2008; Dudek, October 8, 2007). Because of the birds noted in 2007, the Commerce Center area was subjected to a protocol survey during the breeding period in 2008 and no CAGN were found, indicating that the previous birds seen were transitory, possibly dispersing individuals. Protocol surveys for the 1,043 acre Landmark Village project along the Santa Clara River in 2007 detected no CAGN (Dudek, July 2007) and this is further supported by the negative findings of a protocol gnatcatcher survey conducted on 535.5 acres of coastal sage scrub habitat at the Mission Village Project, which lies to the southeast of the Highway 126/I-5 intersection (Lemons, January 2008). Nonetheless, CAGN were briefly observed twice during construction monitoring in August 2008 along Chiquito Canyon Road (about 4.5 miles southwest of the subject site) within the Landmark Village project (Dudek, October 2008).

The potential for gnatcatcher to be at the site or to sustain a population at this location is dependent on the nature of the habitat present and the site's location. From an elevational perspective, 84% of CAGN populations lie below an elevation of 820 feet (Atwood, 1992; note that the site ranges from 1,100 to 1,494 feet). The project site contains 13.9 acres of coastal sage scrub habitat that is located on southern-facing slopes and upper reaches of the steep canyons that dissect the project site (see Figure 4.9-2 of the EIR for a photograph of coastal sage scrub on steep slopes). As discussed in the EIR, the project site has moderate to steep slopes, intervening canyons and level terrain areas. According to a slope analysis of the project site, about 26 acres of the project area consist of slopes that are greater than 50% (SR Consultants, Inc. Slope Analysis Exhibit, 11/07/2002). CAGN typically nests in areas with slope gradients of less than 40% (Mock, P 2004), further indicating that the site is marginally suitable for the presence of CAGN. In addition at the time of the Draft EIR preparation, the nearest known CAGN sighting to the project site was more than 9 miles to the south per unpublished data from the Ventura office of USFWS. Given the steep slopes, the relatively high elevation of the site, and the fact that the coastal sage scrub at the site is dominated by black sage (as discussed on page 4.7-7 of the Draft EIR), which does not support high densities of gnatcatchers and should not be considered high quality habitat, it is highly unlikely that CAGN breed at the site. With respect to the transitory birds seen to the south of the project site, these occur at a substantially lower elevation than the site, were seen in areas with less topographic relief, and in a coastal sage scrub vegetation type that is dominated by California sagebrush (*Artemisia californica*) rather than the black sage-dominated scrub at the project site. CAGN is known to prefer coastal sage scrub habitats where buckwheat (*Eriogonum fasciculatum*) or California encelia (*Encelia californica*) are co-dominant with California sagebrush.

Based on the location of final designated critical habitat and previously reported sightings of CAGN, the project site lies, at best, at the outer fringe of the CAGN range. A review of multiple other gnatcatcher reports for this region indicate a general lack of sightings with the exception of transitory individuals. Therefore the project would not be expected to affect the habitat connectivity needed for CAGN populations since all of the known populations lie to the south of the site (extending to San Diego County and Baja California). Further given the northerly



location of the site relative to the CAGN range and lack of quality habitat for CAGN at the site, the likelihood of its foraging onsite is low. Given this habitat suitability analysis and the distance to known CAGN observations, CAGN was not discussed in the Draft EIR.

The CDFG comment notes that areas of coastal sage scrub could provide refugia for CAGN in the event of major wildfires in the area. Given the factors discussed above, the site would still be marginal to serve this function, but it nonetheless could potentially occur if CAGN were driven several miles to the north from the recent sightings in the Commerce Center and Landmark Village areas or the critical habitat area further to the south. The requirement under mitigation measure BIO-1(c) would provide for the maintenance of an equivalent amount of coastal sage scrub that would meet this function.

Mitigation measure BIO-5(a-c) in the Draft EIR requires pre-construction surveys for special status wildlife that were determined to have potential to be onsite. As previously noted above with respect to Chiquito Canyon Road, construction monitoring was successful in detecting transitory CAGN. Therefore, in response to the comments from the Department of Fish and Game, mitigation measure BIO-5 will be enhanced to specify gnatcatcher pre-construction surveys.

**BIO-5(a)** Pre-construction surveys shall be conducted if ~~vegetation clearing and construction activities are proposed during CAGN breeding season (beginning January 15<sup>th</sup>)~~. Prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub, a survey would be conducted to locate gnatcatchers within 100 feet of the outer extent of projected soil disturbance activities and the locations should be clearly marked and identified on the construction/grading plans. A biological monitor will also be present at the initiation of vegetation clearing to provide an education program to the construction operators regarding the efforts needed to protect the CAGN and other special-status species. Fencing or flagging would be installed around the limits of grading prior to the initiation of vegetation clearing.

A qualified monitoring biologist as approved by the jurisdictional agencies shall be onsite during any clearing of coastal sage scrub. The developer will notify USFWS/CDFG at least fourteen (14) calendar days prior to the clearing of any habitat determined by the pre-construction survey to be occupied by gnatcatcher to allow USFWS/CDFG to work with the monitoring biologist in connection with bird flushing/capture activities. The monitoring biologist would flush CAGN and other special-status species (such as loggerhead shrike) from occupied habitat areas immediately prior to brush clearing and earth-moving activities.

Coastal sage scrub identified for protection and located within the likely dust drift radius of construction areas would be periodically



sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.

**BIO-5(a-b)** Not more than two weeks prior to ground disturbing construction within coastal sage scrub, chaparral, and annual grassland habitats, a preconstruction survey for the coast horned lizard, coastal western whiptail, 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 appropriate habitat within a nearby known preserve. These species shall be translocated as close to the site as possible in order to maintain the species' microhabitat to the greatest extent possible. During grading and vegetation clearing, wildlife escape routes shall be allowed and cornering wildlife shall be avoided to the greatest extent possible (eg. using flagging rather than silt fencing to demarcate site boundaries).

**BIO-5(bc)** Prior to grading, a qualified biologist shall be retained by the applicant as the biological monitor subject to the approval of the County of Los Angeles (see also BIO-3(b) above). During earthmoving activities, the biological monitor shall be present to relocate any vertebrate species that may come into harm's way to an appropriate offsite location of similar habitat.

**BIO-5(ed)** Before implementation of this project, trapping is recommended using live traps. If trap-and-release protocols determine the presence of San Diego desert woodrat, these animals would be relocated to safe, public land retained in open space land use designations with suitable habitats.

#### Response 2.4

The commenter recommends that efforts should be made to determine presence for San Diego desert wood rat, a California Species of Special Concern and to relocate their stick nests and salvage individuals. The commenter also notes that the biologist(s) conducting salvage and relocation of special status species are required to have specific authority so granted to them under their Scientific Collecting Permits.

The project site is located in an area of overlap between the San Diego subspecies of desert wood rat and the more common desert subspecies, and so any desert woodrats present at the site may or may not be the subspecies of concern. Nonetheless, mitigation measure BIO-5(c) already recommends trapping and relocating any captured San Diego woodrats. In response to this comment, this mitigation measure has been clarified.



**BIO-5(ed)** Prior to any vegetation clearance or grading, Before implementation of this project, trapping for San Diego woodrat is recommended required using live traps. If trap-and-release protocols determine the presence of San Diego desert woodrat, these any captured animals would be relocated to safe, public land retained in open space land use designations with suitable habitats. If live-trapping at identified woodrat stick nests does not capture the occupant, a silt fence shall be constructed to isolate the stick nest from the development area, with the base of the silt fence either buried or sandbagged to prevent animals from entering the project area from underneath the fence. The stick nest would then be removed by hand by a biologist to remove the occupant(s) and allow their escape to adjacent undisturbed habitat. A similar silt fence shall be placed at the edge of the grading envelope and remain in place and maintained until completion of ground disturbance activities. The monitoring biologist(s) shall acquire appropriate approvals from the California Department of Fish and Game as necessary to perform the salvage activities.





City of  
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April 23, 2009

Letter 3

Michele Bush  
Impact Analysis Section  
Los Angeles County Department of Regional Planning  
320 W. Temple Street  
Los Angeles, CA 90012

Dear Ms. Bush:

Subject: DEIR Comments for County Project No. 03-304, TT53933  
Lake View Estates, Castaic.

Thank you for the opportunity to review the above referenced Draft Environmental Impact Report (DEIR). We believe the DEIR has adequately evaluated the majority of the project's impacts and has suggested appropriate, feasible mitigation measures. We would, however, offer the following recommendations for refinement and clarification:

1

Urban Services: The Urban Services Analysis worksheets which were prepared for Water, Sewer, Library and School were each prepared in 2003. Each of these analyses should be updated to account for development that has been constructed during the past six years, as well as other development projects which have been submitted or approved since 2003.

Traffic: The overall traffic mitigation measures listed in the DEIR appear adequate and have been accepted by L.A. County Department of Public Works. However, it is recommended that an additional traffic mitigation measure also address potential parking and traffic interface conflicts between proposed adjacent industrial/business park/commercial uses and future residential uses. Proposed mitigation measures might include a requirement to post signs on "A" street, south of the proposed industrial lots as "No Truck Parking" and "No Trucks over \_\_\_\_\_ pounds permitted beyond this point" in order to assure that commercial/industrial truck parking and traffic does not impact the future residential neighborhood.

2

Noise: There are numerous lots within the identified 65 CNEL contour which have not been specified for sound barrier mitigation. The DEIR should discuss what analysis or assumptions were used to determine that intervening house placement on other lots would provide adequate acoustic mitigation for these lots without barrier mitigation.

3

Proposed Mitigation Measure N-3(b) in the DEIR proposes six (6) foot high solid walls as acoustical barriers to mitigate the existing freeway noise impact from several of the exterior yard areas of the proposed residential lots. At a minimum, this mitigation is indicated for lots 1-8, 16-21, 60-67 and 70 and "shall incorporate six foot solid block sound barrier walls at the edge



of the property facing I-5.” However, Figure 4.4-2 illustrates that implementing this mitigation should be clarified. For example, lots 1-5 have two potential “edges of the property” which may face I-5--- both a rear edge and a side edge. Within Lot 8 and Lot 21, the edge facing I-5 is the front yard, which is not feasible for enclosure with a 6 foot solid barrier due to driveways and wall height restrictions. A diagram showing locations where sound barriers are required would provide clarification. Where it is implemented, this mitigation measure will block the views of Lake Castaic that the project intends to create. It is highly likely that the future residents of this subdivision would prefer to accept the existing ambient noise environment and maintain their option of a lake view. Perhaps mitigation could consist of a mandated disclosure statement for the affected lots within the 65 CNEL contour, providing these home buyers the option of receiving a developer installed 6’ high solid barrier or the option of knowingly accepting the ambient freeway noise condition and maintaining their views. CALTRANS has successfully employed these types of optional mitigation arrangements within their highway projects in the past, essentially offering homeowners with view lots an opportunity to decline the sound wall mitigation.

3

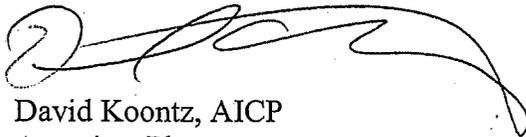
Visual Qualities: The City does not have specific concerns regarding the visual impacts of the project as depicted in the visual simulations. However, any alterations to the size, scale, and scope of the proposed commercial/industrial buildings beyond the one story scale that is illustrated on the simulation exhibits could result in intensified visual impacts. Further, the City is supportive of the County requiring the landscape buffering depicted on the visual simulations which helps to soften the visual impact of the project as viewed from the Old Road and Interstate 5.

4

Finally, the City has a number of comments on the proposed design of the subdivision map, which are not appropriate for inclusion in these DEIR comments. The City requests an opportunity to review and provide formal comments on the subdivision map when it is available. We would appreciate receiving a full size copy of the proposed subdivision map, and request to be notified of future Subdivision Committee Meetings of Planning Commission hearings concerning this project.

5

Sincerely,



David Koontz, AICP  
Associate Planner

S:/CD/Current/IRP/IRP Files/Castaic 53933 EIR/Lakeview Estates EIR

- cc: Paul Brotzman, Director of Community Development  
Sharon Sorensen, Senior Planner  
Mike Marshall, Assistant Planner II  
Paul Novak, Land Use Deputy for 5<sup>th</sup> Supervisorial District  
Rosalind Wayman, Field Deputy for 5<sup>th</sup> Supervisorial District  
Susie Tae, Section Head, Land Division

Letter 3

**COMMENTER:** David Koontz, AICP, City of Santa Clarita

**DATE:** April 23, 2009

Response 3.1

The commenter opines that the DEIR adequately evaluates the majority of the project's impacts and mitigation measures, but offers additional suggestions for refinement and clarification. The commenter points out that the Urban Services worksheets (pages A-38 through A-42 of Appendix A) were prepared in 2003 and suggests that the analyses be updated to include other development projects that have been submitted or approved since 2003.

The Urban Services worksheets identified by the commenter were part of the Initial Study and were used as a screening tool to identify whether additional analysis in the EIR would be necessary. The worksheets were the basis of the conclusions in the Initial Study, which resulted in a determination to study each of these urban services further in the EIR. The EIR analyses for each of these urban services was based on the information available at the time the EIR was prepared. For example, water service was based on the 2005 UWMP as indicated in Section 4.14 *Water Service*; however, additional information was obtained from the Newhall County Water District, and other literature (see the first paragraph on page 4.14-1). Moreover, the setting sections of each issue area were also updated as time passed in response to the internal review process. For example, the most recent modifications to the setting section of Section 4.14 *Water Service* included the addition of a discussion on State Water Project allocation reductions due to litigation with respect to the Delta smelt.

Section 15125(a) of the CEQA Guidelines states that an "EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time of the Notice of Preparation is published, or where no notice of preparation is published, or at the time the environmental analysis is commenced. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." Section 15126.2(a) of the CEQA Guidelines states that "In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the physical conditions in the affected area as they exist at the time the Notice of Preparation is published, or where no notice of preparation is published, at the time the environmental analysis is commenced." Therefore, though the EIR analysis was conducted based on an evaluation of baseline conditions in 2005, pursuant to CEQA Guidelines Section 15126.2(a), there is no requirement to update that information.

Response 3.2

The commenter indicates that the traffic mitigation measures listed in the DEIR appear adequate and have been accepted by L.A. County DPW. The commenter further opines that there may be conflicts between the commercial industrial uses and the residential uses onsite, unless some signage is created that would restrict trucks from parking on the residential streets.



This comment is noted for consideration; however, the proposed business professional office uses are not anticipated to have a high volume of trucks and there are no thresholds that have been exceeded, nor are there significant impacts that have been identified. Moreover, the applicant does not have the authority to dictate which traffic control signs are placed on his property. Nevertheless, this comment is noted for consideration by decision makers and the Traffic and Lighting Division and could be included as a condition of approval if deemed appropriate by the Traffic and Lighting Division.

### Response 3.3

The commenter opines that there are numerous lots within the 65 dBA contour that have not been specified for sound barrier mitigation. The commenter suggests that the DEIR discuss what assumptions or analysis was used to determine that intervening house placement on other lots would provide acoustic mitigation for these new lots. The commenter further requests clarification on how the mitigation measure directing that 6-foot tall solid block walls be implemented. The commenter opines that the block walls would block views of Castaic Lake, and that future residents might trade higher ambient noise levels for views if given the option. The commenter further suggests providing residents with a choice of view vs. yard wall.

Page 4.4-10 of the DEIR states that the “projections for project area ambient noise levels are based on line of sight methodology, indicating that if there are no barriers to line of sight between the affected property and the noise source, it can be presumed that there are no barriers to provide attenuation.” The northern edge of the project area is approximately level with the I-5 surface (1,155 feet above mean sea level); however, the project area slopes upward from I-5 towards a ridge that forms the backdrop of the project. Portions of the development would be shielded from noise by proposed structures and topography.

It is noted that in most modern communities, exterior usable spaces, usually rear yards are fenced or walled to provide privacy from one’s neighbors. Moreover, it is likely that fences or walls would be desirable from a privacy perspective. The noise analysis within the EIR assumes that some residences must be walled and constructed to provide attenuation and shielding for other residences constructed behind them. Therefore, it is recommended that each residence be constructed with walled exterior usable space in the rear yard to provide continuity and consistency to the development. Moreover, it is not appropriate to allow some residences to opt out of noise mitigation, as this does not mitigate the impact of exposing future residents to noise in excess of the allowable standards. It is not certain which residences would have views of Castaic Lake, but if views of the lake can be achieved from the site, second story windows could provide such vantages.

In response to this comment, the mitigation measures have been modified to provide a more consistent approach to developing walls within the exterior usable spaces of each lot.

**N-3(b) Exterior Noise.** At a minimum, residential lots ~~1-8, 16-21, 60-67 and 70~~  
shall incorporate six-foot tall solid block sound barrier walls ~~at the edge~~



of the property facing I-5 on the side and rear yard property boundaries or surrounding the exterior usable space of the rear yard.

**N-3(c) Second Story Interior Noise.** Residential lots ~~1-8, 16-21, 60-67 and 70~~ shall incorporate second story insulation to achieve an interior second story noise level of 45 dBA.

The mitigation modifications would ensure that interior and exterior spaces are not subject to noise in excess of that allowed under the Noise Control Ordinance of the County of Los Angeles (Section 12.08.390 of the L.A. County Code) and would provide continuity for the development.

#### Response 3.4

The commenter states that the City does not have specific concerns regarding the visual effects of the project, as long as the project remains essentially the same as depicted in the visual simulations. The commenter mischaracterizes the commercial buildings as one-story, though these buildings are actually two stories tall. Figure 4.9-9 shows commercial buildings from the most-affected vantage. As indicated in Figure 4.9-9, there are two rows of windows, which demarcate two stories. However, it is noted that the proposed commercial buildings adhere to the 35-ft height limit.

The commenter further indicates support for the landscape buffer that is shown on Figure 4.9-9 which separates I-5 from the proposed commercial building. It is clarified here that this is actually right-of-way between I-5 and The Old Road, and that no landscape buffer is proposed between Lot 77 and The Old Road, due to slope restrictions and The Old Road widening improvement project that will be occurring along the project's frontage. However, it is noted that a detention basin and open space lot 78 would serve to buffer proposed Commercial Lot 75 from public views as seen from The Old Road and I-5 (see Figure 2-4).

#### Response 3.5

The commenter notes that they have comments on the subdivision map, but will comment on that map when notified of subdivision committee meetings and planning commission meetings on the project. These comments are noted, but do not pertain to the content or adequacy of the DEIR and no response is necessary.





South Coast  
Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4182  
(909) 396-2000 • www.aqmd.gov

Letter 4

E-MAILED: APRIL 10, 2009

April 10, 2009

Ms. Michele Bush  
County of Los Angeles  
Department of Regional Planning  
Impact Analysis Section  
320 West Temple Street, 13<sup>th</sup> Floor  
Los Angeles, CA 90012-3225

**Draft Environmental Impact Report (Draft EIR) for the Proposed Lake View  
Estates Mixed Use Project**

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the Lead Agency and should be incorporated into the Final Environmental Impact Report.

Pursuant to Public Resources Code Section 21092.5, please provide the AQMD with written responses to all comments contained herein prior to the adoption of the Final Environmental Impact Report. The SCAQMD staff would be happy to work with the Lead Agency to address these issues and any other questions that may arise. Please contact Gordon Mize, Air Quality Specialist – CEQA Section, at (909) 396-3302, if you have any questions regarding these comments.

Sincerely,

Susan Nakamura  
Planning & Rules Manager  
Planning, Rule Development & Area Sources

Attachment

SN:GM

LAC090310-01  
Control Number

1

**Construction Air Quality Analysis**

1. In the Air Quality Analysis in Appendix D of Volume II of the Draft EIR, the lead agency estimated operational air quality impacts using the URBEMIS 2002 version 8.7.0 computer model. The lead agency should be aware that the most current version of the URBEMIS model, URBEMIS2007, was released in September 2007. If the lead agency uses the model for future projects, the SCAQMD recommends that URBEMIS2007 be used. URBEMIS 2007 version 9.2.4 can be accessed at <http://www.urbemis.com/> or the lead agency can follow the calculation methodologies in Chapter 9 and the Appendix to Chapter 9 in the South Coast AQMD’s CEQA Air Quality Handbook. Should the lead agency conclude after its analyses that construction or operational air quality impacts exceed the SCAQMD daily significance thresholds, staff has compiled mitigation measures to be implemented if the air quality impacts are determined to be significant. Mitigation measure suggestions can be found at [http://www.aqmd.gov/ceqa/handbook/mitigation/MM\\_intro.html](http://www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.html) .

1

2. In Volume II Appendix D Air Quality Calculations, the lead agency uses a maximum acreage disturbed per day of 7.2 acres as shown in the URBEMIS2002 output sheets but in Volume I on page 4.6-6, the lead agency uses 5 acres per day for the purposes of estimating localized significance thresholds (LST) and further states that construction activity would be limited to the 5 acre per day figure. This apparent discrepancy should be reconciled in the Final EIR, and if the lead agency is going to disturb an area larger than five acres during construction, then Table 4.6-4 should be also be revised and the maximum acreage disturbed per day figure should be consistently applied as applicable throughout the Final EIR. Finally, if the lead agency is going to limit the amount of soil disturbance to five acres per day as stated on page 4.6-6, then the lead agency should formally adopt that 5-acre per day limit as an enforceable mitigation measure and include that measure in the Final EIR.

2

**Construction Mitigation Measures**

3. In Section III. Air Quality on page 15 of the Draft MND, the lead agency proposes mitigation measures MM 3-2 and MM 3-3 (the use of diesel particulate filters and aqueous diesel fuel) to reduce NOx emissions from construction vehicles and equipment. In Appendix A (URBEMIS Air Quality Modeling), the lead agency has activated these measures as shown in the URBEMIS 2007 output sheets along with an additional measure, the use of cooled exhaust gas recirculation (EGR).

3

It is recommended that the lead agency investigate the availability of off-road mobile sources equipped with EGR, diesel particulate filters, and aqueous diesel fuel and demonstrate that they are available for the proposed project. Currently, the availability of these technologies is relatively limited, so they may not be available for use by the project proponent. Until the lead agency can demonstrate the availability of the low emission technologies, the lead agency should turn off these mitigation measures and not take credit for control efficiencies associated with them.

### **Construction Mitigation Measures**

4. Because the lead agency has determined that the proposed project's short-term air quality impacts are estimated to exceed established daily significance thresholds for nitrogen oxide (NO<sub>x</sub>), particulate matter PM10 and PM2.5, the SCAQMD recommends that the lead agency consider adding additional mitigation measures to further reduce construction air quality impacts from the project, if applicable and feasible. Mitigation measure suggestions can also be found at [http://www.aqmd.gov/ceqa/handbook/mitigation/MM\\_intro.html](http://www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.html):

Recommended additions:

The following is a list of additional recommended mitigation measures to Mitigation Measures AQ-1(a) and AQ(c)(d) further reduce fugitive dust and NO<sub>x</sub>:

#### **Mitigation Measures for PM10 and PM2.5 Fugitive Dust:**

- Install wheel washers where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip;
- Appoint a construction relations officer to act as a community liaison concerning on-site construction activity including resolution of issues related to PM10 generation;
- Apply non-toxic soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for ten days or more);
- Apply water three times daily, or non-toxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces;
- Pave road and road shoulders;
- Traffic speeds on all unpaved roads to be reduced to 15 mph or less; and
- Sweep streets at the end of the day if visible soil is carried onto adjacent public paved roads (recommend water sweepers with reclaimed water).

#### **Mitigation Measures for NO<sub>x</sub>:**

- Use electricity from power poles rather than temporary diesel or gasoline power generators;
- Configure construction parking to minimize traffic interference;
- Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow;
- Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site. Require construction equipment that meet or exceed Tier 2 standards and equip construction equipment with oxidation catalysts, particulate traps and demonstrate that these verified/certified technologies are available;

4

- Prohibit all vehicles from idling in excess of five minutes, both on- and off-site;
- Schedule construction activities that affect traffic flow on the arterial system to off-peak hour to the extent practicable; and
- Reroute construction trucks away from congested streets or sensitive receptor areas.

4

**Siting of Sensitive Land Uses Near Industrial Uses or High Traffic Roadways**

5. On page 2-12 and in Figure 2-7 of the Draft EIR, the lead agency proposed project includes 70 residential units on 11.18-acres (RPD-2.5U); and just northeast of the proposed residential units, three office building lots on 5.21-acres (M-1-DP [Development Plan]) are planned for development on the 47.25-acre site. Although the lead agency states on page 2-15 that the project would involve “business/professional office uses,” the M-1 land use category would also allow “light, medium, and heavy industrial uses with service commercial.”

5

The SCAQMD would recommend that the lead agency consult the California Environmental Protection Agency (CAL/EPA) and the California Air Resources Board (CARB) document: “Air Quality and Land Use Handbook: A Community Health Perspective (April 2005) “(Handbook), which cautions against siting projects that include sensitive land uses (schools, residences, playgrounds, convalescent centers, nursing homes, long-term health care facilities, etc.) close to industrial or commercial facilities or high traffic roadways and the associated emissions that may lead to adverse health effects beyond those associated with regional air pollution in urban areas. The SCAQMD recommends that sensitive receptors be properly distanced from incompatible land uses as defined in the CARB Handbook. The Handbook is available at the following website: <http://www.arb.ca.gov/ch/landuse.htm> .

*Letter 4*

**COMMENTER:** Susan Nakamura, South Coast Air Quality Management District

**DATE:** April, 10 2009

Response 4.1

The commenter indicates that the project's emissions were modeled in a version of URBEMIS which has now been superseded by version 9.2.4. The commenter suggests that any future modeling be conducted in the most recent version of URBEMIS.

It is acknowledged that the project modeling analysis consisted of modeling efforts that have now been superseded by newer versions and methodologies. For example, the newer version of URBEMIS contain a number of improvements including updated emissions factors for both on and off-road vehicles in addition to allowing overlapping of construction phases, more realistic construction mitigation options, and for rule mandated VOC reductions. Therefore, in response to this comment, the project was reevaluated in URBEMIS version 9.2.4. The analysis has been revised to reflect the new emissions estimates in Section 4.6 *Air Quality*. Changes to the Air Quality section of this document are indicated in the preceding pages of this section under subsection 8.1 *Addenda Errata*.

Response 4.2

The commenter notes that the URBEMIS modeling utilized a maximum area of disturbance of 7.2 acres, but that the LSTs were calculated based on a maximum area of five acres. The commenter requests that this discrepancy be rectified and that the Lead Agency formally adopt an acreage limit as part of the mitigation measures.

The use of LSTs is voluntary, to be implemented at the discretion of local public agencies acting as a lead agency pursuant to the California Environmental Quality Act (CEQA). In an effort to be conservative, and because project grading would likely be concentrated within small areas of the site at one time (five to seven acres), it was determined that use of the LST methodology would be helpful in determining whether particulate matter would significantly affect nearby sensitive receptors. The commenter is correct in that the URBEMIS program calculated a maximum area of disturbance based on default settings, which was 7.2 acres. Moreover when the modeling was updated pursuant to comment 4.1 above, the same default acreage was calculated by the URBEMIS program. The program was also run with a five acre maximum disturbed area as a basis of comparison for the mitigated emission levels, which resulted in approximately 2.3 lbs less per day of PM<sub>10</sub> and 0.48 lbs less per day of PM<sub>2.5</sub>.

The LST look up tables and associated methodology were designed for use on sites that are five acres or less (see Page 4.6-6); therefore, they cannot be adapted to analyze a site that is exactly 7.2 acres, which creates the aforementioned discrepancy. However, use of the look up tables was only a preliminary screening tool. Once it was determined that the project would exceed the thresholds, dispersion modeling was conducted using SCREEN3 for the entire project area



(29 acres of disturbance). The SCREEN3 model was then used to determine a concentration level in  $\mu\text{g}/\text{cubic meter}$  at the edge of the grading envelope. Since the sensitive downwind receptor was less than 100 meters away, the appropriate equation from the SCAQMD LST methodology was used to determine the concentration at the receptor (see Appendix D). At a distance of 10 meters, the concentration at the nearest residential receptor to the south is calculated to be  $100.1 \mu\text{g}/\text{cubic meter}$  (see Appendix D). This worst-case hourly concentration is about double the SCAQMD Rule 403 threshold of  $50 \mu\text{g}/\text{cubic meter}$  (hourly concentration averaged over 5 hours). Translated to a 24-hour average, project construction would cause a worst case  $\text{PM}_{10}$  concentration of  $33.4 \mu\text{g}/\text{cubic meter}$  compared to the threshold value of  $10.4 \mu\text{g}/\text{cubic meter}$  as indicated in Table 4.6-3. It should be emphasized that the SCREEN3 estimate of concentrations is considered conservative because it assumes the wind blowing directly toward the receptor and the lowest daytime stability class (Class D) for the duration of the activity. Therefore, because grading is planned for 29 acres and 640,000 cubic yards of soil will be balanced on site over a period of six months, it is likely that the maximum allowable concentrations of  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  will exceed the levels allowed under Rule 403, even with implementation of mitigation. It should also be emphasized that the mitigation measure includes additional PM reduction strategies that are not quantified in URBEMIS including wheel washing, paving the road and the shoulders, and limiting vehicle speeds on site to 15 mph or less. It is not possible to ascertain whether these strategies will reduce PM generation to below allowable levels; therefore, this temporary construction impact remains Class I, significant and unavoidable.

There are no discrepancies in the analysis that need to be rectified because there were two separate modeling analyses that were conducted utilizing different parameters. It is noted that the commenter also requested that the acreage of disturbance be limited as a mitigation measure, and mitigation measure AQ-1(a) has been modified to include an active area grading restriction of 7.2 acres consistent with the URBEMIS analysis. Please see the second bullet of the modified mitigation measure AQ-1(a) below under Response 4.4.

#### Response 4.3

The commenter requests an assessment of the feasibility of implementing  $\text{NO}_x$  control measures and deletion of such measures if not determined feasible.

It is noted that the revised construction modeling analysis conducted in response to comment 4.1 above did not exceed the 100 lb/day allowable  $\text{NO}_x$  threshold. Therefore no mitigation is necessary to reduce the impacts to a level that is less than significant. Nevertheless because the basin is in a state of non-attainment for ozone and  $\text{NO}_x$  is an ozone precursor, the mitigation measures remain, but AQ-1(c) has been revised to delete requirements for cooled exhaust gas recirculation.

#### **AQ-1(c)**

##### **$\text{NO}_x$ Control Measures:**

- ~~Cooled Exhaust Gas Recirculation shall be required on all heavy duty diesel construction equipment during the grading and construction phases to reduce  $\text{NO}_x$  emissions by 40% and  $\text{PM}_{10}$  emissions by 90%;~~



- Equipment engines ~~shall~~ be maintained in good condition and in proper tune as per manufacturer's specifications;
- Schedule construction periods to occur over a longer time period (i.e. lengthen from 60 days to 90 days) during the smog season so as to minimize the number of vehicles and equipment operating simultaneously; and
- Use new technologies to control ozone precursor emissions as they become readily available.

As indicated in the URBEMIS results within Appendix A, no mitigation options to reduce NOx were selected. Moreover, it is noted that these mitigation options are no longer offered as options in the updated URBEMIS 2007 v. 9.2.4 modeling program.

#### Response 4.4

The commenter requests that the project incorporate additional mitigation measures because of the short term exceedances for NOx, PM<sub>10</sub> and PM<sub>2.5</sub> if the mitigation measures are applicable and feasible.

The mitigation measure AQ-1(a) has been modified in response to this comment to include additional feasible and applicable measures. It is noted that many of these options were not quantified in URBEMIS; however, they are anticipated to reduce particulate matter generation to an even greater degree. However, it cannot be stated with certainty that the implementation of these mitigation requirements would reduce daily PM<sub>10</sub> by an additional 50%.

#### **AQ-1(a) Fugitive Dust Control Measures:**

- Water trucks shall be used during construction to keep all areas of vehicle movements damp enough to prevent dust from leaving the site. At a minimum, this will require three daily applications (start of workday, midday and at the end of the workday). Increased watering is required whenever wind speed exceeds 15 mph. Grading shall be suspended if wind gusts exceed 25 mph.
- The amount of disturbed area shall be minimized, active grading shall not exceed 7.25 acres per day, and onsite vehicle speeds shall be limited to 15 mph or less on all unpaved areas. Pave roads and shoulders as soon as feasible.
- Unpaved haul roads shall be watered three times per day.
- If ~~importation, exportation and~~ stockpiling of fill material is involved, earth with 5% or greater silt content that is stockpiled for more than two days shall be covered, kept moist, or treated with earth 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.~~
- After clearing, grading, earth-moving or excavation is completed, the disturbed area shall be treated by ~~watering, revegetation, or by~~ spreading earth binders (non-toxic soil stabilizers) according to



manufacturer's specifications until the area is paved or otherwise developed. Staging and parking areas shall also be stabilized by paving or with soil stabilizers.

- ~~Any material transported offsite shall be securely covered to prevent excessive amounts of dust.~~
- Install wheel washers where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site on each trip.

#### Response 4.5

The commenter states that the project could involve development of industrial uses and recommends consulting the Air Quality and Land Use Handbook: A Community Health Perspective (April 2005) which cautions against siting projects that include sensitive uses such as residences close to industrial or commercial facilities and high traffic roadways due to the potential for air pollutant emissions that could adversely affect health. The commenter recommends that sensitive land uses be properly distanced as recommended in the handbook.

The proposed zone change from A-2-2 (Heavy Agriculture two acre minimum) to RPD-2.5U and M-1-DP as shown on Figure 2-7 of the DEIR, would allow for the development of business professional office uses as proposed and analyzed throughout the EIR. As described on page 2-12 of the DEIR, general light industrial (M-1) would potentially allow a variety of potential uses, including business/professional, or limited manufacturing and assembly, secondhand stores, rentals, outdoor advertising, tailor shops, commercial services, retail sales of new goods and genuine antiques, community and financial services, and parks and play grounds. However, the -DP designation would restrict the use to business professional office, as described on page 2-15 of the DEIR and the restriction is further discussed on page 4.15-40 of the DEIR.

Section 22.040.030 of the municipal code states the following.

*Zone ( )-DP is established to provide a zone in which development occurring after property has been rezoned will conform to plans and exhibits submitted by the applicant in instances where such plans and exhibits constitute a critical factor in the decision to rezone. Adherence to such development plans is assured by the requirement for submission and approval of a conditional use permit, incorporating a development program by the applicant providing necessary safeguards to insure completion as specified (§22.040.030).*

Page 2-15 of the DEIR further clarifies that under the Santa Clarita Valley Area Plan, the Industrial (M-1) land use category allows light, medium, and heavy industrial uses with service commercial. Uses in this land use category must be "clean, non-polluting, without offensive odors, and visually attractive". The proposed office park style of business/professional office development conforms to the definition of allowable industry within the Santa Clarita Valley Area Plan and is the specific use that was analyzed throughout the EIR and which would be conditioned through the Development Program and Conditional Use Permit.



As discussed under Impact LU-2 on page 4.15-7 of the DEIR, the proposed residential uses would be at an elevation of between 1,237 and 1,326 feet. The professional office uses proposed for lots 75, 76, and 77 would be located between elevations 1,170 and 1,218. The elevation difference provides a natural buffer zone between the residential and commercial elements within the project. The commercial element of the project provides a buffer zone for the residential element from the traffic corridor of I-5 and The Old Road. The commercial element in effect would serve to buffer the residential uses both vertically and horizontally from the existing building supply yard, which is immediately adjacent to the project, and from traffic on The Old Road and I-5.

With respect to the comments about siting sensitive land uses in close proximity to high volume roadways, it is noted that I-5 is located about 500 feet from the closest residences (page 4.4-11 of the DEIR). According to the traffic study that was produced for this project and 2003 Caltrans truck traffic volumes, Average Daily Trips (ADT) along I-5 is 272,435 vehicles with 5.5% heavy trucks and 1.9% medium trucks (page 4.4-2 of the DEIR). The Handbook to which the commenter refers to discusses increased potential for adverse health effects when sensitive land uses are sited in close proximity to high volume roadways. The Handbook states the following.

*Air pollution studies indicate that living close to high traffic and the associated emissions may lead to adverse health effects beyond those associated with regional air pollution in urban areas. Many of these epidemiological studies have focused on children. A number of studies identify an association between adverse non-cancer health effects and living or attending school near heavily traveled roadways. These studies have reported associations between residential proximity to high traffic roadways and a variety of respiratory symptoms, asthma exacerbations, and decreases in lung function in children.*

The studies generally found that the increased potential for health risks was concentrated within 300 meters or about 1,000 feet, but that the risks declined significantly after 300 feet. The ARB's recommendation is to "avoid siting new sensitive land uses within **500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.**" Therefore, because the closest residential lots (lots 6, 7, & 8 lie about 500 feet from I-5), the proposed project complies with this ARB recommendation. The business professional office uses located closer to I-5 are not considered sensitive uses.





# COUNTY OF LOS ANGELES

## DEPARTMENT OF PUBLIC WORKS

*"To Enrich Lives Through Effective and Caring Service"*

APR 22 2009

GAIL FARBER, Director

900 SOUTH FREMONT AVENUE  
ALHAMBRA, CALIFORNIA 91803-1331  
Telephone: (626) 458-5100  
<http://dpw.lacounty.gov>

ADDRESS ALL CORRESPONDENCE TO:  
P.O. BOX 1460  
ALHAMBRA, CALIFORNIA 91802-1460

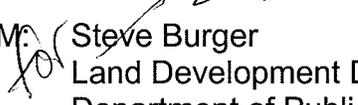
April 16, 2009

IN REPLY PLEASE  
REFER TO FILE: **LD-1**

TO: Paul McCarthy  
Department of Regional Planning

Letter 5

Attention Michele Bush

FROM:  Steve Burger  
Land Development Division  
Department of Public Works

**DRAFT ENVIRONMENTAL IMPACT REPORT  
LAKE VIEW ESTATES: VESTING TENTATIVE TRACT NO. 53933  
PROJECT NO. 03-304  
SATE CLEARINGHOUSE NO. 2005051009**

As requested, we reviewed the Draft Environmental Impact Report for the above-mentioned project. The proposed project includes subdivision that would allow for development of a 47.28 acre parcel with residential and business/office park uses in the unincorporated community of Castaic.

The following comments are for your consideration:

### Waterworks

Section 4.14-1, Setting, (a) Water Supply and Distribution, states "The majority of the site is within NCWD boundaries; however, the northeastern portion of the property is outside of the NCWD boundaries and is within the service area for County of Los Angeles Waterworks District No. 36." This statement is inaccurate; the Waterworks District No. 36 service area does not extent to the proposed project site.

For questions regarding Waterworks comments, please contact Greg Even at (626) 300-3331.

If you have any other questions or require additional information, please contact Toan Duong at (626) 458-4921.

MA:ca

P:\CEQA\CDMDRP - Lake View Estates: VTTM No. 53933, project No. 03-304-DEIR.doc

*Letter 5*

**COMMENTER:** Steve Burger, Land Development Division, Department of Public Works

**DATE:** April 16, 2009

Response 5

The commenter indicates that there is a statement in the setting portion of the document on page 4.14-7 that incorrectly assigns a portion of the project site to the jurisdiction of Los Angeles County Waterworks District No. 36. The commenter is correct and this portion of the text within the setting information has been changed as follows.

The majority of the site is within NCWD boundaries; however, the northeastern portion of the property is outside of the NCWD boundaries, but within the NCWD Sphere of Influence. ~~and is within the service area for Los Angeles County Waterworks District #36.~~

It is noted that Impact statement W-1 correctly characterized the site as within the Sphere of Influence for the NCWD and identified annexation to the NCWD as necessary for service; therefore, no additional changes are necessary.





# 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

STEPHEN R. MAGUIN  
Chief Engineer and General Manager

March 10, 2009

File No: SCV-00.04-00

Ms. Michele Bush  
Impact Analysis Section  
Los Angeles County  
Department of Regional Planning  
320 West Temple Street  
Los Angeles, CA 90012

Letter 6

Dear Ms. Bush:

**Project No. 03-304, Vesting Tentative Tract Map No. 53933, Lake View Estates**

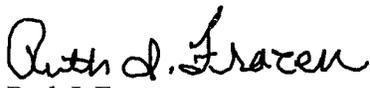
The County Sanitation Districts of Los Angeles County (Districts) received a Draft Environmental Impact Report for the subject project on March 9, 2009. We offer the following comments regarding sewerage service:

- All information concerning Districts' facilities and sewerage service contained in the document is current.

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

Stephen R. Maguin

  
Ruth I. Frazen  
Customer Service Specialist  
Facilities Planning Department

RIF:rf

c: D. Kitt

MAR 16 2009

*Letter 6*

**COMMENTER:** Stephen R. Maguin, County Sanitation Districts of Los Angeles County

**DATE:** March 10, 2009

Response 6

The commenter indicates that all information concerning the District's facilities and sewerage service is current. No changes or responses are necessary.





COUNTY OF LOS ANGELES  
DEPARTMENT OF PARKS AND RECREATION  
"Creating Community Through People, Parks and Programs"

Russ Guiney, Director

April 1, 2009

Letter 7

TO: Michele Bush  
Department of Regional Planning  
Impact Analysis Section

FROM: Julie Yom JY  
Park Planner

SUBJECT: **DRAFT ENVIRONMENTAL IMPACT REPORT  
LAKE VIEW ESTATES: VTTM NO. 53933  
PROJECT NO. 03-304  
STATE CLEARINGHOUSE NO. 2005051009**

The Department of Parks and Recreation has reviewed the Draft Environmental Impact Report (DEIR) for the above project. We offer the following comments:

- The developer's Quimby obligation will be satisfied by the payment of \$122,972 in-lieu fees.
- Provide regional park facilities for the enjoyment of the residents in the Santa Clarita Valley area by meeting the standard of six (6) acres per thousand population\* as established in the County's General Plan. This could take several forms including but not limited to trails, trail heads, and additional facilities for the Santa Clarita Valley.

Thank you for including this Department in the environmental review process. If we may be of further assistance, please contact me at (213) 351-5127.

JY: tls: response to Lake View Estates DEIR

c: Parks and Recreation (Norma E. Garcia, Larry Hensley, Joan Rupert)

\* Population (approximately 222) based on the anticipated growth relating to the number of projected dwelling units within the development.

*Letter 7*

**COMMENTER:** Julie Yom, Park Planner, County of Los Angeles, Department of Parks and Recreation

**DATE:** April 1, 2009

Response 7

The commenter states that the developer's Quimby obligation will be satisfied by the payment of \$122,972 and that the project should provide regional park facilities for the enjoyment of residents in the Santa Clarita Valley by meeting the standard of six acres per thousand population as established in the County's General Plan. The commenter further states that this could take several forms including but not limited to trails, trail heads and additional facilities for the Santa Clarita Valley.

This comment was previously received upon issuance of the Notice of Preparation and is included as sheet A-77 in Appendix A. The payment of the specified Quimby park fee obligation by the developer goes towards providing park space in the region for the enjoyment of the Santa Clarita Valley residents. In addition the project provides an onsite park space of about four acres and a trailhead as shown on Figure 2-4. Page 4.15-30 of the DEIR contains a discussion on the project's park obligations under the Castaic Community Standards District (CSD) consistency analysis and that discussion indicates the applicant's fee as \$122,972. Therefore, the project and EIR analysis are consistent with regards to park space requirement. It is also pointed out that the project is within one half mile west of the 51-acre Castaic Sports Complex, a regional park facility ([http://www.lacountyparks.org/Parkinfo.asp?URL=cms1\\_033248.asp&Title=Castaic](http://www.lacountyparks.org/Parkinfo.asp?URL=cms1_033248.asp&Title=Castaic); see also Project Location; Figure 2-2). Thus satisfying the CSD requirement that, to the greatest extent possible, 90% of all residential lots be located within one-half mile of a park that has a minimum size of two acres. Nevertheless, the payment of Quimby fee obligation, the onsite park space and the project's trailhead serve to offset the project's impacts to regional park facilities.

The trailhead, located at the northwest corner of the project (see Figure 2-4) could connect with adjacent properties if trails were developed in the future. The land to the north of the project's trailhead contains a summit (elevation 1,365 feet above mean sea level as shown on Figure 4.9-1), which could offer views of Castaic Lake and the valley if a trail extension to that area becomes available; however, that land is not under the control of this applicant. Secondly, a trail extension along the ridge to the west of the project (see Figure 4.9-1) could potentially be connected to the project's trailhead if access and easements were granted over time. However, at this time no existing trail is present or planned along the ridge to the west of the project (Exhibit CO-9, Master Plan of Trails, One Valley One Vision, Valleywide General Plan, Draft Conservation and Open Space Element, October 2008). Moreover, it is not certain whether these areas are suitable for development of trails from a feasibility perspective.





# COUNTY OF LOS ANGELES

## FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE  
LOS ANGELES, CALIFORNIA 90063-3294

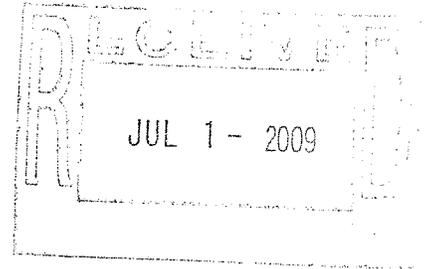
(323) 890-4330

Letter 8

P. MICHAEL FREEMAN  
FIRE CHIEF  
FORESTER & FIRE WARDEN

June 25, 2009

Ms. Michele Bush  
Department of Regional Planning  
Impact Analysis Section  
320 West Temple Street  
Los Angeles, CA 90012



Dear Ms. Bush:

**DRAFT ENVIRONMENTAL IMPACT REPORT, LAKE VIEW ESTATES: VTTM NO. 53933,  
PROJECT NO. 03-304, STATE CLEARINGHOUSE NO. 2005051009, LACO (FFER #200900050)**

The Impact Report has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department. The following are their comments:

**PLANNING DIVISION:**

- 1. We have the following corrections to Tables 4.13.-1 and -2 Fire Emergency Response Capabilities: Fire Station 149 also has an unstaffed patrol vehicle with a distance of 1.3 miles from the project site. Response times are not applicable to patrol vehicles. The distance for all resources at Fire Station 76 should be 3.5 miles and the response time for the Brush Patrol Unit should state "not applicable".

1

**LAND DEVELOPMENT UNIT:**

- 1. Please review the following attachment.

2

**FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:**

- 1. 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.
- 2. The proposed project will not have significant environmental impacts in these areas.

3

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	LANCASTER	PALMDALE	ROLLING HILLS ESTATES	TEMPLE CITY
BELL	CLAREMONT	GARDENA	INGLEWOOD	LAWNDALE	PALOS VERDES ESTATES	ROSEMEAD	WALNUT
BELL GARDENS	COMMERCE	GLENDORA	IRWINDALE	LOMITA	PARAMOUNT	SAN DIMAS	WEST HOLLYWOOD
BELLFLOWER	COVINA	HAWAIIAN GARDENS	LA CANADA-FLINTRIDGE	LYNWOOD	PICO RIVERA	SANTA CLARITA	WESTLAKE VILLAGE
			LA HABRA				WHITTIER



# COUNTY OF LOS ANGELES

## FIRE DEPARTMENT

5823 Rickenbacker Road  
Commerce, California 90040

### CONDITIONS OF APPROVAL FOR SUBDIVISION - UNINCORPORATED

Subdivision: TR 53933 Map Date March 31, 2009 - Ex. A

C.U.P. 03-304 Vicinity Castaic

- FIRE DEPARTMENT HOLD on the tentative map shall remain until verification from the Los Angeles County Fire Dept. Planning Section is received, stating adequacy of service. Contact (323) 881-2404.
- Access shall comply with Title 21 (County of Los Angeles Subdivision Code) and Section 503 of the Fire Code, which requires all weather access. All weather access may require paving.
- Fire Department access shall be extended to within 150 feet distance of any exterior portion of all structures.
- Where driveways extend further than 150 feet and are of single access design, turnarounds suitable for fire protection equipment use shall be provided and shown on the final map. Turnarounds shall be designed, constructed and maintained to insure their integrity for Fire Department use. Where topography dictates, turnarounds shall be provided for driveways that extend over 150 feet in length.
- The private driveways shall be indicated on the final map as "Private Driveway and Firelane" with the widths clearly depicted. Driveways shall be maintained in accordance with the Fire Code.
- Vehicular access must be provided and maintained serviceable throughout construction to all required fire hydrants. All required fire hydrants shall be installed, tested and accepted prior to construction.
- This property is located within the area described by the Fire Department as "Very High Fire Hazard Severity Zone" (formerly Fire Zone 4). A "Fuel Modification Plan" shall be submitted and approved prior to final map clearance. (Contact: Fuel Modification Unit, Fire Station #32, 605 North Angeleno Avenue, Azusa, CA 91702-2904, Phone (626) 969-5205 for details).
- Provide Fire Department or City approved street signs and building access numbers prior to occupancy.
- Additional fire protection systems shall be installed in lieu of suitable access and/or fire protection water.
- The final concept map, which has been submitted to this department for review, has fulfilled the conditions of approval recommended by this department for access only.
- These conditions must be secured by a C.U.P. and/or Covenant and Agreement approved by the County of Los Angeles Fire Department prior to final map clearance.
- The Fire Department has no additional requirements for this division of land.

Comments: **This project is cleared for Public Hearing. The following are conditions of approval:**  
**Proposed flag lot #7 shall provide a minimum paved driveway width of 20 feet on the flag strip. The on-site access for each commercial lot shall provide a minimum paved width of 28' clear to the sky. All hammerhead turnarounds and centerline turning radii shall comply to the Fire Department's turnaround standards. Indicate compliance prior to building permit issuance.**

By Inspector: Juan C. Padilla Date May 27, 2009

Land Development Unit – Fire Prevention Division – (323) 890-4243, Fax (323) 890-9783



# COUNTY OF LOS ANGELES

## FIRE DEPARTMENT

5823 Rickenbacker Road  
Commerce, California 90040

### WATER SYSTEM REQUIREMENTS - UNINCORPORATED

Subdivision No. TR 53933 Tentative Map Date March 31, 2009 - Ex. A

Revised Report \_\_\_\_\_

- The County Forester and Fire Warden is prohibited from setting requirements for water mains, fire hydrants and fire flows as a condition of approval for this division of land as presently zoned and/or submitted. However, water requirements may be necessary at the time of building permit issuance.
- The required COMMERCIAL fire flow for the public fire hydrants at this location is 5000 gallons per minute at 20 psi for a duration of 5 hours, over and above maximum daily domestic demand. 3 Hydrant(s) flowing simultaneously may be used to achieve the required fire flow.
- The required RESIDENTIAL fire flow for the public fire hydrants at this location is 1250 gallons per minute at 20 psi for a duration of 2 hours, over and above maximum daily domestic demand. 1 Hydrant(s) flowing simultaneously may be used to achieve the required fire flow
- The required fire flow for private on-site hydrants is \_\_\_\_\_ gallons per minute at 20 psi. Each private on-site hydrant must be capable of flowing \_\_\_\_\_ gallons per minute at 20 psi with two hydrants flowing simultaneously, one of which must be the furthest from the public water source.
- Fire hydrant requirements are as follows:
- Install 4 COMMERCIAL public fire hydrant(s).                      Install 4 RESIDENTIAL public fire hydrant(s).
- Install \_\_\_\_\_ private on-site fire hydrant(s).
- All hydrants shall measure 6"x 4"x 2-1/2" brass or bronze, conforming to current AWWA standard C503 or approved equal. All on-site hydrants shall be installed a minimum of 25' feet from a structure or protected by a two (2) hour rated firewall.
- Location: As per map on file with the office.
- Other location: Additional on-site fire hydrant locations will be established during the building plan check review process.
- All required fire hydrants shall be installed, tested and accepted or bonded for prior to Final Map approval. Vehicular access shall be provided and maintained serviceable throughout construction.
- The County of Los Angeles Fire Department is not setting requirements for water mains, fire hydrants and fire flows as a condition of approval for this division of land as presently zoned and/or submitted.
- Additional water system requirements will be required when this land is further subdivided and/or during the building permit process.
- Hydrants and fire flows are adequate to meet current Fire Department requirements.
- Upgrade not necessary, if existing hydrant(s) meet(s) fire flow requirements. Submit original water availability form to our office.

Comments: The require fire hydrants shall be installed and tested or bonded for prior to Final Map clearance.

All hydrants shall be installed in conformance with Title 20, County of Los Angeles Government Code and County of Los Angeles Fire Code, or appropriate city regulations. This shall include minimum six-inch diameter mains. Arrangements to meet these requirements must be made with the water purveyor serving the area.

By Inspector Juan C. Padilla Date May 27, 2009

Ms. Michele Bush  
June 25, 2009  
Page 2

**HEALTH HAZARDOUS MATERIALS DIVISION:**

1. The review of the "initial study" contained in the Environmental Impact Report and the search of our database does not indicate to any use or release of hazardous materials on-site. In the absence of any known significant release of hazardous materials, the Health Hazardous Materials Division has no objection with the proposed development.

4

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,



FRANK VIDALES, ACTING CHIEF, FORESTRY DIVISION  
PREVENTION SERVICES BUREAU

FV:lj

Enclosure

Letter 8

**COMMENTER:** Frank Vidales, Acting Chief, Forestry Division Prevention Services Bureau, County of Los Angeles Fire Department

**DATE:** June 25, 2009

Response 8.1

The commenter provides updated information for Tables 4.13-1 and 4.13-2. The following changes were made to Tables 4.13-1 and 4.13-2 in response to this comment.

**Table 4.13-1 Fire Emergency Response Capabilities, Station 149**

Equipment	Distance (Miles)	Time (Minutes)	Staffing
1 Fire Engine	1.3 miles	4 minutes	3
1 Paramedic Squad	1.3 miles	4 minutes	2
<u>1 Patrol Vehicle</u>	<u>1.3 miles</u>	<u>Not applicable</u>	<u>shared</u>

*Source: Los Angeles County Fire Department, Chief P. Michael Freeman and Captain Mark Kyllingstad, May 2005; and comment letter 8, see Section 8.0 Addenda Errata/Comments and Responses*

**Table 4.13-2 Fire Emergency Response Capabilities, Station 76**

Equipment	Distance (Miles)	Time (Minutes)	Staffing
1 Fire Engine	3.5 miles	11.7 minutes	4
1 Brush Patrol Unit	<del>2</del> 3.5 miles	<del>4.5-5.5 minutes</del> Not applicable	0*
1 Hazardous Materials Squad	<del>2</del> 3.5 miles	11.7 minutes	5

*Source: Los Angeles County Fire Department, Chief P. Michael Freeman and Captain Mark Kyllingstad, May 2005; and comment letter 8, see Section 8.0 Addenda Errata/Comments and Responses*

\*Staffed as necessary.

In addition, the impact discussion on page 4.13-3 was clarified in response to this comment. The modified text is shown below.

~~Response times are estimated at six minutes for first arriving units in the Castaic area and response time to the project area from the closest station are~~ is approximately four minutes. Response times for the Valencia Station are 11.7 minutes (see Table 4.13-2).

Response 8.2

The commenter has included conditions of approval and water system requirements for the project. These requirements will be included as conditions of approval. In addition, the majority of these requirements are included in mitigation measures FH-1(a) and FH-1(b).



However, in response to this comment, the following additional language was modified in FH-1(b) in Section 4.3 *Fire Hazard*.

- The commercial development ~~may~~ requires fire flows up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to a five-hour duration (three hydrants flowing simultaneously). Final fire flows will be based on the size of the buildings, their relationship to other structures, property lines, and types of construction used;
- Single-family detached homes shall require a minimum fire flow of 1,250 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration, over and above maximum daily domestic demand. One hydrant flowing simultaneously may be used to achieve the required fire flow. When there are five or more units taking access on a single driveway, the minimum fire flow shall be increased to 1,500 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration;
- Provide Fire Department or City approved street signs and building access numbers prior to occupancy.
- A minimum of four commercial fire hydrants and four residential fire hydrants shall be installed.

### Response 8.3

The commenter indicates the statutory responsibilities of the County of Los Angeles Fire Department Forestry Division also include erosion control, watershed management, rare and endangered species, vegetation, cultural resources and the County Oak Tree Ordinance. However, the commenter further notes that the project will not have significant environmental impacts in these areas. No response is necessary.

### Response 8.4

The commenter indicates that there is no record of use or release of hazardous materials at the project site and there is no objection with the proposed development. No response is necessary.





# United States Department of the Interior



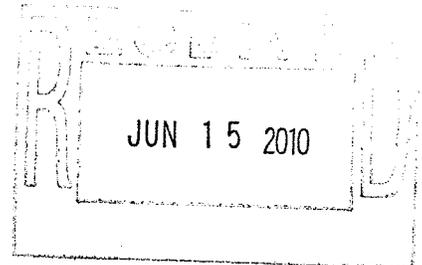
FISH AND WILDLIFE SERVICE  
Ventura Fish and Wildlife Office  
2493 Portola Road, Suite B  
Ventura, California 93003

IN REPLY REFER TO:  
81440-2010-CPA-0107

Letter 9

June 14, 2010

Michele Bush  
Impact Analysis Section, Room 1348  
Department of Regional Planning  
County of Los Angeles  
320 West Temple Street  
Los Angeles, California 90012



Subject Notice of Completion and Availability of the Draft Environmental Impact Report for the Lake View Estates Project, County Project No. 03-304 in the Santa Clarita Valley, Los Angeles County, California

Dear Ms. Bush:

This letter provides the U.S. Fish and Wildlife Service's (Service) comments on the subject Draft Environmental Impact Report (DEIR). The notice of availability was received in our office on May 3, 2010. The proposed project is located in the northwestern portion of the Santa Clarita Valley, approximately 3/4 mile southwest of the Castaic Lake State Recreation Area.

The proposed project site is 47.25 acres in size and is currently vacant. The proposed project is to subdivide four existing parcels into 70 single family residential lots, three commercial lots, four open space lots, a detention basin, roads, and one park site for recreational use. The project proponent is requesting a Conditional Use Permit for development within a Hillside Management Area, zone changes, and an Oak Tree Permit to remove 13 oak trees (*Quercus* spp.). Grading is estimated at 640,000 cubic yards of cut and fill, to be balanced onsite.

The U.S. Fish and Wildlife Service's (Service) responsibilities include administering the Endangered Species Act of 1973, as amended (Act), including sections 7, 9, and 10. Section 9 of the Act and its implementing regulations prohibits the taking of any federally listed endangered or threatened species. Section 3(19) of the Act defines "take" to mean "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. The Act provides for civil and criminal penalties for the unlawful taking of listed species.

9.1



Exemptions to the prohibitions against take may be obtained through coordination with the Service in two ways. If a project is to be funded, authorized, or carried out by a Federal agency, and may affect a listed species, the Federal agency must consult with the Service pursuant to section 7(a)(2) of the Act. If a proposed project does not involve a Federal agency but may result in the take of a listed animal species, the project proponent should apply to the Service for an incidental take permit pursuant to section 10(a)(1)(B) of the Act.

9.1

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

As it is not our primary responsibility to comment on documents prepared pursuant to the California Environmental Quality Act (CEQA), our comments on the DEIR do not constitute a full review of project impacts. We are providing our comments based upon a review of sections addressing biological resources, project activities that have potential to affect federally listed species, and our concerns for listed species within our jurisdiction related to our mandates under the Act. Based upon our review, we have the following concerns regarding the DEIR's characterization of impacts to federally listed species.

According to the Biological Resources Technical Report, page 328 of Volume II of the DEIR, the project site supports five vegetation communities including: chamise chaparral, mixed chaparral, coastal sage scrub, cottonwood-willow riparian forest, and California annual grassland-sage scrub ecotone. The chaparral and coastal sage scrub communities dominate the project site. The DEIR further states that the following federally listed species have the potential to occur onsite: the federally endangered least Bell's vireo (*Vireo bellii pusillus*), California condor (*Gymnogyps californianus*), California orcutt grass (*Orcuttia californica*), Nevin's barberry (*Berberis nevinii*), arroyo toad (*Anaxyrus californicus*), the threatened coastal California gnatcatcher (*Polioptila californica*), and the candidate San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*). In addition, we believe that the project site could support the federally endangered slender-horned spineflower (*Dodecahema leptoceras*). We do not believe the site could support the California condor or California orcutt grass because suitable habitat does not occur onsite according to the information described in the DEIR, and thus these species will not be further discussed herein.

9.2

We understand that a site survey for biological resources was completed over the course of single day in May of 2002, and repeated again in March of 2005. Focused surveys for federally listed species were not conducted; however, the DEIR states that the two site surveys coincided with the blooming season for plant species. We do not believe that the biological surveys cited in the DEIR were appropriate to identify the presence of federally listed species at the project site. The 2001-2002 rain season (measured from July 1-June 30) was the second driest in recorded Los Angeles history and therefore was not conducive to the identification of federally listed plant species (Los Angeles Times 2007). In addition, the Biological Resources Technical Report states that a riparian area was identified onsite, but the entire canyon was not surveyed.

9.3

Finally, surveys conducted 5 to 8 years ago are outdated. We recommend that the applicant conduct surveys according to Service protocol within suitable habitat for federally listed species, which have the potential to occur onsite.

We are enclosing a copy of the Service's guidelines for conducting and reporting botanical inventories for federally listed, proposed, and candidate plants. Additionally, we recommend that Mitigation measures Bio-4(a-c) be revised to include protective measures and surveys within suitable habitat for all federally listed plants, which have the potential to occur onsite including the slender-horned spineflower, Nevin's barberry, and the San Fernando Valley spineflower.

9.3

Coastal sage scrub and chaparral plant communities provide suitable habitat for breeding, foraging, and dispersal of coastal California gnatcatchers. The proposed project would result in the destruction, modification, and encroachment on suitable habitat. As a result, individuals occurring onsite could be impacted directly or indirectly by the project, which as outlined in the above paragraphs, may trigger the obligation of the applicant to coordinate with the Service to obtain an exemption to the prohibitions against take either through section 7(a)(2) or 10(a)(1)(B) of the Act. We recommend that a permitted biologist(s) conduct surveys according to Service protocol for the coastal California gnatcatcher to determine the status of the species onsite. Our records indicate that the coastal California gnatcatcher is currently expanding within its historical range and surveys conducted over 1 year ago are no longer valid to determine species presence.

9.4

Page 170 of the DEIR states that "a single riparian area with an ephemeral (seasonal) water source is present at the bottom of a canyon along the eastern border of the project. The canyon drains the surrounding hill slopes and directs flow into Castaic Creek, a major tributary to the Santa Clara River. The entire canyon was not surveyed, but cottonwood (*Populus fremontii*) and willows (*Salix* spp.) were observed along the margins." We are concerned that arroyo toads and least Bell's vireos may be present within the riparian area and could be impacted either directly or indirectly by the proposed project.

Suitable breeding habitat for arroyo toads consists of slow-moving streams with shallow pools, nearby sandbars, and adjacent stream terraces. Arroyo toads breed and deposit egg strands in shallow, sandy pools that are usually bordered by sand and gravel flood terraces. Outside of the breeding season, arroyo toads are essentially terrestrial and are known to use a variety of riparian and upland habitats including but not limited to: sycamore-cottonwood woodlands, oak woodlands, coastal sage scrub, chaparral, and grassland (Holland 1995, Griffin et al. 1999). Our records indicate that arroyo toads inhabit the region and are known to occur in at least 2 locations within 10 miles of the project site, at Castaic Lake to the northeast and Lake Piru to the west. The DEIR states that the riparian area lacks sufficient hydrology to support the arroyo toad; however, it is not clear to us if a full habitat assessment for the arroyo toad was completed or not. We recommend that the applicant conduct a habitat assessment of the riparian area and determine if conducting surveys for the arroyo toad according to Service protocol is warranted.

9.5

The least Bell's vireo forages almost exclusively in riparian woodland habitats. Bell's vireos as a group are highly territorial and almost exclusively insectivorous. Nesting habitat typically consists of well-developed overstories and understories, and low densities of aquatic and herbaceous cover. The understory frequently contains dense subshrub or shrub thickets. These

thickets are often dominated by sandbar willow (*Salix hindsiana*), mulefat (*Baccharis salicifolia*), young individuals of other willow species such as arroyo willow (*S. lasiolepis*) or black willow (*S. gooddingii*), and one or more herbaceous species. Important overstory species include mature arroyo willows and black willows; occasional cottonwoods (*Populus* spp.) and western sycamores (*Platanus racemosa*) also occur in some habitats. Additionally, coast live oaks (*Quercus agrifolia*) can be a locally important overstory component, as can mesquite (*Prosopis* spp.). The DEIR states that the project area lacks suitable habitat to support the least Bell's vireo; however, the entire riparian canyon was not surveyed and there is the potential for the species to occur within the site during the breeding season (March to September). We recommend that the applicant conduct a habitat assessment of the riparian area and determine if conducting surveys for the least Bell's vireo according to Service protocol is warranted.

9.5

Mitigation measure Bio-5(a) states that pre-construction surveys would be conducted if vegetation clearing and construction activities would occur during the coastal California gnatcatcher breeding season. The survey would be conducted within 100 feet of the outer extent of the proposed soil disturbance activities. While we acknowledge the intent of the mitigation measure to reduce the impacts of the project on the coastal California gnatcatcher, adverse impacts to the species have the potential to occur even after implementing mitigation measure Bio-5(a). Adverse impacts to the coastal California gnatcatcher would occur if individuals are present onsite during construction and vegetation removal regardless of construction timing because the species is present year-round.

9.6

Adverse impacts to coastal California gnatcatchers and least Bell's vireos could occur outside of the proposed 100-foot survey zone during construction. Construction related noise, dust, lighting, trash, and activity could adversely impact the coastal California gnatcatcher or least Bell's vireo, if they are present. For example, lighting of the construction area would adversely impact the suitability of the surrounding habitat by exposing these species to nocturnal predators or precluding the use of certain areas for nesting or nighttime roosting.

In addition, development of the Lake View Estates may cause two problems related to predation. The first is the introduction of non-native predators, specifically cats (*Felis domesticus*). Cats are known to have a great impact on native animals, especially birds. The presence of cats extends the negative effects of the development well into adjacent habitat and could eliminate any nesting attempts by coastal California gnatcatchers or least Bell's vireos in the future. Domestic cats and other pets could be introduced to the project area by workers during construction, or by future residents of the Lake View Estates. Secondly, residential development may result in the control of native predators, such as coyotes (*Canis latrans*). Coyotes are known to suppress the population of smaller predators, such as cats, grey foxes (*Urocyon cinereoargenteus*), and opossums (*Didelphis virginianus*) that prey upon nesting birds. In the absence of coyotes, populations of these smaller predators may increase, and native birds that nest in coastal sage scrub or the riparian corridor, including the coastal California gnatcatcher and least Bell's vireo, may decline or be eliminated.

9.7

Housing development introduces a suite of other indirect effects. These include night lighting, noise, introduction of non-native plants, and potential contamination by pesticides used by residents. Suitable habitat in adjacent areas could be accessed by off-road vehicles via the

project site during and after project development, or by pedestrians. Off-road vehicle, paintball games, and other recreational activities could physically destroy otherwise suitable habitat by creating new trails through vegetation. The combined impact of these effects would be to reduce the suitability of the habitat for the coastal California gnatcatcher and least Bell's vireo in the surrounding area. All of these impacts have the potential to impact an area greater than the proposed 100 foot survey zone proposed in mitigation measure Bio-5.

9.7

Mitigation measure Bio-5(a) states that the applicant would notify us at least 14 days prior to the clearing of any habitat determined to be occupied by coastal California gnatcatchers to allow us to work with the monitoring biologist in connection with bird flushing/capture activities. These activities are a form of take and are therefore prohibited pursuant to the Act unless the applicant has obtained an exemption to the prohibitions against take under section 9 of the Act. Similarly, relocation or trapping of any federally listed species, as proposed under mitigation measures Bio-5(b), (c), and (d) is also a form of take pursuant to the Act. We recommend that surveys according to Service protocol should be conducted within suitable habitat throughout the project site for any federally listed species, which may occur on the project site before construction activities begin.

9.8

In summary, we find the DEIR to be lacking in the specificity of information regarding the presence of federally listed species and biological resources needed to accurately evaluate and characterize the impacts the project, as proposed, would have on these resources. We recommend that this information be gathered for evaluation by the applicant and the county of Los Angeles to avoid any impacts to federally listed species. We are available to work with you to achieve this goal; however, any action that would result in the take of listed animal species would be subject to the prohibitions of section 9 of the Act, thus requiring some form of exemption, either through an incidental take permit or interagency consultation if a federal nexus exists.

9.9

We appreciate the opportunity to provide comments on the Lake View Estates DEIR. If you have any questions regarding our comments, please contact Colleen Mehlberg of our staff at (805) 644-1766, extension 221.

Sincerely,



Chris Dellith  
Senior Biologist

Enclosures

cc:  
Scott Harris, California Department of Fish and Game

## Works Cited

- Holland, D.C. 1995. Sensitive Species Hydroecological Evaluation – Santa Margarita River: Arroyo Southwestern Toad (*Bufo microscaphus californicus*) Camp. Camp Pendleton. 14 pp.
- Los Angeles Times. 2007. Driest L.A. rain season on record. Accessed June 8, 2010. Available at <http://articles.latimes.com/2007/jul/05/local/me-rain30gr>.
- Griffin, P.C., T.J. Case, and R.N. Fisher. 1999. Radio telemetry study of *Bufo californicus*, arroyo toad movement patterns and habitat preferences. Contract Report to California Department of Transportation Southern Biology Pool.

## **Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants**

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed, or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire project area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.
2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations(s) is not available, investigators should study specimens from local herbaria.
3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.
4. Report results of botanical field inventories that include:
  - a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species
  - b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name
  - c. survey dates and survey methodology(ies)
  - d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made
  - e. a comprehensive list of all vascular plants occurring on the project site for each habitat type
  - f. current and historic land uses of the habitat(s) and degree of site alteration

- g. presence of target species off-site on adjacent parcels, if known
  - h. an assessment of the biological significance or ecological quality of the project site in a local and regional context
5. If target species is (are) found, report results that additionally include:
    - a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project
    - b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors.
    - c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports.
    - d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat.
  6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.
  7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than 3 years from the current date of project proposal submission will likely need an additional survey. Investigators need to assess whether an additional survey(s) is (are) needed.
  8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.
  9. Guidance from California Department of Fish and Game (CDFG) regarding plant and plant community surveys can be found in Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities, 1984. Please contact the CDFG Regional Office for questions regarding the CDFG guidelines and for assistance in determining any applicable State regulatory requirements.

Letter 9

**COMMENTER:** Chris Dellith, Senior Biologist, United States Department of the Interior, Fish and Wildlife Service.

**DATE:** June 14, 2010

Response 9.1

The commenter summarizes the project and describes the location. The commenter further describes the role of the United States Department of the Interior Fish and Wildlife Service (USFWS). No response is necessary.

Response 9.2

The commenter notes that page 4.7-4 of the Draft EIR documents five types of vegetative communities and states that there is potential for several federally listed species to occur on site including least Bell’s vireo, California condor, California orcutt grass, Nevin’s barberry, arroyo toad, the threatened coastal California gnatcatcher, and the candidate San Fernando Valley spineflower. The commenter further expresses an opinion that there may be potential for the site to support the federally endangered slender-horned spineflower. The commenter concurs with a determination that California condor and California orcutt grass are not likely to occur on site because of a lack of suitable habitat.

Table 4.7-1 starting on page 4.7-13 discusses special status plant species, while Table 4.7-2 starting on page 4.7-15 discusses special status animal species. The special status species noted by the commenter were addressed as follows.

**Plants**

<b>Common name</b>	<b>Scientific name</b>	<b>Habitat Requirements/ Blooming Period</b>	<b>Occurrence Potential</b>
California orcutt grass	<i>Orcuttia californica</i>	Vernal pool, fresh water wetlands. Blooming period April – August. 49-2165 feet.	Not likely; Known in same quad as project, but no suitable habitat onsite.
Nevin’s barberry	<i>Berberis nevinii</i>	Chaparral, coastal, and alluvial fan sage scrub; steep north-facing slopes or low sandy wash; 950 to 2,200 feet. Blooming period March to April	Potentially occurring, Low probability, high detectability due to size and structure, but was not observed during the field survey. Known six miles east of project site.
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	Thin, mineralized soils, coastal scrub, margins of disturbed areas; 492 to 4,001 feet. Blooming period April to July.	Potentially occurring, known 1/4 mile north of project site (CNDDDB mar 2007).
Slender-horned	<i>Dodecahema leptoceras</i>	Chaparral, coastal scrub and cismontane woodland habitat	Not likely, project within elevational range, but lacks



**Plants**

Common name	Scientific name	Habitat Requirements/ Blooming Period	Occurrence Potential
spineflower		on flood-deposited terraces and washes; 660 to 2508 feet. Blooming period April to June.	appropriate habitat (cryptobiotic crust in upper flood plains of major rivers).

Table 4.7-1, Lake View Estates Mixed Use Development EIR.

**Animals**

Common name	Scientific name	Occurrence Potential
Least Bell's vireo	<i>Vireo bellii bellii</i>	No suitable habitat
California condor	<i>Gymnogyps californianus</i>	No suitable nesting habitat, potential foraging habitat
Arroyo toad	<i>Bufo microscaphus californicus</i>	Low probability, lacks suitable hydrology

Table 4.7-1, Lake View Estates Mixed Use Development EIR.

In particular, the commenter's belief that slender-horned spineflower could occur at the site is unfounded given its very specific micro-habitat requirements that are lacking within the site as noted in the above table. Nonetheless, mitigation measures 4(a-c) are protective of this resource should it be found during pre-construction surveys.

It is noted that California gnatcatcher was not preliminarily identified as a species that is likely to be affected by project development because as discussed under Response 2.3 above, the project site lies, at best, at the outer fringe of the CAGN range. Moreover, a review of multiple other gnatcatcher reports for this region indicate a general lack of sightings with the exception of transitory individuals (please see third paragraph under Response 2.3 for a discussion regarding sightings, surveys and reports). Therefore the project would not be expected to affect the habitat connectivity needed for CAGN populations since all of the known populations lie to the south of the site (extending to San Diego County and Baja California). Further given the northerly location of the site relative to the CAGN range, that about 26 acres of the project site are greater than 50% (SR Consultants, Inc. Slope Analysis Exhibit, 11/07/2002) and coastal California gnatcatchers avoid nesting on very steep slopes (greater than 40 percent) (e.g., Bontrager 1991 in USFWS, December 19, 2007), and lack of quality habitat for CAGN at the site, the likelihood of its foraging onsite is low. Given this habitat suitability analysis and the distance to known CAGN observations, CAGN was not discussed in the Draft EIR. Nevertheless, to maintain a conservative and pro-active role in preventing inadvertent adverse effects, mitigation measures were modified and strengthened to require additional surveys; please see revised mitigation measure BIO-5 under Section 8.1 above.



### Response 9.3

The commenter notes that one-day biological resources surveys were performed in May of 2002 and March of 2005 during the blooming seasons, but that focused blooming season surveys were not conducted. The commenter further expresses an opinion that the surveys were not likely to identify federally listed species because 2002 was a dry year, and because the riparian canyon was not completely surveyed. The commenter further opines that the surveys are outdated and recommends that the applicant conduct additional protocol surveys.

As discussed above and within the EIR in the first paragraph on page 4.7-1, a biological constraints analysis was produced by EIP Associates for the project site and that report was peer reviewed as part of the EIR analysis, which resulted in Section 4.7, *Biota*. The EIR consultant conducted a brief site visit as part of the peer review to determine if the general conclusions of the EIP Associates report were accurate. Following the site visits, the EIR consultant team worked closely with three separate Department of Regional Planning (DRP) Biologists and four separate DRP Planners over a period of years to address issues and concerns related to biological resources. As a consequence, the EIR analysis and recommended mitigation measures are based on the collective review and biological opinion of multiple biologists. The EIR consultant agrees that 2002 was not an optimal year for plants, but as stated in the above table and Table 4.7-1 of the EIR, the site is not an optimal location for any of the federal listed threatened or endangered plants.

As discussed above and in the EIR, two of the four plants of federal concern do not have suitable habitat present and so are not expected to be present (slender-horned spinyflower and orcutt grass). The other two are unlikely to occur given the type of habitat present, but will nonetheless be the subject of pre-construction surveys prior to ground disturbance to confirm absence. With respect to these two plants, Nevin's barberry is a conspicuous shrub that is visually quite different from other scrub plants and so would likely have been detected if present within the proposed disturbance area by the EIP Associates biologists during 2002 regardless of the rainfall amount. San Fernando Valley spinyflower occurs on thin mineralized soils typically at ecotonal locations and generally on slightly sloping to flat ground. In Response to the lack of presence during the 2002 rainfall season, surveys conducted at the Ahmanson Ranch (now the Upper Las Virgenes Canyon Open Space Preserve) indicated a substantial reduction in numbers present (only 15% of previous years) in 2002 (Sapphos Environmental, Inc., July 19, 2002, *Preliminary 2002 Survey Results for San Fernando Valley Spinyflower at Ahmanson Ranch, Calabasas, California*), but still over 220,000 individuals were found, and individual plants were located in all of the 18 previously recorded study areas. As indicated, when present at population levels sufficient for impacts to be considered significant, this annual plant will occur in adequate numbers to have been seen regardless of the lack of rainfall. In addition, the project site is comprised of primarily steep incised slopes, and is very different from the known locations of this plant; nonetheless, pre-construction surveys are considered warranted.

In the unlikely event that individuals are found, additional mitigation would be triggered. The subsequent mitigation involves USFWS coordination (BIO-4(b)) and development of a preservation and management plan that includes minimum directives listed in BIO-4(c).



Development at the project site will not adversely affect the minimal riparian habitat located at the southern end of the project site or associated plants and animals as this canyon has been avoided, preserving the entire riparian habitat under the currently proposed design and no direct adverse impacts have been identified. The riparian habitat in this canyon consists of a few scattered trees, and is not a well-developed riparian habitat. Indirect impacts to riparian habitat were addressed under Impact BIO-2, which incorporates mitigation to prevent sediment and runoff from being directed to the riparian area.

Pre-construction surveys as required under Mitigation Measure BIO-3 would be inclusive of all federally-listed, proposed, or candidate plants as they are included in the term “special-status plants.” Such surveys will serve to update the prior plant survey. It is not necessary to survey areas of the property that lie outside of the development zone (inclusive of fuel management areas) as those locations are not subject to direct removal of plant cover.

#### Response 9.4

The commenter recommends surveys for the coastal California gnatcatcher, indicating that the range for this species is expanding and that surveys for the species conducted one year ago are already outdated. While it is correct that the gnatcatcher has recently been found in more distant locales, the areas where it has been found are still within suitable breeding habitat. The project site lacks suitable breeding habitat and it is unlikely that a gnatcatcher would persist within the site. As an example, a gnatcatcher was heard in more suitable breeding and foraging habitat in 2007 at the Valencia Commerce Center approximately 3 miles south of the site, but subsequent protocol surveys in 2008 failed to discover any gnatcatchers (Compliance Biology, August 2008, *Results of Focused California Gnatcatcher Surveys on the Commerce Center SCP Site, Los Angeles County, CA.*) While pre-construction surveys for sensitive animals, which is inclusive of the coastal California gnatcatcher, was already recommended in the EIR, Mitigation Measure BIO-5 has been revised to specifically include provisions for gnatcatcher surveys prior to construction. Please also see response to Response 2.3, above. Because of the legal restrictions imposed by the federal Endangered Species Act, the applicant would need to receive appropriate authorizations from the USFWS in the event that a gnatcatcher is discovered. No further mitigation measures are needed within the EIR as the legal requirements are fully protective.

#### Response 9.5

The commenter quotes language from the DEIR documenting the presence of a riparian area on site with seasonal water, cottonwood and willows. The commenter further expresses concern that arroyo toads and least Bell’s vireos may be present and could be affected directly or indirectly. The commenter further characterizes the habitat requirements for arroyo toad and least Bell’s vireo.

The riparian area is outside of the area of disturbance as shown by the red hatched pattern on Figure 4.7-1. Both of these species are listed in Table 4.7-2. Table 4.7-2 indicates that there is a low probability of finding arroyo toad due to a lack of suitable hydrology and that there is a



lack of suitable habitat for least Bell's vireo. The riparian area contains fewer than 10 cottonwood and willow trees, and lacks the shallow, sandy pools and flood terraces necessary to sustain arroyo toad. As stated in the text, water flow in this canyon is ephemeral, which does not provide the necessary long term intermittent to perennial flows needed by the arroyo toad.

Similarly, least Bell's vireos require reasonably sized stands of mixed riparian woodland and willows with suitable foraging habitat. The scattered riparian elements present in this canyon are visible as the trees in the bottom part of the canyon beyond the construction yard materials in the middle of Figure 4.9-8. These few trees would not be expected to sustain a least Bell's vireo breeding territory. In addition, as illustrated by this figure, the project development would be substantially separate horizontally and vertically from that location and no significant effect would be anticipated as a result of project development if least Bell's vireo did occupy that area. Further with respect to the developed portions of the property, Mitigation Measure BIO-5 requires pre-construction surveys and notification and consultation with the USFWS in the event that a listed species, such as the least Bell's vireo, or otherwise federal sensitive species is discovered at the site.

#### Response 9.6

The commenter suggests modification of mitigation measure BIO-5(a) to omit language qualifying the pre-construction surveys to the CAGN breeding season. While as previously discussed it is anticipated that at best coastal California gnatcatcher presence at the site would be anticipated to be only on a transient species, this qualifier has been deleted from the mitigation measure as shown below.

**BIO-5(a)** ~~Pre-construction surveys shall be conducted if vegetation clearing and construction activities are proposed during CAGN breeding season (beginning January 15<sup>th</sup>).~~ Prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub, a survey would be conducted to locate gnatcatchers within 100 feet of the outer extent of projected soil disturbance activities and the locations should be clearly marked and identified on the construction/grading plans. A biological monitor will also be present at the initiation of vegetation clearing to provide an education program to the construction operators regarding the efforts needed to protect the CAGN and other special-status species. Fencing or flagging would be installed around the limits of grading prior to the initiation of vegetation clearing.

A qualified monitoring biologist as approved by the jurisdictional agencies shall be onsite during any clearing of coastal sage scrub. The developer will notify USFWS/CDFG at least fourteen (14) calendar days prior to the clearing of any habitat determined by the pre-construction survey to be occupied by gnatcatcher to allow USFWS/CDFG to work with the monitoring biologist in connection



with bird flushing/capture activities. The monitoring biologist would flush CAGN and other special-status species (such as loggerhead shrike) from occupied habitat areas immediately prior to brush clearing and earth-moving activities.

Coastal sage scrub identified for protection and located within the likely dust drift radius of construction areas would be periodically sprayed with water to reduce accumulated dust on the leaves as recommended by the monitoring biologist.

As discussed in the EIR, while indirect impacts to biological resources such as light and noise may occur associated with this development, the level of these effects would be similar to that which already occurs at existing urban / wildland interfaces at the site, namely the residential uses to the north of the site and the commercial use to the east. Further, occurrence or nest success of coastal California gnatcatcher is not reduced near edges with human development (Mock 1993, San Diego County Bird Atlas 2002, Mock and Preston 1995, Lovio 1996, Atwood 1998, Atwood et al. 1998b cited in Mock, P., 2004, *The Coastal Scrub and Chaparral Bird Conservation Plan: a strategy for protecting and managing coastal scrub and chaparral habitats and associated birds in California*. California Partners in Flight. <http://www.prbo.org/calpif/htmldocs/scrub.html>).

#### Response 9.7

The commenter expresses an opinion that the EIR should address predation related to feral cats on nesting attempts by least Bell's vireo and CAGN. The commenter further opines that the development could lead to an increase in control of coyotes that would secondarily cause an increase in the population of smaller predators such as cats, grey foxes and opossums, whose populations are normally controlled by coyotes. The commenter indicates that an increase in the populations of these animals could have adverse effects on nesting by least Bell's vireo and CAGN.

As discussed in the EIR, while indirect impacts to biological resources may occur associated with this development, the level of these effects would be similar to that which already occurs at existing urban / wildland interfaces at the site, namely the residential uses to the north of the site and the commercial use to the east. Further, occurrence or nest success of coastal California gnatcatcher is not reduced near edges with human development (Mock 1993, San Diego County Bird Atlas 2002, Mock and Preston 1995, Lovio 1996, Atwood 1998, Atwood et al. 1998b cited in Mock, P., 2004, *The Coastal Scrub and Chaparral Bird Conservation Plan: a strategy for protecting and managing coastal scrub and chaparral habitats and associated birds in California*. California Partners in Flight. <http://www.prbo.org/calpif/htmldocs/scrub.html>).

With respect to least Bell's vireo, the commenter's discussion regarding the introduction of domestic pets and other possible changes in local species population dynamics appears to be speculative. Per the *Least Bell's Vireo (Vireo bellii pusillus) 5-Year Review Summary and Evaluation* (USFWS, 2006): "The only empirical study (Peterson 2002; Peterson et al 2004) that has directly investigated vireo nest predation relative to habitat fragmentation found that most local



landscape features (including urbanization) did not appear to elevate vireo nest predation rates; from a larger special perspective, nest predation appeared to be a somewhat random process.” Therefore, while urbanization may introduce such factors, they have not been shown to be of any substantial concern in the recovery of least Bell’s vireo populations and no further discussion is warranted.

Response 9.8

The commenter asserts that bird flushing is a form of take. The EIR consultant agrees that flushing, trapping, or active handling and relocation of a federally listed species would be considered “take” under the federal Endangered Species Act, which is why the Mitigation Measure requires the monitoring biologist to work with the USFWS to perform such activities. The monitoring biologist and the applicant will still need to perform any such activities in compliance with the rules and regulations promulgated under the Endangered Species Act and to essentially obey the law. If coordination cannot occur in a timely manner, construction cannot proceed in violation of this law, or any other pertinent law, rule, or regulation. It is noted that flushing activities prior to construction have been previously authorized by the USFWS with respect to listed species. Further, none of the special status species for which measures Bio-5(b-d) refer to are under the protection of the federal Endangered Species Act and so no permission under that law is required to trap or relocate coast horned lizard, coastal western whiptail, or San Diego wood rat. Nesting birds (ie: rufous-crowned sparrow) and particularly raptor nests are protected directly under California Fish and Game Code Section 3503 and 3503.5, while migratory bird species are also protected under the Migratory Bird Protection Act.

The recommendation regarding protocol surveys is referred to the applicant/developer as an effective means to avoid delays in the development process.

Response 9.9

The commenter expresses an opinion that the EIR lacks specificity of information relative to federally protected species and recommends that the additional information be supplied and that federal incidental take permits be issued or interagency consultation be conducted if a federal nexus exists.

As discussed in the previous responses above, the likelihood is low that the project site contains federally listed species as suitable habitats for such species are lacking. Mitigation measures have been included to ensure that the proposed development, if approved, includes the necessary actions to identify if such species may be present through the implementation of pre-construction surveys. In the event that federal listed species are found at the site, the applicant/developer would need to obtain the proper authorizations as required under the Endangered Species Act rules and regulations prior to any action that may result in the take of listed animal species. In addition to the establishment of compensatory habitat as required under BIO-1, additional minimization and avoidance activities may be required of the development.





# 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

STEPHEN R. MAGUIN  
Chief Engineer and General Manager

May 5, 2010

File No: SCV-00.04-00

Letter 10

Ms. Michele Bush  
Impact Analysis Section  
Los Angeles County  
Department of Regional Planning  
320 West Temple Street  
Los Angeles, CA 90012

MAY - 6 2010

Dear Ms. Bush:

### Lake View Estates: Vesting Tentative Tract Map No. 53933

The County Sanitation Districts of Los Angeles County (Districts) received a Revised Draft Environmental Impact Report for the subject project on May 3, 2010. We offer the following comments regarding sewerage service:

1. *Page 4.1-1, 4.11 Sewage Disposal, 4.11.1 Setting, 3<sup>rd</sup> paragraph:* This 15-inch diameter trunk sewer conveyed a peak flow of 1.7 million gallons per day when last measured in 2010. *5<sup>th</sup> paragraph:* The three-phase Castaic Relief Trunk Sewer has been pushed back and the estimated design completion date for the first phase is now June 2010. 10.1
2. All other information concerning Districts' facilities and sewerage service contained in the document is current. 10.2

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

Stephen R. Maguin

Adriana Raza  
Customer Service Specialist  
Facilities Planning Department

AR:ar

*Letter 10*

**COMMENTER:** Stephen R. Maguin, Chief Engineer and General Manager, County Sanitation Districts of Los Angeles County

**DATE:** May 5, 2010

Response 10.1

The commenter requests two language changes regarding characterization of information regarding the flow within the 15-inch trunk sewer and status of plans for the Castaic Relief Trunk Sewer. These changes are shown below, are indicated in the Final EIR and in Section 8.0 *Addenda Errata*.

According to LACSD this 15-inch diameter trunk sewer has a design capacity of 3.1 million gallons per day (MGD) and conveyed a peak flow of ~~2.2~~ 1.7 MGD when last measured in 201008.

Response 10.2

The commenter indicates all other information regarding the District's facilities and sewerage service is accurate. No response is necessary.





COUNTY OF LOS ANGELES  
DEPARTMENT OF PARKS AND RECREATION  
"Creating Community Through People, Parks and Programs"

Russ Guiney, Director

May 12, 2010

sent via e-mail: [mbush@planning.lacounty.gov](mailto:mbush@planning.lacounty.gov)

TO: Michele Bush  
Department of Regional Planning  
Impact Analysis Section

Letter 11

FROM: Joan Rupert   
Department of Parks and Recreation  
Environmental & Regulatory Permitting Section

SUBJECT: **REVISED DRAFT ENVIRONMENTAL IMPACT REPORT  
LAKE VIEW ESTATES: VTTM NO. 53933  
PROJECT NO. 03-304  
STATE CLEARINGHOUSE NO. 2005051009**

The Department of Parks and Recreation has reviewed the Revised Draft Environmental Impact Report (RDEIR) for the above project for which we offer the following comments:

- The in-lieu fee amount referenced in the RDEIR (pg. 4.15-30) does not reflect the amount shown in our most current park obligation report (see attached report). The correct in-lieu fee amount should be \$125,735 (rather than \$122,972). This fee amount is calculated based on the representative land value of \$177,092 for Park Planning Area 35B (Castaic/Val Verde). Per Section 21.28.140.B of the County Subdivision Code, the park fees will be used for the purpose of acquiring local park land or developing new or rehabilitating existing recreational facilities to serve the park planning area which includes the subdivision. 11.1
- The RDEIR (pg. 4.15-30) states that a credit may be received for providing the private park. This is inconsistent with our park obligation report which requires payment of the in-lieu fee in full. 11.2

Thank you for including this Department in the review process. If we may be of further assistance, please contact Julie Yom at (213) 351-5127 or [jyom@parks.lacounty.gov](mailto:jyom@parks.lacounty.gov).

Attachment: Park Obligation Report VTTM NO. 53933

c: Parks and Recreation (N.E. Garcia, L. Hensley, J. Barber, C. Lau, J. Yom)



**LOS ANGELES COUNTY  
DEPARTMENT OF PARKS AND RECREATION**



**PARK OBLIGATION REPORT**

Tentative Map #	<b>53933</b>	DRP Map Date:	<b>03/31/2009</b>	SCM Date:	<b>05/14/2009</b>	Report Date:	<b>05/10/2010</b>
Park Planning Area #	<b>35B</b>		<b>CASTAIC/VAL VERDE</b>			Map Type:	<b>REV. (REV RECD)</b>

Total Units  = Proposed Units  + Exempt Units

Sections 21.24.340, 21.24.350, 21.28.120, 21.28.130, and 21.28.140, the County of Los Angeles Code, Title 21, Subdivision Ordinance provide that the County will determine whether the development's park obligation is to be met by:

- 1) the dedication of land for public or private park purpose or,
- 2) the payment of in-lieu fees or,
- 3) the provision of amenities or any combination of the above.

The specific determination of how the park obligation will be satisfied will be based on the conditions of approval by the advisory agency as recommended by the Department of Parks and Recreation.

Park land obligation in acres or in-lieu fees:

ACRES:	<b>0.71</b>
IN-LIEU FEES:	<b>\$125,735</b>

Conditions of the map approval:

The park obligation for this development will be met by:

The payment of \$125,735 in-lieu fees.

Trails:

No trails.

Comments:

The Representative Land Values (RLVs) used to calculate park fees were adjusted on 7/1/2009. Due to a decrease in the RLV for the Castaic/Val Verde Park Planning Area (35B), the in-lieu fee for this project has been reduced to \$125,735 (from \$127,006 in the previous Park Obligation Report dated 5/6/2009).

Please contact Clement Lau at (213) 351-5120 or Sheela Mathai at (213) 351-5121, Department of Parks and Recreation, 510 South Vermont Avenue, Los Angeles, CA 90020 for further information or to schedule an appointment to make an in-lieu fee payment.

For information on Hiking and Equestrian Trail requirements, please contact the Trails Coordinator at (213) 351-5134.

By: James Barber  
James Barber, Land Acquisition & Development Section



**LOS ANGELES COUNTY  
DEPARTMENT OF PARKS AND RECREATION**



**PARK OBLIGATION WORKSHEET**

Tentative Map # <b>53933</b>	DRP Map Date: <b>03/31/2009</b>	SMC Date: <b>05/14/2009</b>	Report Date: <b>05/10/2010</b>
Park Planning Area # <b>35B</b>	<b>CASTAIC/VAL VERDE</b>	Map Type: <b>REV. (REV RECD)</b>	

The formula for calculating the acreage obligation and or In-lieu fee is as follows:

**(P)people x (0.003) Ratio x (U)nits = (X) acres obligation**

**(X) acres obligation x RLV/Acre = In-Lieu Base Fee**

- Where: P = Estimate of number of People per dwelling unit according to the type of dwelling unit as determined by the 2000 U.S. Census\*. Assume \* people for detached single-family residences; Assume \* people for attached single-family (townhouse) residences, two-family residences, and apartment houses containing fewer than five dwelling units; Assume \* people for apartment houses containing five or more dwelling units; Assume \* people for mobile homes.
- Ratio = The subdivision ordinance provides a ratio of 3.0 acres of park land for each 1,000 people generated by the development. This ratio is calculated as "0.0030" in the formula.
- U = Total approved number of Dwelling Units.
- X = Local park space obligation expressed in terms of acres.
- RLV/Acre = Representative Land Value per Acre by Park Planning Area.

Total Units  = Proposed Units  + Exempt Units

	People*	Ratio 3.0 Acres / 1000 People	Number of Units	Acre Obligation
Detached S.F. Units	3.36	0.0030	70	0.71
M.F. < 5 Units	2.47	0.0030	0	0.00
M.F. >= 5 Units	2.24	0.0030	0	0.00
Mobile Units	2.82	0.0030	0	0.00
Exempt Units			0	
Total Acre Obligation =				<b>0.71</b>

Park Planning Area = **35B CASTAIC/VAL VERDE**

Ratio	Acre Obligation	RLV / Acre	In-Lieu Base Fee
@(0.0030)	0.71	\$177,092	<b>\$125,735</b>

Lot #	Provided Space	Provided Acres	Credit (%)	Acre Credit	Land
None					
Total Provided Acre Credit:				<b>0.00</b>	

Acre Obligation	Public Land Crdt.	Priv. Land Crdt.	Net Obligation	RLV / Acre	In-Lieu Fee Due
0.71	0.00	0.00	0.71	\$177,092	<b>\$125,735</b>

*Letter 11*

**COMMENTER:** Joan Rupert, Department of Parks and Recreation, Environmental & Regulatory Permitting Section

**DATE:** May 12, 2010

Response 11.1

The commenter states that the in-lieu fee quoted in the EIR does not reflect the amount shown in the most current park obligation report. The EIR has been modified to reflect the current fees as shown below.

In addition, according to the Los Angeles County Department of Parks and Recreation, Park Obligation Worksheet, payment of ~~\$125,735,122,972~~ in in-lieu fees has been deemed appropriate to create a public park space off site, in line with the Quimby Act.

The fee was calculated based on ~~an acreage County valuation of a representative~~ land value of ~~\$177,092,173,200~~ for park planning area 35B (Castaic/Val Verde). Therefore, the project would be required to contribute ~~\$125,735,122,972~~ towards this fee program ( $0.71 \times \text{\$177,092,173,200} = \text{\$125,735,122,972}$ ).

Response 11.2

The commenter requests that the sentence indicating potential for a credit due to the provision of a private park be stricken from the EIR. This change has been made as shown below.

~~However, it is expected that a credit may be received for providing a private park on site.~~





# COUNTY OF LOS ANGELES

## DEPARTMENT OF PUBLIC WORKS

*"To Enrich Lives Through Effective and Caring Service"*

GAIL FARBER, Director

900 SOUTH FREMONT AVENUE  
ALHAMBRA, CALIFORNIA 91803-1331  
Telephone: (626) 458-5100  
<http://dpw.lacounty.gov>

ADDRESS ALL CORRESPONDENCE TO:  
P.O. BOX 1460  
ALHAMBRA, CALIFORNIA 91802-1460

July 7, 2010

IN REPLY PLEASE  
REFER TO FILE: LD-1

TO: Paul McCarthy  
Department of Regional Planning

Attention Michele Bush

FROM:  Steve Burger  
Land Development Division  
Department of Public Works

Letter 12

**DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR)  
LAKE VIEW ESTATES  
VESTING TENTATIVE TRACT NO. 53933  
PROJECT NO. 03-304**

As requested, we reviewed the DEIR for the Lake View Estates project. The project includes a subdivision that would allow for the development of a 47.25-acre parcel with residential and business/office park uses, 70 single-family residences, 4 open-space lots, and a separate lot for a detention basin. The project is located in the unincorporated community of Castaic.

The following comments are for your consideration:

**Hazards–Flood/Water Quality**

Section 4.5.3, Low-Impact Development (LID) Consistency (page 4.5-6), was added to the DEIR. However, a complete discretionary application for this tentative map was filed with the Department of Regional Planning prior to January 1, 2009. If this project is exempt from the LID ordinance, under Section 12.84.430(A)(1) of the Los Angeles County Code, as determined by Regional Planning, then we recommend that this Section be removed from the DEIR.

12.1

If this Section is to be included in the DEIR, then discussion/clarification should be included for the following to be consistent with the approved drainage concept:

- On November 18, 2008, the Board of Supervisors adopted ordinances to amend Title 12, Environmental Protection, in addition to Title 21 and Title 22. The ordinances establish green building, low-impact development, and drought tolerant landscaping standards, which took effect on January 1, 2009.

- In accordance with Section 12.84.430(A) of the Los Angeles County Code, the LID standards are applicable to all development within unincorporated areas of the County unless exempt per the County Code.
- Table 4.5-1, Site Planning Project Compatibility with Existing Provisions and LID measures, listing of Project Compatibility with LID elements and existing provisions, is not compatible/consistent with the drainage concept that was approved by Public Works. Clarifications and revisions are needed for the following:
  1. Page 4.5-8, Decentralization:
    - a. There are more than five subareas per the approved drainage concept.
    - b. Mini-desilting basins and bulk-flow inlets are not specified for infiltration per the approved drainage concept.
    - c. See the January 2009 LID Standards Manual. The on-site Infiltration Requirements on page 18 are an existing provision.
  2. Page 4.5-8, Utilization of simplistic, nonstructural methods: The on-site detention basin and mini-desilting basins are not specified for infiltration per the approved drainage concept.
  3. Page 4.5-9, Create a multifunctional landscape and infrastructure:
    - a. Dry wells are not proposed per the approved drainage concept.
    - b. Mini-desilting basins are not specified for infiltration per the approved drainage concept.
  4. Page 4.5-10, Hydrology, Existing Provisions: See the January 2009 LID Standards Manual. The hydromodification requirements on page 19 are an existing provision.
  5. Page 4.5-10, Match post-development runoff volumes off the property for small, more frequent storms to predevelopment conditions:
    - a. Verify whether post-development runoff volumes at all outlets from the project will be less than or equal to the predevelopment

12.1

conditions as stated in the table. The proposed on-site basin per the approved drainage concept is for detention, not retention.

b. See the January 2009 LID Standards Manual. The hydrologic analysis steps on page 21 are an existing provision.

6. Page 4.5-10, Bioretention Facilities: Bioretention facilities are not proposed per the approved drainage concept.

12.1

7. Page 4.5-11, Dry Wells: Dry wells are not proposed per the approved drainage concept.

If you have any questions regarding the flood/water quality comments, please contact Lizbeth Cordova at (626) 458-4921 or by e-mail at [lcordova@dpw.lacounty.gov](mailto:lcordova@dpw.lacounty.gov).

### **Services-Sewage Disposal**

- Page 4.11-2, last paragraph: Revise the third sentence to read "County of Los Angeles Department of Public Works is responsible for the maintenance and operation of the local sewer lines within the unincorporated County area."

12.2

- Page 4.11-3, second paragraph: Revise the second to the last sentence to read "In addition, the plans for the necessary sewer collection infrastructure will need to be reviewed and approved by both the County of Los Angeles Department of Public Works and by the Sanitation Districts."

12.3

If you have any questions regarding the sewage disposal comments, please contact May Hong at (626) 300-3388 or by e-mail at [mahong@dpw.lacounty.gov](mailto:mahong@dpw.lacounty.gov).

If you have any other questions or require additional information, please contact Toan Duong at (626) 458-4945 or by e-mail at [tduong@dpw.lacounty.gov](mailto:tduong@dpw.lacounty.gov).

JY:ca

P:\CEQA\CDM\DRP - Project No. 03-304\_Tract 53933\_Lake View Estates \_ DEIR.doc

*Letter 12*

**COMMENTER:** Steve Burger, Land Development Division, Department of Public Works

**DATE:** July 7, 2010

Response 12.1

The commenter notes that Section 4.5.3 Low Impact Development (LID) Consistency was added to the DEIR, though the application for this project was deemed complete prior to January 1, 2009. The project was deemed complete at the end of 2003 and is thus not subject to the LID ordinance pursuant to Section 12.84.430(A)(1) of the Los Angeles County Code. Therefore, in accordance with the commenter's request, Section 4.5.3 has been deleted from the text (shown in strikethrough format).

Response 12.2

The commenter requests revision of a sentence on page 4.11-2. The sentence has been revised as follows.

County of Los Angeles County Department of Public Works Department is responsible for the maintenance and operation of the local sewer lines within the unincorporated County area CSMD line.

Response 12.3

The commenter requests revision of a sentence on page 4.11-3. The sentence has been revised as follows.

In addition, the plans for the necessary sewer collection infrastructure will need to be reviewed by and approved by both the Los Angeles County Public Works and approved by the Sanitation Districts.



# Lake View Estates Mixed Use Project

Vested Tentative Tract # 53933  
Project# 03-304  
Conditional Use Permit  
Zone Change  
Oak Tree Permit

## *Final* Environmental Impact Report

*Volume II: Appendices*

July 2010

SCH# 2005051009

Los Angeles County  
Department of Regional Planning  
Impact Analysis Section  
320 W. Temple Street  
Los Angeles, CA 90012-3225

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*Final*  
**Environmental Impact Report**

*Volume II: Appendices*

**SCH # 2005051009**

**Lake View Estates Mixed Use Project**  
**Vested Tentative Tract # 53933**

**Project # 03-304**  
**Conditional Use Permit**  
**Zone Change**  
**Oak Tree Permit**

*Prepared for:*

**County of Los Angeles**  
**Department of Regional Planning**  
**Impact Analysis Section**  
320 West Temple Street, 13th Floor  
Los Angeles, CA 90012-3225  
Contact: Michele Bush  
Phone: (213) 974-6461  
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*Prepared by:*

**Rincon Consultants, Inc.**  
790 East Santa Clara Street  
Ventura, California 93001  
Phone: (805) 641-1000

*July 2010*

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# Lake View Estates Mixed Use Project EIR

## Project # 03-304, Tentative Tract # 53933

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- Appendix D: Air Quality Calculations/Greenhouse Gas Calculations
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- Appendix F: Traffic and Circulation Study/Caltrans Approval/Los Angeles County Department of Public Works Traffic and Lighting Division Approval
- Appendix G: Sewer Study and Will Serve Letter
- Appendix H: Mitigation Monitoring and Reporting Program



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## **Appendix A**

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*Initial Study, Notice of Preparation,  
Responses to Notice of Preparation, and  
Castaic Town Council Notes and Community Input*

# Lake View Estates Mixed Use Project EIR

## Project # 03-304, Tentative Tract # 53933

### Appendix A - Table of Contents

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Los Angeles County  
Department of Regional Planning

*Planning for the Challenges Ahead*



James E. Hartl, AICP  
Director of Planning

**NOTICE OF PREPARATION**  
**Lake View Estates Project**

County Project No. 03-304  
Vesting Tentative Tract Map 53933  
Oak Tree Permit No. 03-304  
Conditional Use Permit No. 03-304  
Zone Change No. 03-304

The County of Los Angeles will be the lead agency and will prepare an Environmental Impact Report (EIR) for the project identified above. In compliance with Section 15082 of the CEQA *Guidelines*, the County of Los Angeles is sending this Notice of Preparation to responsible agencies, interested parties and federal agencies which may be involved in approving or permitting the project, and to trustee agencies responsible for natural resources affected by the project. Within 30 days after receiving the Notice of Preparation, each agency shall provide the County of Los Angeles with specific details about the scope and content of the environmental information to be contained in the EIR related to that agency's area of statutory responsibility.

The purpose of this Notice of Preparation is to solicit the views of your agency as to the scope and content of the environmental information germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR prepared by our agency when considering your permit or other approval for the project.

**PROJECT LOCATION AND ENVIRONMENTAL SETTING**

The project is located in the community of Castaic in unincorporated Los Angeles County, west of the Golden State Freeway/Interstate Freeway 5 (I-5), and approximately 1/5-mile south of Parker Road. Figures 1 (Regional Location Map) and 2 (Project Location Map) show the project location from both the regional and local perspectives. Access to the site is currently provided from The Old Road.

The community of Castaic is located within the northern portion of the Santa Clarita Valley. The Valley's northern region is defined by the ridgelines of the Liebre and Topatopa Mountains. The project site has significant topography and multiple elevations, characterized by moderate to steep sloping ridges with open intervening canyons. Site elevations range from approximately 1,100 to 1,450 feet above mean seal level (msl). Onsite hydrology is dominated by steep, sloping hills, most of which drain into an unnamed ephemeral stream in the eastern portion of the site. The site and surrounding area drain into Castaic Creek, which is a major tributary to the Santa Clara River.

The 47.25-acre proposed project site is currently undeveloped and is partially disturbed. Onsite disturbance is generally limited to trails used for hiking, bike riding, jogging, and dog-walking; there are no onsite structures. Onsite vegetation consists of: mixed chaparral (16.62 acres), coastal sage scrub (13.55 acres), chamise chaparral (9.47 acres), california annual grassland-sage scrub ecotone (6.65 acres), and cottonwood-willow riparian forest (0.35 acres). Twenty-eight live oak trees and shrubs that are protected by the Los Angeles County Oak Tree Ordinance within the project area. Implementation of the proposed project would result in removal of or impacts to 10 protected coast live oak trees. No sensitive plant species were observed during biological surveys of the project site. During site-specific biological surveys conducted May 14, 2002, 50 common wildlife species, including two reptiles, 41 birds, and seven mammals were observed. Common amphibian species may also utilize the extremely limited riparian habitat onsite. Two special-status wildlife species were observed at the project site during surveys: the Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) (Federal and State species of concern) and coastal western whiptail (*Cnemidophorus tigris multiscutatus*) (Federal species of concern). In addition, the survey concluded that Cooper's hawk (*Accipiter cooperii*) (a California species of concern), San Diego desert woodrat (*Neotoma lepida intermedia*) (a California species of concern), and the listed California condor (*Gymnogyps californianus*) (a State and federally endangered species) could potentially use the area for foraging.

The project site is bounded on the north by an existing condominium project (approved but not built) and to the northwest by an existing mobile home park. The Old Road and Interstate 5, along with an existing building supply yard business, border the eastern portion of the site. To the south is an approved 40-acre residential tract development plan (Tr.#46798). The parcel of land immediately to the west of the project site is mostly vacant, with a single-family residence on the property.

## PROJECT DESCRIPTION

The proposed project involves the subdivision of the 47.25-acre vacant site into 70 single family residential lots, three industrial lots, and four open space lots, including one park lot. Figure 3 is a copy of the Tentative Tract Map. Residential lots would occupy an estimated 10.62 acres in the southern portion of the property, and the three commercial/industrial lots would occupy approximately 8.16 acres located in the northern portion of the property. The proposed subdivision also includes three open space lots totalling about 28.47 acres and a 0.54 acre park site. It is anticipated that the three industrial lots would be developed with four commercial/industrial buildings totalling up to 90,000 square feet. The commercial/industrial lots are located adjacent to The Old Road, and would be bisected by the proposed entrance road to the project site. These lots also abut an building materials yard that adjoins The Old Road. The proposed commercial/industrial lots are located at lower elevations than the proposed residential lots and thus act as a buffer between residential and Interstate 5/The Old Road. A total of 140 residential parking spaces would be provided for the proposed residential uses and 300 spaces would be provided for the four commercial/industrial buildings. Primary access to the subdivision would be from a new road from The Old Road that connects a series of cul-de-sacs. Improvements to The Old Road at the project entrance are proposed as well as roadway dedications to allow for the future widening of The Old Road. Offsite improvements include extension of the water main on The Old Road and connection to the existing sewer on The Old Road.

## ENTITLEMENT REQUIREMENTS & DISCRETIONARY APPROVALS

The development of the project as proposed requires the following approvals:

- (1) Vesting Tentative Tract Map No. 53933: to subdivide the 47.25-acre subject property into 70 single-family residential lots on 39.09 acres, three industrial lots on 8.16 acres, and four open space lots (including one park lot).
- (2) Conditional Use Permit No. 03-304: for Hillside Management Area development.
- (3) Zone Change No. 03-304: from A-2-2 to RPD-2.5U (Residential) and M-1 (Industrial).
- (4) Oak Tree Permit No. 03-304: to remove 10 ordinance-sized oak trees.

A plan amendment may be required upon further review of the project.

## ENVIRONMENTAL ISSUES TO BE ANALYZED IN EIR

Upon completion of an Initial Study (attached), the County of Los Angeles Department of Regional Planning (DRP) has determined that an EIR is required to address the potential impacts associated with the proposed development. The environmental issues include the following:

- (1). **Geotechnical Hazards** - The project site is characterized by rugged, hilly terrain and is located within the northern portion of the Santa Clarita Valley, known as Castaic. The project site is located in the active or potentially active San Gabriel Fault Zone, with a fault zone approximately three miles southeast of the project site and two faults running through the subject property. Liquefaction and earthquake-induced landslides are of concern for the project site. Project implementation would involve substantial grading (approximately 640,000 cubic yards of earth) and topography alteration, including areas of Hillside Management. The EIR will analyze potential project impacts regarding geotechnical hazards.
- (2). **Flood Hazards** - Onsite hydrology is dominated by steep, sloping hills, most of which drain into an unnamed ephemeral stream in the eastern portion of the site. Project development would change existing drainage patterns onsite. The project is located within the Castaic Dam/Debris Basin Inundation Area. The site could be prone to flood hazard, erosion, and debris deposition from storm run-off. The EIR will examine project effects on drainage and flooding potential.
- (3). **Fire Hazards** - The project site is located in Fire Zone 4, or "Very High Fire Hazard Severity Zone." The site is characterized by chaparral, sage scrub, annual grassland-sage scrub ecotone, cottonwood-willow riparian forest, and scattered oak trees. The availability of fuel (vegetation) combined with the semi-arid Mediterranean climatic conditions (long, hot summers and short, cool winters) create ideal conditions for brush fires. Santa Ana winds and periodic drought situations add to the potential for wild land fires. The proposed project would add 70 dwelling units plus up to 90,000 square feet of commercial/industrial space in an area with a single

means of access in high fire hazard area. The EIR will address fire hazard issues, as well as water tank and fire flow requirements.

(4). **Noise** - The project site is located near the I-5, which is a high noise source. Development of residential units on the subject property could result in permanent noise impacts to sensitive users of the project. Implementation of the proposed project would also result in grading and construction activities onsite. Grading is anticipated to involve the movement of 640,000 cubic yards of dirt, which will be balanced on-site. Noise associated with grading and build-out of the 70 residential units and four commercial/industrial buildings could potentially temporarily impact nearby residents. The EIR will examine the effects of the project on nearby sensitive uses and the effect of the current noise environment on the proposed project users.

(5). **Water Quality** - The proposed project would convert about 47 acres of currently undeveloped land to urban uses. The quality of storm water runoff may be affected in the short term by grading and construction activities, as well as in the long term by the increase in impervious surfaces associated with residential development, such as streets, sidewalks, driveways, and buildings. Standard NPDES permits and SUSMP plans would be required. The EIR will examine project effects on local water quality.

(6). **Air Quality** - Mobile emissions generated from site preparation, construction, and project operations may have local temporary impacts on air quality. The project's construction and operation emissions may exceed regional thresholds. Stationary emissions generated by the consumption of natural gas and electricity during the life of the project may also have incremental cumulative impacts on ambient air quality.

(7). **Biota** - Onsite vegetation is relatively undisturbed and is characterized by mixed chaparral, coastal sage scrub, chamise chaparral, California annual grassland-sage scrub ecotone, and cottonwood-willow riparian forest. Twenty-eight live oak trees occur within the project area and are protected by the Los Angeles County Oak Tree Ordinance. These include 26 coast live oak trees and 2 scrub oak trees. Implementation of the proposed project would result in removal of, or impacts to, 10 protected coast live oak trees. No sensitive plant species were observed during biological surveys of the project site. During site-specific biological surveys conducted May 14, 2002, 50 common wildlife species, including two reptiles, 41 birds, and seven mammals were observed. Common amphibian species may also utilize the limited riparian habitat onsite. Two special-status wildlife species were observed at the project site during surveys: the Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) (Federal and State species of concern) and coastal western whiptail (*Cnemidophorus tigris multiscutatus*) (Federal species of concern). In addition, the site surveys determined that Cooper's hawk (*Accipiter cooperii*) (a California species of concern), San Diego desert woodrat (*Neotoma lepida intermedia*) (a California species of concern), and the listed California condor (*Gymnogyps californianus*) (a State and federally endangered species) could potentially use the area for foraging. Potential impacts associated with development of the proposed project include direct and indirect impacts on biotic resources. Direct impacts would include loss of natural habitat and potential direct mortality associated with grading, build-out of the development, and fire clearance activities. Indirect impacts are associated with increased human and domestic animal activity in the remaining natural areas and lighting impacts from residential and commercial structures and street lights.

(8). **Archaeological/Historical/Paleontological Resources** - The project site is relatively undisturbed and contains oak trees, which usually indicates potential archaeological sensitivity. Potential impacts associated with development onsite include direct and indirect impacts to possible archaeological resources. Potential direct impacts to be discussed would include ground-disturbing activities associated with the construction phases of development, primarily from grading of roads and pads. Indirect impacts may include effects associated with the increase in human activity and possible disturbance of potential artifacts by vandalism, collection, erosion, soil compaction, and foot or vehicular traffic. A Phase I Cultural Resources Survey will be prepared.

(9). **Visual Qualities** - Currently, the project site is undeveloped and is characterized by moderate to prominent hillsides with of steep ridgelines and multiple elevations. Onsite vegetation is mainly composed of mixed chaparral and coastal sage scrub, with intermittent annual grassland and oak trees. The grading and build-out of the project alter the current view shed from the surrounding residential developments. The proposed Castaic Creek Trail on the other side of I-5, and the I-5 itself, which is designated as a scenic freeway in the Los Angeles County General Plan. Alteration of the site from undeveloped open space to residential and commercial/industrial uses would contribute to the changing visual character of the area from rural to suburban. The EIR will examine impacts to visual quality of the site from various vantage points throughout the project area and will address cumulative visual changes in the community.

(10). **Traffic/Access** - Regional access to the project site is from the I-5 Freeway. Primary access to the site would be provided from The Old Road via a new road into the project interior. The project, involves 70 single family dwelling units and three commercial/industrial lots that would accommodate up to 90,000 square feet of new commercial/industrial development. Project implementation may exceed thresholds as defined by Los Angeles County Department of Public Works and Congestion Management Program (CMP) Transportation Impact Analysis.

(11). **Sewage Disposal** - The project will generate approximately 35,000 gallons per day of wastewater. Sewage disposal for the project site would be provided through the public sewer and wastewater treatment facilities of the Los Angeles County Sanitation District #32. The proposed project may cumulatively impact the community sewer system or sewer lines serving the project site and may require improvements to the local off-site sewer system. Potential cumulative impacts on the existing sewer system will be assessed in the EIR.

(12). **Education Services** - The proposed development would be served by the Castaic Union School District (grades K-6) and the William S. Hart Union High School District (grades 7-12). Student enrollment at both school districts is over-capacity for existing facilities. The project would add additional students to those schools serving the project area and may also require other related services such as student transportation. The project area is served by the Valencia Library, which is currently unable to meet demand in the area. Development of the proposed project would also increase demand for library services. The project effects on educational services, including schools and library services, will be addressed in the EIR.

(13). **Fire/Sheriff Services** - The proposed project would bring additional residents and commercial/industrial workers and users to the area under the jurisdiction of the County of Los Angeles Fire Department. The project site is approximately seven miles from the nearest fire station, which is Fire Station 76, located at 27223 Henry Mayo Drive. The EIR would analyze project impact to the service provided by Fire Station 76. The project site is under the jurisdiction of the Los Angeles County Sheriff's Department and the nearest sheriff's station is located at 23740 Magic Mountain Parkway. The project would add residences, commercial/industrial uses, and public open-space sites to the responsibilities of the fire station and sheriff's department. Project impact to local California Highway Patrol office will also be discussed in the EIR.

(14). **Utilities/Other Services** - The proposed project would add 70 single-family residences, four commercial/industrial units, and a park to the jurisdiction of the local water purveyor. The project site is located within the Newhall County Water District jurisdictional boundaries. The EIR will analyze water supply and any infrastructures required for the development of this project.

(15). **Land Use** - Implementation of the proposed project would require a zone change and would involve development in a Hillside Management Area. The EIR will assess the project's consistency with relevant County General Plan policies and programs, the County's Hillside Management program, and the requirements of the Castaic Community Standards District (CSD). The Initial Study identified potential impacts to recreational facilities resulting from the population increase created by the project as an area to be covered under further evaluation. The proposed project would provide a private park for use by residents of the development, which would be owned and maintained by a homeowners' association or other regulating entity for the development.

(16). **Growth Inducing Impacts**- The project proposes 70 residential and up to 90,000 square feet of new commercial/industrial development. The proposed project will be examined for its potential to induce growth in the immediate area in terms of housing, population, economic, and services facilities. Direct and indirect growth will be analyzed in the EIR.

(17). **Alternatives** - An alternatives section will examine a reasonable range of alternatives to the proposed project. It is anticipated that this will include examination of up to up to four alternative development scenarios for the site. Project alternatives will focus on those alternatives capable of reducing or avoiding environmental effects of the proposed project. Alternatives that may be considered in the EIR include but are not limited to: a no project alternative, full build out of the project site under the under site's current zoning designation, full build out of the site with commercial/industrial uses, full build out of the site with residential uses, and a different ratio of mixed use on the site. The environmentally superior alternative will be identified.

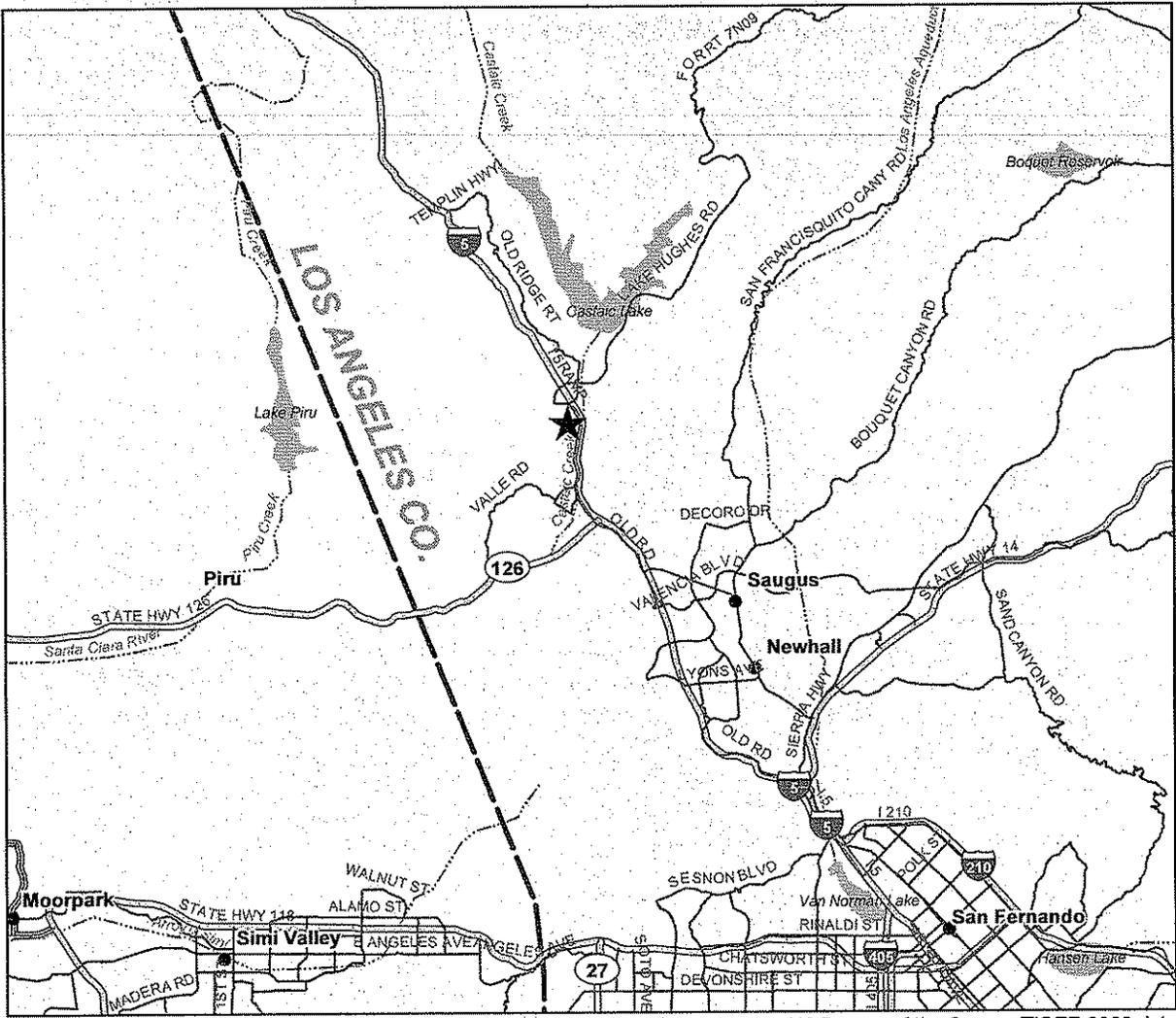
## NOTICE OF PREPARATION REVIEW AND COMMENTS

The Los Angeles County Department of Regional Planning is soliciting input concerning the scope of the EIR for the proposed project. To facilitate your review, the following materials are attached in addition to the above descriptions:

- ξ Los Angeles County Initial Study
- ξ Regional Location Map
- ξ Project Location Map
- ξ V.T.T.M 53933

The review period for the Notice of Preparation will be from **May 2 to May 31, 2005** (30 days). Copies of the NOP are available for review at Canyon Country Jo Anne Darcey Library located at 18601 Soledad Canyon Road, Santa Clarita, CA 91351; Valencia County Library at 23743 West Valencia Boulevard, Santa Clarita, CA 91355; Newhall County Library at 22704 West 9<sup>th</sup> Street, Santa Clarita, CA 91321; as well as the Department of Regional Planning website [http://planning.co.la.ca.us/drp\\_agnd.html](http://planning.co.la.ca.us/drp_agnd.html). Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but not later than **June 9, 2005**. Please direct all written comments to Mr. Daniel Fierros, Impact Analysis Section, Los Angeles County Department of Regional Planning, 320 West Temple Street, Los Angeles, CA 90012. Tel: (213) 974-6461. Fax (213) 626-0434. In your written response, please include the name of a contact person in your agency.

Lake View Estates



Source: US Bureau of the Census TIGER 2000 data.

★ Project Location



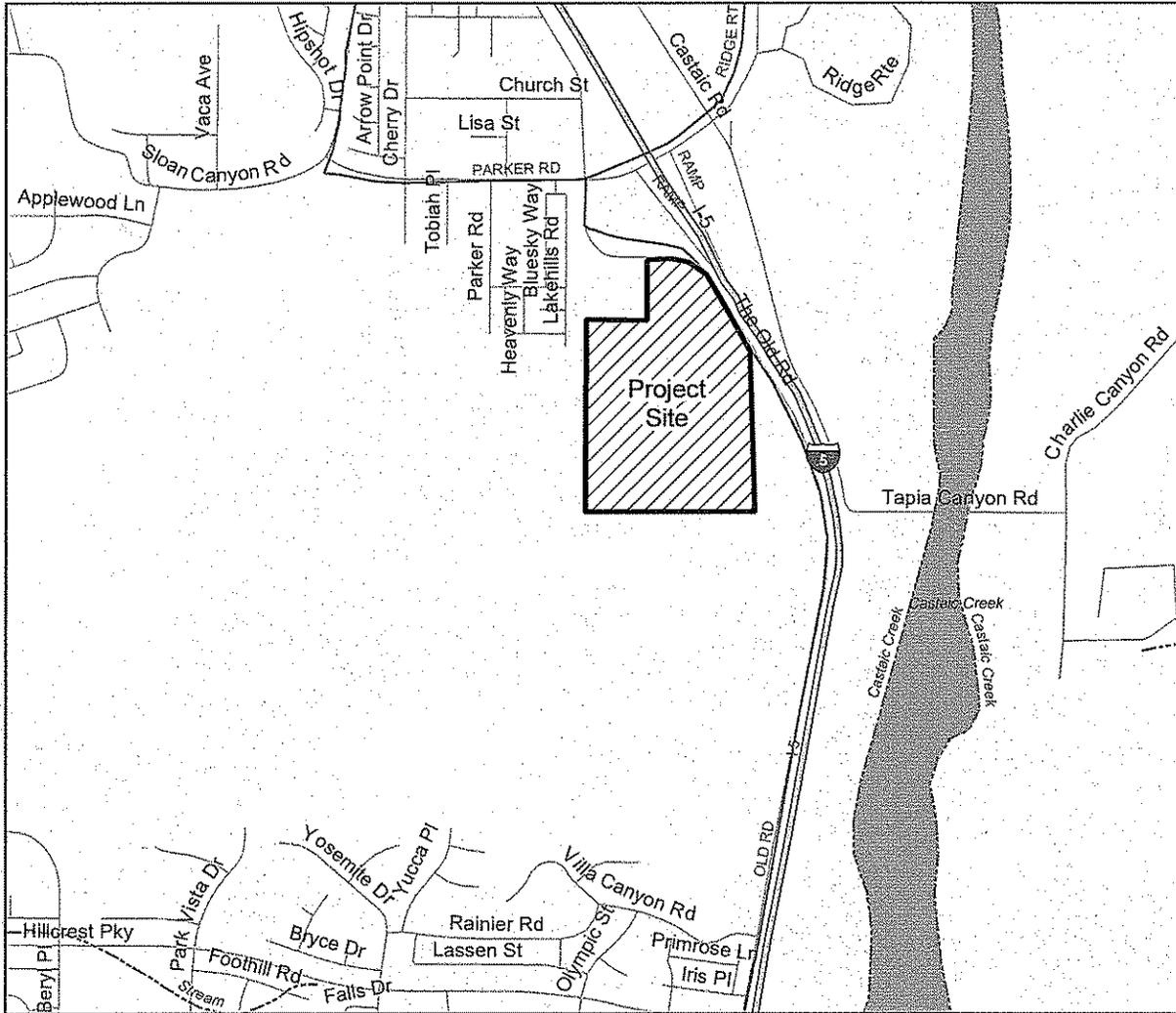
Regional Location

Figure 1

County of Los Angeles

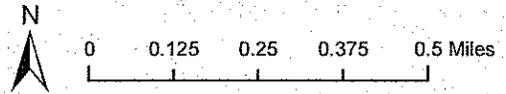


Lake View Estates



Source: US Bureau of the Census TIGER 2000 data.

 Project Site

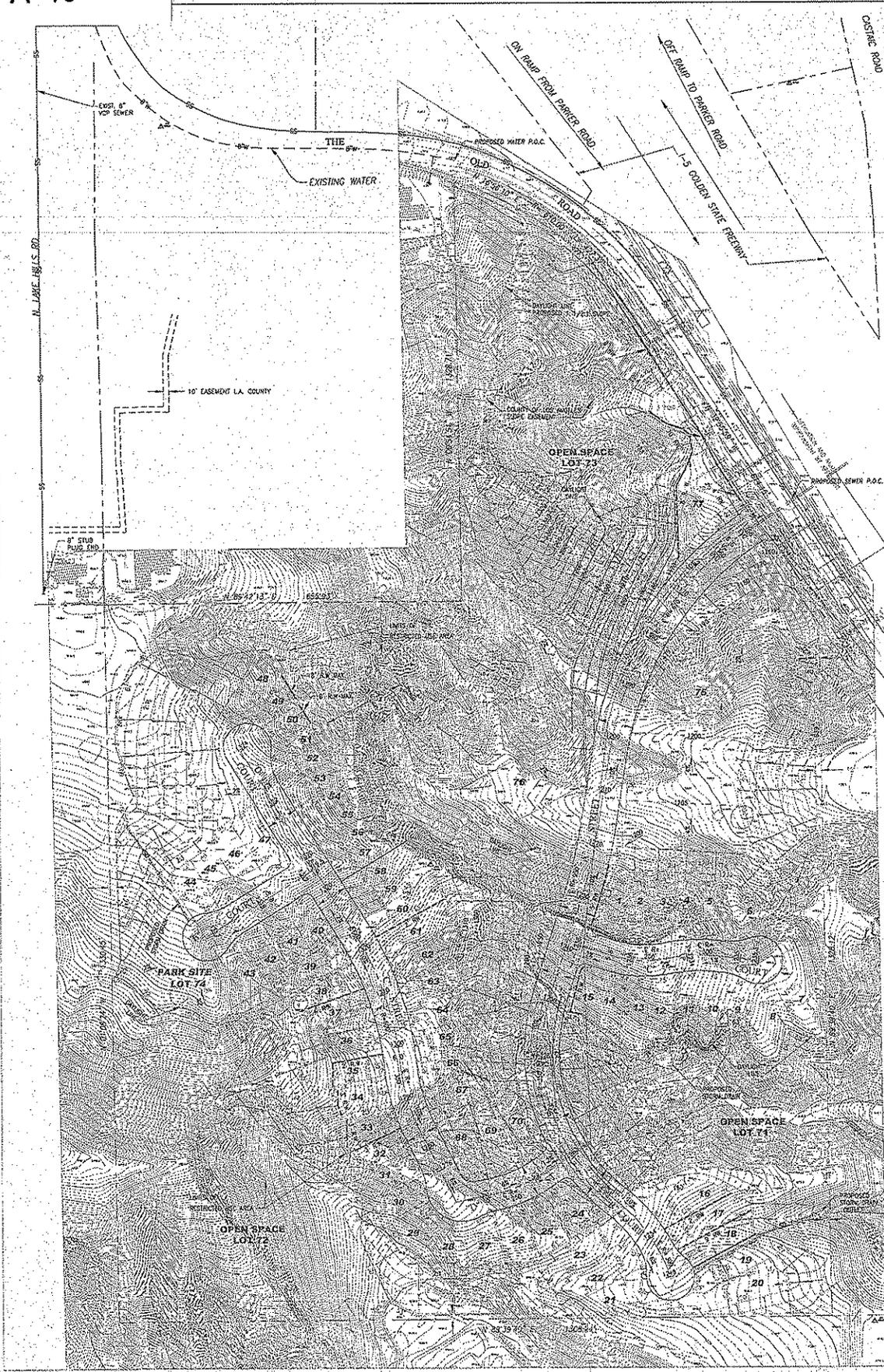


**Project Location**

**Figure 2**

County of Los Angeles





- GENERAL NOTES:**
- EXISTING ZONING A-2-2.
  - SANTA CLARITA VALLEY AREA PLANS: 1941, 01, 02, 03, 04.
  - ASSESSORS PARCEL: 2065-012-02, 2065-012-5, 14, 15.
  - RECORD OWNER: BURHAN SAFAH
  - APPLICANT: BURHAN SAFAH  
P.O. BOX 34888  
LOS ANGELES CA, 90034
  - UTILITIES AND SERVICES:
    - WATER- KERN COUNTY WATER DISTRICT
    - SEWER- L.A. COUNTY SANITATION DISTRICT NO. 32
    - GAS- SOUTHERN CALIFORNIA GAS COMPANY
    - ELECTRIC- SOUTHERN CALIFORNIA Edison COMPANY
    - TELEPHONE- PACIFIC TELEPHONE COMPANY
    - SCHOOL- CALIF. STATE SCHOOL DISTRICT
    - FIRE- L.A. COUNTY FIRE DEPARTMENT
    - POLICE- L.A. COUNTY SHERIFF'S DEPARTMENT
  - PREVIOUS CASES (ADJACENT SOUTH PROPERTY) V.L.M. 4878, 019, 20 MS. 89-345-153  
[DISHTE DT, US, W. N. HW] S.P. 89-343 ADDED BOARD OF SUPERVISORS, DECEMBER 6, 1990
  - THOMAS BIDS. PG. 1349 11-7
  - THIS PROJECT IS A DENSITY CONTROLLED DEVELOPMENT UNDER SECTION 225A.025 OF TITLE 22 L.A. COUNTY ZONING CODE.

- SITE PLAN:**
- SITE IS VACANT.
  - GROSS ACREAGE = 47.25 ACRES.
  - TOTAL RESIDENTIAL LOTS: 40 (1 BTRU TO AND COMMERCIAL LOTS: 200' X 100' TRU 03. OPEN SPACE LOTS 74 THRU 75.
  - MAXIMUM SLOPE GRADE: 2 HORIZONTAL TO 1 VERTICAL.
  - DEVELOPER RESERVES THE RIGHT TO RECORD MULTIPLE TRACTS PER SECTION 225A.1 CALIFORNIA GOVERNMENT CODE (UNIFORM ACT.)
  - 15 OAK TREES TO BE REMOVED.
  - GRADING PROPOSED:  
ROAD CUT: 100,000 CUBIC YARDS  
ROAD FILL: 100,000 CUBIC YARDS  
TO BALANCED ONE AT FIVE GRADING.
  - LAND USE SUMMARY:
 

	AC	%	LOTS
TRINGLE TRACT	10.00	21	70
COMMERCIAL	10.00	21	1
TOTAL	10.00	100	71

- CIRCULATION:**
- ALL STREETS TO BE PUBLIC RIGHTS-OF-WAY.
  - ALL PRIVATE DRIVES SHALL BE FIVE LANES AND HAVE A MINIMUM PAVED WIDTH OF 20 FEET FOR PRIVATE DRIVES EXCEEDING 150 FEET IN LENGTH. A PAVED SHOULDER SHALL BE PROVIDED AT THE END OF THE DRIVE.
  - HOME OWNERS ASSOCIATION TO BE ESTABLISHED TO MAINTAIN ANY COMMON OPEN SPACE LOTS CREATED.
  - DEVELOPER REQUESTS RIGHT TO ADJUST LOT LINES TO THE SATISFACTION OF THE COUNTY.
  - REQUEST RIGHT TO CREATE ADDITIONAL OPEN SPACE LOTS PRIOR TO RECONSTRUCTION OF FINAL MAPS.
  - ALTERNATE STREET SECTIONS ARE PROPOSED AS SHOWN.

- EASEMENT NOTES:**
- EASEMENTS TO SOUTHERN CALIFORNIA GAS COMPANY FOR PIPE LINE TRANSMISSION OF GAS PER DEED RECORDED IN BOOK 18116 PAGE 187 OFFICIAL RECORDS AND BOOK 18210 PAGE 228 OFFICIAL RECORDS.
  - EASEMENTS FOR TRANSMISSION LINE RIGHT OF WAY TO KERN ELECTRIC COMPANY AND CALIF. LIGHT AND POWER CORPORATION PER DEED RECORDED IN BOOK 2484 PAGE 181 OFFICIAL RECORDS.
  - EASEMENTS TO COUNTY OF LOS ANGELES FOR SLOPE PROPOSED JAN 7, 1975 AS INSTRUMENT NO. 1825 OFFICIAL RECORDS AND SEPTEMBER 12, 1983 AS INSTRUMENT NO. 83-1066481 OFFICIAL RECORDS.

EASEMENTS SHOWN ARE BASED ON PRELIMINARY TITLE REPORT 1210117-20 DATED MAY 24, 2002 PREPARED BY COMMON WEALTH LAND TITLE COMPANY.

**LOT AREA TABLE (GROSS)**

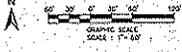
LOT NUMBER	GROSS AREA	LOT NUMBER	GROSS AREA
1	8,381	31	5,565
2	2,677	32	5,231
3	5,420	33	6,488
4	5,142	34	6,818
5	5,172	35	6,802
6	5,463	36	6,245
7	12,020	37	6,245
8	6,739	38	5,585
9	6,409	39	5,165
10	5,375	40	5,239
11	6,280	41	5,426
12	6,213	42	5,280
13	6,430	43	11,221
14	5,265	44	6,176
15	5,533	45	5,785
16	7,375	46	5,808
17	7,162	47	6,700
18	6,838	48	6,991
19	7,088	49	6,811
20	6,827	50	6,575
21	71,624	51	6,456
22	71,718	52	7,420
23	10,614	53	6,727
24	7,061	54	6,823
25	6,109	55	6,725
26	6,854	56	6,804
27	5,846	57	6,005
28	5,793	58	6,648
29	7,080	59	7,228
30	5,509	60	6,868
31	6,391	OPEN SPACE (71-73)	
32	6,500	71	186,799
33	6,513	72	270,612
34	6,313	73	202,126
35	5,337	74	207,840
36	6,067	75	111,435
37	6,376	76	42,802
38	6,601		
39	6,768	74 PARK SITE	23,877
40	5,880		

**ENGINEER:**  
SR CONSULTANTS WEST, INC.  
25377 BIVE CANYON ROAD, SUITE 2100  
SANTA CLARITA, CA 91353  
PHONE: 661-257-6370  
FAX: 661-257-6377

**APPLICANT/OWNER:**  
BURHAN SAFAH  
P.O. BOX 34888  
LOS ANGELES, CA 90034

**LEGAL DESCRIPTION:**  
PARCEL 1 & 7:  
A PORTION OF THE SOUTHWEST QUARTER OF SECTION 25, TOWNSHIP 5 NORTH, RANGE 17 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AND A PORTION OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 25, IN TOWNSHIP 5 NORTH, RANGE 17 WEST, OF THE SAN BERNARDINO MERIDIAN, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.

- LEGEND**
- PROPOSED RETAINING WALL
  - PROPOSED STORM DRAIN LINE
  - PROPOSED FENCE CONTOUR LINE
  - PROPOSED SLOPE & GRADE
  - EXISTING 8" DRAINAGE SEWER





Los Angeles County  
Department of Regional Planning

*Planning for the Challenges Ahead*



November 4, 2003

James E. Hartl, AICP  
Director of Planning

SR Consultants West, Inc.  
25322 Rye Canyon Road, #201  
Santa Clarita, CA 91355  
Attn: Peter Racicot

**SUBJECT: INITIAL STUDY DETERMINATION LETTER**  
**PROJECT NO. 03-304/ TR 53933**

On November 4, 2003, the staff of the Department of Regional Planning completed its review of the Initial Study Questionnaire and other information regarding your project and has determined that an Environmental Impact Report (EIR) is required. **The applicant may elect to appeal the staff decision to the Environmental Review Committee (ERC) subject to an appeal fee of \$178.**

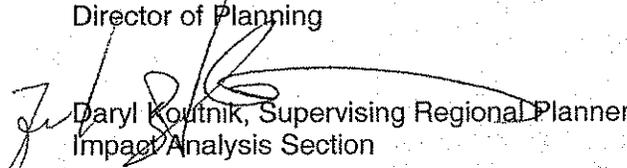
To commence the EIR process, a Notice of Preparation (NOP) must be circulated to various agencies and entities identified by staff and the required processing fee paid. As such, please prepare sufficient copies of the items on the attached list and a copy of the Initial Study to accompany the NOP and submit a \$5,000.00 processing fee to the Department of Regional Planning. Additional fees may be required and requested later to cover costs exceeding this amount. You or your consultant should contact staff at your earliest convenience in order to assist us in beginning the NOP process.

Subsequent to the NOP, you are required to submit two copies of a screencheck document in the form of a Draft EIR for staff review. It is advisable that you commission a qualified consultant to do this for you. Staff will review and require appropriate revision to the screencheck document to reflect the independent, impartial and factual analysis of the County. When the Draft EIR is deemed complete, you will be required to submit 50 or more copies for circulation. The Draft EIR is to address at least the factors checked in the attached Initial Study.

If you have any questions regarding the above determination or environmental document preparation, please contact Hsiao-ching Chen of the Impact Analysis Section at (213) 974-6461, Monday through Thursday 7:30 a.m. to 6:00 p.m. Our offices are closed on Fridays.

Very truly yours,

DEPARTMENT OF REGIONAL PLANNING  
James E. Hartl, AICP  
Director of Planning

  
Daryl Koutnik, Supervising Regional Planner  
Impact Analysis Section

JEH:DLK:hcc  
Attachment(s)

**ITEMS NEEDED FOR NOTICE OF PREPARATION CIRCULATION**

1. A typewritten 8 1/2 x 11 sheet or sheets with the following information:
  - A. Project number and name of project (if any).
  - B. A complete and detailed description of the proposed project including projected amount of grading, size of project and off-site improvement required (roads, sewer extensions etc.).
  - C. An accurate description of the location of the project including address and a vicinity map (if in a rural or undeveloped area, project site should be plotted on a USGC 15' or 7 1/2' topographical map identified by quadrangle name).
  - D. Actions required to approve the project such as a plan amendment (including the appropriate local plan), zone change (from/to), Conditional Use Permit (purpose), Oak Tree Permit (number of trees to be removed/total trees), Parking Permit (purpose), etc. Applicant should contact the Departmental Lead Section for data and/or confirmation of this information.
  - E. Probable environmental effects of the project as summarized from the Initial Study.
2. A detailed, full-size Plot Plan of the project or a tentative tract map or parcel map if it is a subdivision.
3. A 500 foot radius land use map of the subject property. Large area projects may require a larger radius. Staff may be contacted if clarification is required.
4. A copy of the Initial Study prepared by the Department of Regional Planning.
5. Any supplemental information to aid in reviewing the project must be approved by staff prior to submittal.

Staff will review these items prior to circulation of the NOP. Inaccurate, self-serving, or poorly prepared submittals will result in delays and costs to the application. Questions should be directed to Hsiao-ching Chen of the Impact Analysis Section at (213) 974-6461.

**STAFF USE ONLY**PROJECT NUMBER: 03-304CASES: ZC, OTP, CPTR53933

\*\*\*\* INITIAL STUDY \*\*\*\*

**COUNTY OF LOS ANGELES  
DEPARTMENT OF REGIONAL PLANNING**

GENERAL INFORMATION

I.A. Map Date: 9/30/03 Staff Member: Hsiao-ching ChenThomas Guide: 4369 H-7, 4459 F-1 USGS Quad: NewhallLocation: Approximately 0.2 miles south of Parker Road on The Old Road, Castaic

Description of Project: This is an application to subdivide the subject property of existing four parcels into 70 single family lots, 3 industrial lots (i.e., 150,000 square feet), 3 open space lots, and 1 park lot. The project is requesting a Conditional Use Permit for development within Hillside Management area, a Zone Change from A-2-2 to M-1 for 8.16 acres and from A-2-2 to RPD-2.5U/AC for 39.09 acres, and an Oak Tree Permit to remove 15 and to encroach upon 3 oak trees. Plan Amendment may be required pending Subdivision Committee review of the project. Site is currently vacant.

Gross Area: 47.25 acres

Environmental Setting: There are 27 oak trees (27 coastal live oak with 7 scrub oaks) on site. Surrounding land uses include condominium development to the north and south, a mobile home park to the northwest, a building supplies yard and Interstate Highway 5 to the east, and vacant land to the west. There is no drainage course present on-site. Site has coastal sage scrub with scattered oak and annual grassland components. Potential sensitive species in the area include San Diego horned lizard, California gnatcatcher, Nevin's barberry, slender mariposa lily, Plummer's mariposa lily, San Fernando Valley spineflower, and rayless ragwort.

Zoning: A-2-2General Plan: Non-urban, Low & Medium Density ResidentialCommunity/Area Wide Plan: U1, U2, U3, M, Hillside Mgt(SCVAP)

**Major projects in area:**

<u>Project Number</u>	<u>Description &amp; Status</u>
<u>98-002/TR34385</u>	<u>54 condominium units on 5.4 AC (8/26/98 approved)</u>
<u>89-345/TR46798</u>	<u>(TN) 1 MF Lot/55 NC &amp; 1 SF lot on 36.86 AC (5/11/94 approved)</u>
<u>89-153/TR 47646</u>	<u>84 SF lots on 80 AC (3/12/96 approved)</u>
<u>02-196/TR53822</u>	<u>335 SF on 934 AC (pending)</u>
<u>CP02-260</u>	<u>Commercial/auto services/sales (pending)</u>
<u>CP 00-253</u>	<u>121-unit motel (pending)</u>
<u>CP 01-085</u>	<u>Truck wash facility (1/14/03 denied)</u>
<u>94-033 / TR51786</u>	<u>64 condo units on 7/25 AC (11/2/1994 approved)</u>
<u>95-085/TR51995</u>	<u>114 condominium units on 15.2 AC (2/25/97 approved)</u>

NOTE: For EIRs, above projects are not sufficient for cumulative analysis.

**REVIEWING AGENCIES**

Responsible Agencies

- None
- Regional Water Quality Control Board
  - Los Angeles Region
  - Lahontan Region
- Coastal Commission
- Army Corps of Engineers
- \_\_\_\_\_

Trustee Agencies

- None
- State Fish and Game
- State Parks
- USFWS
- \_\_\_\_\_

Special Reviewing Agencies

- None
- Santa Monica Mountains Conservancy
- National Parks
- National Forest
- Edwards Air Force Base
- Resource Conservation District of the Santa Monica Mtns.
- Castaic Lake School District
- Castaic Area Town Council
- Newhall County Water Dis.
- Caltrans
- William S Hart Union HSD
- AOMD
- \_\_\_\_\_

Regional Significance

- None
- SCAG Criteria
- Air Quality
- Water Resources

County Reviewing Agencies

- Subdivision Committee
- DPW: Geotechnical and Materials Engineering, Land Development(D&G), T&L, WM, EP, Tran. Planning, Waterworks
- Health Services: Env. Health
- Sanitation Districts
- Fire Department
- Sheriff Department
- Public Library
- Parks & Rec. Dept

**IMPACT ANALYSIS MATRIX**

		ANALYSIS SUMMARY (See individual pages for details)			
		Less than Significant Impact/No Impact			
		Less than Significant Impact with Project Mitigation			
		Potentially Significant Impact			
CATEGORY	FACTOR	Pg			Potential Concern
HAZARDS	1. Geotechnical	5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>Liquefaction, substantial grading</i>
	2. Flood	6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>Drainage pattern change, Inundation area</i>
	3. Fire	7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>Fire Zone 4, single means of access</i>
	4. Noise	8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>Golden State Freeway</i>
RESOURCES	1. Water Quality	9	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>NPDES</i>
	2. Air Quality	10	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>Project emissions may exceed AQMD thresholds</i>
	3. Biota	11	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>Oak trees</i>
	4. Cultural Resources	12	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>Oak trees, undeveloped area</i>
	5. Mineral Resources	13	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	6. Agriculture Resources	14	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	7. Visual Qualities	15	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>Scenic highway, substantial landform alteration</i>
SERVICES	1. Traffic/Access	16	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>Project exceeds CMP thresholds for SF and Industrial</i>
	2. Sewage Disposal	17	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>Existing sewer treatment facility insufficient</i>
	3. Education	18	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>School District operates over capacity</i>
	4. Fire/Sheriff	19	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>Fire/sheriff service is insufficient for the area</i>
	5. Utilities	20	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>Sufficient water supply yet to be demonstrated</i>
OTHER	1. General	21	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2. Environmental Safety	22	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3. Land Use	23	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <i>Zone Change request, Plan Amendment may be required</i>
	4. Pop./Hous./Emp./Rec.	24	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Mandatory Findings	25	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**DEVELOPMENT MONITORING SYSTEM (DMS) \***

As required by the Los Angeles County General Plan, DMS shall be employed in the Initial Study phase of the environmental review procedure as prescribed by state law.

1. Development Policy Map Designation: Non-urban hillside, urban expansion
2.  Yes  No Is the project located in the Antelope Valley, East San Gabriel Valley, Malibu/Santa Monica Mountains or Santa Clarita Valley planning area?
3.  Yes  No Is the project at urban density and located within, or proposes a plan amendment to, an urban expansion designation?

**If both of the above questions are answered "yes", the project is subject to a County DMS analysis.**

Check if DMS printout generated (attached) Date of printout: 10/28/03

Check if DMS overview worksheet completed (attached)

\*EIRs and/or staff reports shall utilize the most current DMS information available.

**Environmental Finding:**

FINAL DETERMINATION: On the basis of this Initial Study, the Department of Regional Planning finds that this project qualifies for the following environmental document:

NEGATIVE DECLARATION, inasmuch as the proposed project will not have a significant effect on the environment.

An Initial Study was prepared on this project in compliance with the State CEQA Guidelines and the environmental reporting procedures of the County of Los Angeles. It was determined that this project will not exceed the established threshold criteria for any environmental/service factor and, as a result, will not have a significant effect on the physical environment.

MITIGATED NEGATIVE DECLARATION, inasmuch as the changes required for the project will reduce impacts to insignificant levels (see attached discussion and/or conditions).

An Initial Study was prepared on this project in compliance with the State CEQA Guidelines and the environmental reporting procedures of the County of Los Angeles. It was originally determined that the proposed project may exceed established threshold criteria. The applicant has agreed to modification of the project so that it can now be determined that the project will not have a significant effect on the physical environment. The modification to mitigate this impact(s) is identified on the Project Changes/Conditions Form included as part of this Initial Study.

ENVIRONMENTAL IMPACT REPORT\*, inasmuch as there is substantial evidence that the project may have a significant impact due to factors listed above as "significant."

At least one factor has been adequately analyzed in an earlier document pursuant to legal standards, and has been addressed by mitigation measures based on the earlier analysis as described on the attached sheets (see attached Form DRP/IA 101). The EIR is required to analyze only the factors not previously addressed.

Reviewed by: Hsiaoching Chen

Date: November 4, 2003

Approved by: Daryl Koutnik

Date: NOVEMBER 4, 2003

This proposed project is exempt from Fish and Game CEQA filling fees. There is no substantial evidence that the proposed project will have potential for an adverse effect on wildlife or the habitat upon which the wildlife depends. (Fish & Game Code 753.5).

Determination appealed--see attached sheet.

\*NOTE: Findings for Environmental Impact Reports will be prepared as a separate document following the public hearing on the project.

**HAZARDS - 1. Geotechnical**

**SETTING/IMPACTS**

- |    | Yes                                 | No                                  | Maybe                    |  |
|----|-------------------------------------|-------------------------------------|--------------------------|--|
| a. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Is the project site located in an active or potentially active fault zone, Seismic Hazards Zone, or Alquist-Priolo Earthquake Fault Zone? <u>Closest fault zone is approximately 3 miles southeast of the project site (Earthquake Fault Zones Map Newhall Quad.); Liquefaction and earthquake-induced landslides (Seismic Hazard Zones Map Newhall Quad.)</u> |
| b. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Is the project site located in an area containing a major landslide(s)?<br><u>Earthquake-induced landslides (Seismic Hazard Zones Map Newhall Quad.)</u>   |
| c. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is the project site located in an area having high slope instability?<br>_____   |
| d. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Is the project site subject to high subsidence, high groundwater level, liquefaction, or hydrocompaction?<br><u>Liquefaction (Seismic Hazard Zones Map Newhall Quad.)</u>  |
| e. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is the proposed project considered a sensitive use (school, hospital, public assembly site) located in close proximity to a significant geotechnical hazard?<br>_____  |
| f. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Will the project entail substantial grading and/or alteration of topography including slopes of more than 25%?<br><u>Grading is estimated to be 640,000 c.y., balanced on site.</u>  |
| g. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?<br>_____   |
| h. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | Other factors? _____   |

**STANDARD CODE REQUIREMENTS**

Building Ordinance No. 2225 C Sections 308B, 309, 310 and 311 and Chapters 29 and 70.

MITIGATION MEASURES /  OTHER CONSIDERATIONS

Lot Size                       Project Design                       Approval of Geotechnical Report by DPW

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) on, or be impacted by, **geotechnical** factors?

Potentially significant       Less than significant with project mitigation       Less than significant/No impact

**HAZARDS - 2. Flood**

**SETTING/IMPACTS**

- |    | Yes                                 | No                                  | Maybe                    |  |
|----|-------------------------------------|-------------------------------------|--------------------------|--|
| a. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is a major drainage course, as identified on USGS quad sheets by a dashed line, located on the project site?<br><br>_____  |
| b. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is the project site located within or does it contain a floodway, floodplain, or designated flood hazard zone?<br><br>_____  |
| c. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is the project site located in or subject to high mudflow conditions?<br><br>_____   |
| d. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Could the project contribute or be subject to high erosion and debris deposition from run off? _____   |
| e. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Would the project substantially alter the existing drainage pattern of the site or area?<br><br><u>Project development would change existing drainage pattern on-site.</u> |
| f. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Other factors (e.g., dam failure)? <u>Project is located within Castaic Dam/Debris Basin Inundation Area (per LA Co GP Safety Element - Plate 6)</u>                       |

**STANDARD CODE REQUIREMENTS**

- Building Ordinance No. 2225 C Section 308A  Ordinance No. 12,114 (Floodways)  
 Approval of Drainage Concept by DPW

**MITIGATION MEASURES** /  **OTHER CONSIDERATIONS**

- Lot Size                       Project Design

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) on, or be impacted by **flood (hydrological)** factors?

- Potentially significant     Less than significant with project mitigation     Less than significant/No impact

**HAZARDS - 3. Fire**

**SETTING/IMPACTS**

- |    | Yes                                 | No                                  | Maybe                               |  |
|----|-------------------------------------|-------------------------------------|-------------------------------------|--|
| a. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Is the project site located in a Very High Fire Hazard Severity Zone (Fire Zone 4)?<br><i>(per LA Co GP Safety Element - Plate 7)</i>  |
| b. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Is the project site in a high fire hazard area and served by inadequate access due to lengths, widths, surface materials, turnarounds or grade?<br><i>70 dwelling and 3 industrial lots on single means of access</i>                                  |
| c. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Does the project site have more than 75 dwelling units on a single access in a high fire hazard area? <i>Project is proposing 70 dwelling units plus 150,000 square feet of industrial space on a single means of access in high fire hazard area.</i> |
| d. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Is the project site located in an area having inadequate water and pressure to meet fire flow standards?   |
| e. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Is the project site located in close proximity to potential dangerous fire hazard conditions/uses (such as refineries, flammables, explosives manufacturing)?  |
| f. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Does the proposed use constitute a potentially dangerous fire hazard?  |
| g. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | Other factors?   |

**STANDARD CODE REQUIREMENTS**

Water Ordinance No. 7834     Fire Ordinance No. 2947     Fire Regulation No. 8

Fuel Modification/Landscape Plan

MITIGATION MEASURES /  OTHER CONSIDERATIONS

Project Design

Compatible Use

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) on, or be impacted by **fire hazard** factors?

- Potentially significant     Less than significant with project mitigation     Less than significant/No impact

HAZARDS - 4. Noise

SETTING/IMPACTS

- |    | Yes                                 | No                                  | Maybe                               |  |
|----|-------------------------------------|-------------------------------------|-------------------------------------|--|
| a. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Is the project site located near a high noise source (airports, railroads, freeways, industry)?<br><br><i>Golden State Freeway; project has an industrial component in it.</i>                               |
| b. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Is the proposed use considered sensitive (school, hospital, senior citizen facility) or are there other sensitive uses in close proximity?<br><br>_____  |
| c. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Could the project substantially increase ambient noise levels including those associated with special equipment (such as amplified sound systems) or parking areas associated with the project?<br><br>_____ |
| d. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels without the project?<br><br><i>During construction period</i>          |
| e. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | Other factors? _____<br><br>_____  |

STANDARD CODE REQUIREMENTS

- Noise Ordinance No. 11,778                       Building Ordinance No. 2225--Chapter 35

MITIGATION MEASURES /  OTHER CONSIDERATIONS

- Lot Size                       Project Design                       Compatible Use

*Acoustical Analysis is required*

CONCLUSION

Considering the above information, could the project have a significant impact (individually or cumulatively) on, or be adversely impacted by **noise**?

- Potentially significant     Less than significant with project mitigation     Less than significant/No impact

**RESOURCES - 1. Water Quality**

**SETTING/IMPACTS**

- |    | Yes                                 | No                                  | Maybe                    |  |
|----|-------------------------------------|-------------------------------------|--------------------------|--|
| a. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is the project site located in an area having known water quality problems and proposing the use of individual water wells?<br>_____   |
| b. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Will the proposed project require the use of a private sewage disposal system?<br>_____  |
|    | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | If the answer is yes, is the project site located in an area having known septic tank limitations due to high groundwater or other geotechnical limitations or is the project proposing on-site systems located in close proximity to a drainage course?<br>_____  |
| c. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Could the project's associated construction activities significantly impact the quality of groundwater and/or storm water runoff to the storm water conveyance system and/or receiving water bodies?<br><br><i>Project requires NPDES permit.</i><br>_____   |
| d. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Could the project's post-development activities potentially degrade the quality of storm water runoff and/or could post-development non-storm water discharges contribute potential pollutants to the storm water conveyance system and/or receiving bodies?<br><br><i>Project requires NPDES permit.</i><br>_____ |
| e. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | Other factors? _____<br>_____  |

**STANDARD CODE REQUIREMENTS**

- Industrial Waste Permit                       Health Code Ordinance No. 7583, Chapter 5
- Plumbing Code Ordinance No. 2269                       NPDES Permit Compliance (DPW)

**MITIGATION MEASURES** /  **OTHER CONSIDERATIONS**

- Lot Size                       Project Design

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) on, or be impacted by, **water quality** problems?

- Potentially significant     Less than significant with project mitigation     Less than significant/No impact



**RESOURCES - 3. Biota**

**SETTING/IMPACTS**

- |    | Yes                                 | No                                  | Maybe                    |  |
|----|-------------------------------------|-------------------------------------|--------------------------|--|
| a. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Is the project site located within a Significant Ecological Area (SEA), SEA Buffer, or coastal Sensitive Environmental Resource (ESHA, etc.), or is the site relatively undisturbed and natural?<br><br><u>Relatively undisturbed.</u>   |
| b. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Will grading, fire clearance, or flood related improvements remove substantial natural habitat areas? <u>Fire clearance requirements and grading associated with the project will remove substantial natural habitat areas.</u>  |
| c. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Is a major drainage course, as identified on USGS quad sheets by a blue, dashed line, located on the project site?<br><br>_____  |
| d. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Does the project site contain a major riparian or other sensitive habitat (e.g., coastal sage scrub, oak woodland, sycamore riparian woodland, wetland, etc.)?<br><br><u>Coastal sage scrub with scattered oak and annual grassland components</u>                                 |
| e. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Does the project site contain oak or other unique native trees (specify kinds of trees)?<br><br><u>Oak trees (3 heritage trees proposed for removal)</u>   |
| f. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Is the project site habitat for any known sensitive species (federal or state listed endangered, etc.)? <u>San Diego horned lizard, California gnatcatcher, Nevin's barberry, slender mariposa lily, Plummer's mariposa lily, San Fernando Valley spineflower, rayless ragwort</u> |
| g. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | Other factors (e.g., wildlife corridor, adjacent open space linkage)? _____<br><br>_____   |

**MITIGATION MEASURES** /  **OTHER CONSIDERATIONS**

- Lot Size       Project Design       Oak Tree Permit       ERB/SEATAC Review

Biological Constraints Analysis is required.

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) on **biotic resources**?

- Potentially significant       Less than significant with project mitigation       Less than significant/No impact

**RESOURCES - 4. Archaeological / Historical / Paleontological**

**SETTING/IMPACTS**

- |    | Yes                                 | No                                  | Maybe                    |  |
|----|-------------------------------------|-------------------------------------|--------------------------|--|
| a. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Is the project site in or near an area containing known archaeological resources or containing features (drainage course, spring, knoll, rock outcroppings, or oak trees) which indicate potential archaeological sensitivity?<br><br><u>Oak trees</u> |
| b. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Does the project site contain rock formations indicating potential paleontological resources?<br><br>_____   |
| c. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Does the project site contain known historic structures or sites?<br><br>_____   |
| d. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Would the project cause a substantial adverse change in the significance of a historical or archaeological resource as defined in 15064.5?<br><br>_____  |
| e. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?<br><br>_____  |
| f. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Other factors? <u>Site is relatively undisturbed.</u>  |

MITIGATION MEASURES /  OTHER CONSIDERATIONS

- Lot Size       Project Design       Phase I Archaeology Report

**CONCLUSION**

Considering the above information, could the project leave a significant impact (individually or cumulatively) on **archaeological, historical, or paleontological** resources?

- Potentially significant     Less than significant with project mitigation     Less than significant/No impact

**RESOURCES - 5.Mineral Resources**

**SETTING/IMPACTS**

- |       |                          |                                     |                          |   |
|-------|--------------------------|-------------------------------------|--------------------------|---|
|       | Yes                      | No                                  | Maybe                    |   |
| a.    | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?                                 |
| <hr/> |                          |                                     |                          |   |
| b.    | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Would the project result in the loss of availability of a locally important mineral resource discovery site delineated on a local general plan, specific plan or other land use plan? |
| <hr/> |                          |                                     |                          |   |
| c.    | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Other factors? _____  |

MITIGATION MEASURES /  OTHER CONSIDERATIONS

- Lot Size                       Project Design

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**CONCLUSION**

Considering the above information, could the project leave a significant impact (individually or cumulatively) on **mineral** resources?

- Potentially significant     Less than significant with project mitigation     Less than significant/No impact

**RESOURCES - 6. Agriculture Resources**

**SETTING/IMPACTS**

- |    | Yes                      | No                                  | Maybe                    |   |
|----|--------------------------|-------------------------------------|--------------------------|---|
| a. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?<br><br><i>(per Los Angeles Important Farmland 2000 Map)</i> |
| b. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?   |
| c. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?  |
| d. | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Other factors?  |

MITIGATION MEASURES /  OTHER CONSIDERATIONS

- Lot Size                       Project Design

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**CONCLUSION**

Considering the above information, could the project leave a significant impact (individually or cumulatively) on **agriculture** resources?

- Potentially significant     Less than significant with project mitigation     Less than significant/No impact

**RESOURCES - 7. Visual Qualities**

**SETTING/IMPACTS**

- Yes No Maybe
- a.    Is the project site substantially visible from or will it obstruct views along a scenic highway (as shown on the Scenic Highway Element), or is it located within a scenic corridor or will it otherwise impact the viewshed?  
*Golden State Freeway is scenic per LA Co General Plan*
- b.    Is the project substantially visible from or will it obstruct views from a regional riding or hiking trail? *Proposed Castaic Creek Trail is on the other side of the Golden State Freeway (per County of Los Angeles Trail System Map)*
- c.    Is the project site located in an undeveloped or undisturbed area, which contains unique aesthetic features? *Project site is relatively undeveloped with prominent hillside.*
- d.    Is the proposed use out-of-character in comparison to adjacent uses because of height, bulk, or other features?
- e.    Is the project likely to create substantial sun shadow, light or glare problems?
- f.    Other factors (e.g., grading or land form alteration): \_\_\_\_\_

MITIGATION MEASURES /  OTHER CONSIDERATIONS

- Lot Size       Project Design       Visual Report       Compatible Use

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) on scenic qualities?

- Potentially significant       Less than significant with project mitigation       Less than significant/No impact

**SERVICES - 1. Traffic/Access**

**SETTING/IMPACTS**

- |    | Yes                                 | No                                  | Maybe                               |  |
|----|-------------------------------------|-------------------------------------|-------------------------------------|--|
| a. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Does the project contain 25 dwelling units, or more and is it located in an area with known congestion problems (roadway or intersections)?  |
| b. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Will the project result in any hazardous traffic conditions?<br><i>Access road at curve along the Old Road</i>   |
| c. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Will the project result in parking problems with a subsequent impact on traffic conditions?  |
| d. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Will inadequate access during an emergency (other than fire hazards) result in problems for emergency vehicles or residents/employees in the area?<br><i>Single means of access</i>  |
| e. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Will the congestion management program (CMP) Transportation Impact Analysis thresholds of 50 peak hour vehicles added by project traffic to a CMP highway system intersection or 150 peak hour trips added by project traffic to a mainline freeway link be exceeded? <i>CMP threshold for single family residential projects is 50 units; CMP threshold for industrial park projects is 54,300 square feet.</i> |
| f. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?  |
| g. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/>            | Other factors? _____   |

MITIGATION MEASURES /  OTHER CONSIDERATIONS

- Project Design     Traffic Report     Consultation with Traffic & Lighting Division

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) on the physical environment due to **traffic/access** factors?

- Potentially significant     Less than significant with project mitigation     Less than significant/No impact

**SERVICES - 2. Sewage Disposal**

**SETTING/IMPACTS**

- |    | Yes                                 | No                       | Maybe                    |   |
|----|-------------------------------------|--------------------------|--------------------------|---|
| a. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | If served by a community sewage system, could the project create capacity problems at the treatment plant?<br><br><i>Project demand for sewer treatment will be approximately 35,000 gallons/day.</i> |
| b. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Could the project create capacity problems in the sewer lines serving the project site?<br><br><i>Project demand for sewer treatment will be approximately 35,000 gallons/day.</i>                    |
| c. | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> | Other factors? _____<br>_____<br>_____  |

**STANDARD CODE REQUIREMENTS**

- Sanitary Sewers and Industrial Waste Ordinance No. 6130
- Plumbing Code Ordinance No. 2269

MITIGATION MEASURES /  OTHER CONSIDERATIONS

*Sewer Treatment Capacity Analysis of Sanitation Districts No. 32 is required.*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) on the physical environment due to **sewage disposal** facilities?

- Potentially significant
- Less than significant with project mitigation
- Less than significant/No impact

**SERVICES - 3. Education**

**SETTING/IMPACTS**

- |    | Yes                                 | No                       | Maybe                               |   |
|----|-------------------------------------|--------------------------|-------------------------------------|---|
| a. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Could the project create capacity problems at the district level? <u>Castaic Union School District existing facilities capacity is 1,821 but the current enrollment is 2,751 students (based on School Facilities Needs Analysis dated 8/14/01); William S. Hart Union High School District existing facilities capacity is 14,233 but the current enrollment is 17,727 (based on School Facilities Need Analysis dated 3/8/02)</u> |
| b. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Could the project create capacity problems at individual schools which will serve the project site?<br><br><u>Individual schools to be identified and analyzed in the EIR</u>   |
| c. | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Could the project create student transportation problems? <u>Project may create student transportation problems if students need to be transferred to schools not within the project's immediate vicinity.</u>  |
| d. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Could the project create substantial library impacts due to increased population and demand?<br><br><u>Valencia Library is unable to meet current demand in the area.</u>   |
| e. | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/>            | Other factors? _____  |

MITIGATION MEASURES /  OTHER CONSIDERATIONS

- Site Dedication       Government Code Section 65995       Library Facilities Mitigation Fee

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) relative to **educational** facilities/services?

- Potentially significant       Less than significant with project mitigation       Less than significant/No impact

**SERVICES - 4. Fire/Sheriff Services**

**SETTING/IMPACTS**

- |    | Yes                                 | No                                  | Maybe                    |   |
|----|-------------------------------------|-------------------------------------|--------------------------|---|
| a. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Could the project create staffing or response time problems at the fire station or sheriff's substation serving the project site? <u>The closest existing fire station is Fire Station 76 located at 27223 Henry Mayo Drive, which is approximately 7 miles from the site. The nearest sheriff station is located at 23740 Magic Mountain Parkway</u> |
| b. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Are there any special fire or law enforcement problems associated with the project or the general area?<br>_____<br>_____   |
| c. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | Other factors? _____<br>_____<br>_____  |

MITIGATION MEASURES /  OTHER CONSIDERATIONS

Fire Mitigation Fees

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) relative to **fire/sheriff** services?

- Potentially significant     Less than significant with project mitigation     Less than significant/No impact

**SERVICES - 5. Utilities/Other Services**

**SETTING/IMPACTS**

- |    | Yes                      | No                                  | Maybe                               |   |
|----|--------------------------|-------------------------------------|-------------------------------------|---|
| a. | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Is the project site in an area known to have an inadequate public water supply to meet domestic needs or to have an inadequate ground water supply and proposes water wells?<br><br><i>Sufficient water supply for both residential and industrial uses yet to be demonstrated.</i>   |
| b. | <input type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Is the project site in an area known to have an inadequate water supply and/or pressure to meet fire fighting needs?<br><br><i>Sufficient water supply for fire fighting purposes yet to be demonstrated.</i>   |
| c. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Could the project create problems with providing utility services, such as electricity, gas, or propane?<br><br>_____   |
| d. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Are there any other known service problem areas (e.g., solid waste)?<br><br>_____   |
| e. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services or facilities (e.g., fire protection, police protection, schools, parks, roads)?<br><br>_____ |
| f. | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Other factors? _____<br><br>_____   |

**STANDARD CODE REQUIREMENTS**

Plumbing Code Ordinance No. 2269       Water Code Ordinance No. 7834

MITIGATION MEASURES /  OTHER CONSIDERATIONS

Lot Size       Project Design

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) relative to **utilities/services**?

Potentially significant     Less than significant with project mitigation     Less than significant/No impact

**OTHER FACTORS - 1. General**

**SETTING/IMPACTS**

- |    |                                     |                                     |                          |   |
|----|-------------------------------------|-------------------------------------|--------------------------|---|
|    | Yes                                 | No                                  | Maybe                    |   |
| a. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Will the project result in an inefficient use of energy resources?<br>_____   |
| b. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Will the project result in a major change in the patterns, scale, or character of the general area or community?<br>_____ |
| c. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Will the project result in a significant reduction in the amount of agricultural land?<br>_____                           |
| d. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Other factors? _____<br>_____   |

**STANDARD CODE REQUIREMENTS**

State Administrative Code, Title 24, Part 5, T-20 (Energy Conservation)

MITIGATION MEASURES /  OTHER CONSIDERATIONS

Lot size  Project Design  Compatible Use

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) on the physical environment due to any of the above factors? \_\_\_\_\_  
\_\_\_\_\_

Potentially significant  Less than significant with project mitigation  Less than significant/No impact

**OTHER FACTORS - 2. Environmental Safety**

**SETTING/IMPACTS**

- |    | Yes                      | No                                  | Maybe                    |   |
|----|--------------------------|-------------------------------------|--------------------------|---|
| a. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Are any hazardous materials used, transported, produced, handled, or stored on-site?<br>_____   |
| b. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Are any pressurized tanks to be used or any hazardous wastes stored on-site?<br>_____   |
| c. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Are any residential units, schools, or hospitals located within 500 feet and potentially adversely affected?<br>_____   |
| d. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Have there been previous uses which indicate residual soil toxicity of the site?<br>_____   |
| e. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Would the project create a significant hazard to the public or the environment involving the accidental release of hazardous materials into the environment?<br>_____   |
| f. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Would the project emit hazardous emissions or handle hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?<br>_____  |
| g. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or environment?<br>_____ |
| h. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Would the project result in a safety hazard for people in a project area located within an airport land use plan, within two miles of a public or public use airport, or within the vicinity of a private airstrip?<br>_____                    |
| i. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?<br>_____   |
| j. | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Other factors? _____  |

MITIGATION MEASURES /  OTHER CONSIDERATIONS

Toxic Clean up Plan

**CONCLUSION**

Considering the above information, could the project have a significant impact relative to **public safety**?

- Potentially significant   
  Less than significant with project mitigation   
  Less than significant/No impact

**OTHER FACTORS - 3. Land Use**

**SETTING/IMPACTS**

- |    | Yes                                 | No                                  | Maybe                               |   |
|----|-------------------------------------|-------------------------------------|-------------------------------------|---|
| a. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | Can the project be found to be inconsistent with the plan designation(s) of the subject property? <u>Plan Amendment may be required pending Subdivision Committee review of the project.</u>                              |
| b. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Can the project be found to be inconsistent with the zoning designation of the subject property? <u>The project requests a Zone Change which, if approved, would permanently increase land use intensity of the site.</u> |
| c. |                                     |                                     |                                     | Can the project be found to be inconsistent with the following applicable land use criteria:  |
|    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Hillside Management Criteria?   |
|    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | SEA Conformance Criteria?   |
|    | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Other? _____  |
| d. | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | Would the project physically divide an established community?<br>_____  |
| e. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | Other factors? _____<br>_____   |

MITIGATION MEASURES /  OTHER CONSIDERATIONS

Land use analysis is requested  
\_\_\_\_\_

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) on the physical environment due to **land use** factors?

- Potentially significant     Less than significant with project mitigation     Less than significant/No impact

**OTHER FACTORS - 4. Population/Housing/Employment/Recreation**

**SETTING/IMPACTS**

- |    | Yes                                 | No                                  | Maybe                    |   |
|----|-------------------------------------|-------------------------------------|--------------------------|---|
| a. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Could the project cumulatively exceed official regional or local population projections?<br>_____   |
| b. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Could the project induce substantial direct or indirect growth in an area (e.g., through projects in an undeveloped area or extension of major infrastructure)?<br>_____    |
| c. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Could the project displace existing housing, especially affordable housing?<br>_____  |
| d. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Could the project result in a substantial job/housing imbalance or substantial increase in Vehicle Miles Traveled (VMT)?<br>_____   |
| e. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | Could the project require new or expanded recreational facilities for future residents?<br><i>New residential development requires new recreational facilities</i><br>_____ |
| f. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?<br>_____   |
| g. | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | Other factors? _____<br>_____   |

MITIGATION MEASURES /  OTHER CONSIDERATIONS

*Project includes a park site. Additional consultation with Department of Parks and Recreation is required.*  
\_\_\_\_\_

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) on the physical environment due to **population, housing, employment, or recreational** factors?

- Potentially significant     Less than significant with project mitigation     Less than significant/No impact

**MANDATORY FINDINGS OF SIGNIFICANCE**

Based on this Initial Study, the following findings are made:

- |  | Yes                                 | No                       | Maybe                               |  |
|--|-------------------------------------|--------------------------|-------------------------------------|--|
| a.   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory? |
| <hr/>                                      |                                     |                          |                                     |  |
| b.   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Does the project have possible environmental effects which are individually limited but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.   |
| <i>Air Quality, Traffic, Water Quality</i> |                                     |                          |                                     |  |
| <hr/>                                      |                                     |                          |                                     |  |
| c.   | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Will the environmental effects of the project cause substantial adverse effects on human beings, either directly or indirectly?  |
| <i>Visual</i>                              |                                     |                          |                                     |  |
| <hr/>                                      |                                     |                          |                                     |  |

**CONCLUSION**

Considering the above information, could the project have a significant impact (individually or cumulatively) on the environment?

- Potentially significant     Less than significant with project mitigation     Less than significant/No impact

PROJECT NO. 03-304  
CASE NO. TR539333

URBAN SERVICES ANALYSIS  
WATER CAPACITY ANALYSIS

10/28/2003

WATER AVAILABILITY EVALUATION

(ACRE-FEET/YEAR)

DEMAND

POTENTIAL

EXISTING DEMAND RECORDED APPROVED PENDING PROIEC TOTAL SUPPLY SUPPLY IMPACT

NEWHALL WD	9,348	1,438.17	215.67	3,757.63	80.92	14,840.39	90,600	96,000	NO
SC VALLEY WIDE	64,350	5,983.81	9,372.36	7,044.56	80.92	86,831.65	90,600	96,000	NO

SANTA CLARITA VALLEY WIDE FUTURE SUPPLY

YEAR	COMMERCIAL (PER ACRE)	INDUSTRIAL (PER ACRE)	POTENTIAL
2004	90,600	96,000	NO
2005	90,600	96,000	NO
2006	90,600	96,000	NO
2007	90,600	96,000	NO

CRITERIA

DEMAND FACTORS (AF/YR):	SF	MF	MH	COMMERCIAL (PER ACRE)	INDUSTRIAL (PER ACRE)
NEWHALL WD	0.79	0.22	0.31	2.77	3.14

Note:  
Dry Supply - Ranges from 90,600 to 147,500 acre-feet-per year.  
Conjunctive-use and groundwater banking supplies are not included in table.  
Normal Supply - Ranges from 96,000 to 151,900 acre-feet-per year.

Tuesday, October 28, 2003

URBAN SERVICES ANALYSIS

PROJECT NO. 03-304

SEWER TREATMENT CAPACITY ANALYSIS  
(MILLION GALLONS PER DAY)

CASE NO: TR539333

10/28/2003

SEWER AGENCY	EXISTING DEMAND	RECORDED	APPROVED	PENDING	PROJECT	TOTAL	SUPPLY	POTENTIAL SIGNIFICANT IMPACT
S.D. NO. 26 & 32	15.04	3.01	5.19	3.22	0.03	26.50	19.10	YES

PLANNED EXPANSION

SEWER AGENCY	TOTAL CAPACITY	COMPLETION EXPECTED	POTENTIAL SIGNIFICANT IMPACT
S.D. NO. 26 & 32	28.10	2002	NO
FIRST STAGE	34.10	2010	NO
PRACTICAL SITE CAPACITY:			

CRITERIA

DEMAND FACTORS (GAL/DAY):	COMMERCIAL (PER ACRE)				INDUSTRIAL (PER ACRE)
	SF	MF	MH		
S.D. NO. 26 & 32	260	195	156	1,440	2,009

URBAN SERVICES ANALYSIS

LIBRARY CAPACITY ANALYSIS

PROJECT NO 03-304  
CASE NO. TR539333

10/28/2003

DEMAND

POTENTIAL

POTENTIAL  
SIGNIFICANT  
IMPACT

LIBRARY	EXISTING DEMAND	RECORDED	APPROVED	PENDING	PROJECT	TOTAL	SUPPLY	IMPACT
VALENCIA								
VOLUMES	174,090	34,039	37,995	26,246	433	272,803	211,688	YES
SPACE (SQ FT)	33,861	6,621	7,390	5,105	84	53,060	23,966	YES
-AREA CLUSTER*								
VOLUMES	320,598	68,901	126,506	68,882	433	585,320	348,467	YES
SPACE (SQ FT)	62,356	13,401	24,605	13,398	84	113,845	67,777	YES

\* AREA CLUSTER IS THE GROUP OF LIBRARIES SERVING THE ENTIRE COMMUNITY.

CRITERIA

VOLUMES PER CAPITA: 2  
SQUARE FOOT PER CAPITA: 0.389

Tuesday, October 28, 2003

PROJECT NO. 03-304  
CASE NO. TR539333

URBAN SERVICES ANALYSIS  
SCHOOL CAPACITY ANALYSIS  
10/28/2003

STUDENT EVALUATION

SCHOOL DISTRICT	ENROLLMENT	PENDING	APPROVED	RECORDED	PROJECT	TOTAL	CAPACITY	STUDENT OVERLOAD	POTENTIAL SIGNIFICANT IMPACT
CASTAIC UNION EL	1,135	722	206	644	21	2,728	1,430	1,298	YES
CASTAIC UNION JH	1,350	380	152	452	11	2,345	1,800	545	YES
WM.S. HART SR HI	9,903	1,575	2,811	1,680	13	15,982	9,512	6,470	YES

**URBAN SERVICES ANALYSIS  
FIRE PROTECTION ANALYSIS**

PROJECT NO. 03-304  
CASE NO. TR539333

10/28/2003

RESPONSE DISTANCE EVALUATION (MILES)

<u>Lot Type</u>	<u>MAXIMUM DISTANCE CRITERIA</u>			<u>Potential Significant Impact</u>
	<u>Residential</u>	<u>Commercial Industrial</u>	<u>Approximate Distance</u>	
INDUSTRIAL		1.5	7	Yes
SINGLE FAMILY	3		7	Yes

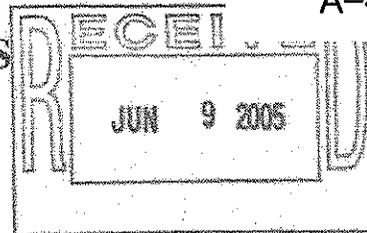


# COUNTY OF LOS ANGELES

## DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

960 SOUTH FREMONT AVENUE  
ALHAMBRA, CALIFORNIA 91803-1331  
Telephone: (626) 458-5100  
www.ladpw.org



ADDRESS ALL CORRESPONDENCE TO:  
P.O. BOX 1460  
ALHAMBRA, CALIFORNIA 91802-1460

June 8, 2005

IN REPLY PLEASE  
REFER TO FILE: LD-0

TO: Daryl Koutnik  
Department of Regional Planning

Attention Daniel Fierros

FROM: Dennis Hunter *DK*  
Land Development Division

**RESPONSE TO NOTICE OF PREPARATION  
FOR DRAFT ENVIRONMENTAL IMPACT REPORT  
LAKE VIEW ESTATES PROJECT  
PROJECT NO. 03-304/TRACT NO. 53933  
CASTAIC**

As requested, we circulated the Notice of Preparation for this project to Environmental Programs, Geotechnical and Materials Engineering, Land Development, Traffic and Lighting, and Waterworks and Sewer Maintenance Divisions for their review. We offer the following comments for your consideration in completing the Draft Environmental Impact Report (DEIR).

Sewer

As part of the tentative tract review, a sewer area study was requested to determine if capacity is available in the proposed and existing sewerage system servicing this land division. To date, we have not received the sewer area study. Once approved, a copy of the sewer area study shall be included in the DEIR.

The proposed development will be required to annex to the Consolidated Sewer Maintenance District (CSMD). Public Works is responsible for the operation and maintenance of the local sewers within the unincorporated areas of Los Angeles County on behalf of the CSMD. Sewer improvements shall comply with the CSMD sewer design standards. This will be in addition to compliance with the County of Los Angeles Sanitation Districts' requirements for connection to the trunk sewer system and treatment facilities.

Daryl Koutnik  
June 8, 2005  
Page 2

### Traffic/Access

We believe that the proposed project has the potential to significantly impact the County and County/City roadways and intersections in the area. We would like the opportunity to review the related environmental documents and traffic study upon its completion. The study shall also address the cumulative impacts generated by this and nearby developments and include the level of service analysis for the affected intersections. If traffic signals or other mitigation measures are warranted at the affected intersections, the project shall determine its proportionate share of traffic signal or other mitigation costs and submit this information to Public Works for review and approval. The County's methodology shall be used when evaluating the County and/or County/City roadways and intersections. The applicant must confer with Caltrans in order to select the methodology to use when determining the impact to the freeways. Please provide the applicant with a copy of our Traffic Impact Analysis Report Guidelines.

Caltrans shall be consulted in order to obtain their written concurrence with the California Environmental Quality Act (CEQA) level of significance determination. If Caltrans finds that the project has a CEQA significant impact on the freeways, Caltrans shall be requested to include the basis for this finding in their response. If fees are proposed to mitigate the freeway impact, Caltrans shall be requested to identify the specific project to which the fees will apply. These written comments from Caltrans shall be submitted to Public Works and included with the project environmental document.

In order for us to complete our review, the applicant shall submit a sight-distance analysis for the proposed site access at "A" Street and The Old Road to Public Works for review and approval. A 40-foot-scale site plan of the project showing access locations in relationship to adjacent intersections and driveways shall be submitted to Traffic and Lighting Division for review and approval prior to the issuance of building permits.

Also, based on the review by our County's Interdepartmental Engineering Committee, the proposed development is located within the limits of The Old Road widening and minor realignment project under design by Public Works. The proposed construction on The Old Road through the tract development shall conform to the road widening project.

If you have any questions regarding the above comments, please contact Juan Sarda at (626) 458-7151.

JMS:jmw

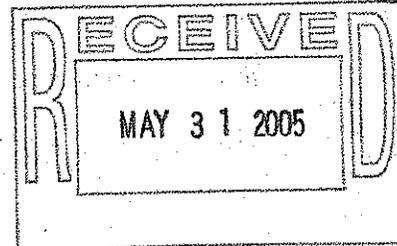
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**DEPARTMENT OF FISH AND GAME**

http://www.dfg.ca.gov  
 4949 Viewridge Avenue  
 San Diego, CA 92123  
 (858) 467-4201



May 25, 2005



Ms. Hsiao-ching Chen  
 Los Angeles County Department of Regional Planning  
 320 West Temple Street  
 Los Angeles, CA 90012

**Notice of Preparation for an Environmental Impact Report for  
 Lake View Estates  
 SCH # 2005041138, Los Angeles County**

Dear Ms. Chen:

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 involves the subdivision of 47.25 acres of vacant land into 70 single family residential lots located west of the Golden State Freeway and south of Parker Road in unincorporated Los Angeles County near the town of Castaic.

To enable Department staff to adequately review and comment on the proposed project we recommend the following information, where applicable, be included in the Draft Environmental Impact Report:

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 and sensitive habitats.
  - a. A thorough recent assessment of rare plants and rare natural communities, following the Department's Guidelines for Assessing Impacts to Rare Plants and Rare Natural Communities.
  - 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, Section 15380).
  - d. The Department's California Natural Diversity Data Base in Sacramento should be contacted at (916) 322-2493 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 Habitats (ESHs) 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. This discussion should focus on maximizing avoidance, and minimizing impacts.
  - a. CEQA Guidelines, Section 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. Impacts to and maintenance of wildlife corridor/movement areas, including access to undisturbed habitat in adjacent areas, should be fully evaluated and provided. The analysis should also include a discussion of the potential for impacts resulting from such effects as increased vehicle traffic and outdoor artificial lighting.
  - c. A cumulative effects analysis should be developed as described under CEQA Guidelines, Section 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. Impacts to migratory wildlife affected by the project should be fully evaluated. This can include such elements as migratory butterfly roost sites and neo-tropical bird and waterfowl stop-over and staging sites. All 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 birds and their active nests, including raptors and other migratory nongame birds as listed under the MBTA.
  - e. Impacts to all habitats from City or County required Fuel Modification Zones (FMZ). Areas slated as mitigation for loss of habitat shall not occur within the FMZ.
  - f. Proposed project activities (including disturbances to vegetation) should take place outside of the breeding bird season (February 1- September 15) to avoid take (including disturbances which would cause abandonment of active nests containing eggs and/or young). If project activities cannot avoid the breeding bird season, nest surveys should be conducted and active nests should be avoided and provided with a minimum buffer as determined by a biological monitor (the 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 including wetlands/riparian habitats, alluvial scrub, coastal sage scrub, native woodlands, etc. should be included. 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



o-ching Chen

May 25, 2005

Page 4

The Department suggests a pre-project or early consultation planning meeting for all projects. To make an appointment, please call Scott Harris, Wildlife Biologist, at (626) 797-3170. Thank you for this opportunity to provide comment.

Sincerely,



Morgan Wehtje

cc: Mr. Scott Harris  
Ms. Betty Courtney  
Department of Fish & Game

Mr. Scott Morgan  
State Clearinghouse

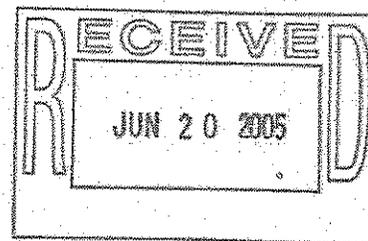
HCP-Chron  
Department of Fish and Game

SPH:sph

County of Los Angeles Public Library  
 7400 East Imperial Hwy., P.O. Box 7011, Downey, CA 90241-7011  
 (562) 940-8461, TELEFAX (562) 803-3032

**Library**

MARGARET DONNELLAN TODD  
 COUNTY LIBRARIAN



June 15, 2005

TO: Daniel Fierros  
 Los Angeles County Department of Regional Planning

FROM: Malou Rubio  
 Head, Staff Services

SUBJECT: LAKE VIEW ESTATES PROJECT  
 PROJECT NO. 03-304, TENTATIVE TRACT MAP NO. 53933

This is in response to your invitation to submit comments on the Notice of Preparation for the Lake View Estates Project.

The Education Services Section of the Notice of Preparation (Page 5, No. 12) states that the project is located in the Valencia Library Service Area. The Lake View Estates Project is located in the Santa Clarita Valley Bookmobile Service Area. The Bookmobile serves the population of Acton, Agua Dulce, Castaic, Val Verde and the Friendly Valley Senior Community. There are two bookmobile stops in Castaic. The first stop is located at the Lakehill Mobile Estates (27700 Parker Road) every Tuesday between 9:30 am and 12:00 pm. The second stop is in Hidden Lake at The Old Road and Royal Road every Tuesday between 1:00 pm and 4:00 pm.

Effective December 26, 1998, developers are required to pay a fee for each new residential unit to mitigate the impact of new residential development projects on library facilities in unincorporated areas. The proposed project is located in Planning Area 1. The current Developer Fee for Planning Area 1, as of July 1, 2004, is \$677 per dwelling unit. This would result in a total fee obligation of \$47,390 (70 x \$677). The Developer Fee is subject to an annual CPI adjustment, and the actual amount of the fee will be that in effect at the time the building permits for the project are issued. Therefore, the total fee obligation for this project may be higher.

Payment of the Public Library Developer Fee would reduce the impact of this project on library services to less than significant. No additional mitigation measures are recommended.

If you have any questions or require additional information regarding this matter, please contact Malaisha Hughes at (562) 940-8455.

MR:MH:mh

U:\STAFFSERVICES\DEVELOPER FEE\ERU lake View Estates NOP.doc

c: David Flint, Assistant Director, Finance and Planning, Public Library

Serving the unincorporated areas of Los Angeles County and the cities of: Agoura Hills • Arroyo • Avalon • Baldwin Park • Bell • Bell Gardens • Bellflower • Brea • Burbank • Carson • Claremont • Compton • Cudahy • Culver City • Diamond Bar • Duarte • El Monte • Gardena • Hawaiian Gardens • Hawthorne • Hermosa Beach • Hidden Hills • Huntington Park • La Canada Flintridge • La Habra Heights • Lakewood • La Mirada • Lancaster • La Puente • La Verne • Lawndale • Lomita • Lynwood • Malibu • Manhattan Beach • Maywood • Montebello • Norwalk • Paramount • Pico Rivera • Rosemead • San Dimas • San Fernando • San Gabriel • Santa Clarita • South El Monte • South Gate • Temple City • Walnut • West Covina • West Hollywood • Westlake Village

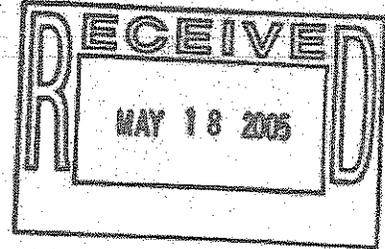
## DEPARTMENT OF CALIFORNIA HIGHWAY PATROL

28648 The Old Road  
Valencia, CA 91355  
(661) 294-5540  
(800) 735-2929 (TT/TDD)  
(800) 735-2922 (Voice)



May 12, 2005

File No.: 540.10868.11701



Mr. Daniel Fierros  
County of Los Angeles Department of Regional Planning  
320 West Temple Street  
Los Angeles, CA 90012

Dear Mr. Fierros:

This is in response to the Notice of Preparation for the Lake View Estates Project, dated May 2, 2005, for project number, 02-176 (SCH #2005051009).

The proposed project will be located within the unincorporated area of Los Angeles County; which will be within the jurisdiction of the California Highway Patrol. Therefore, traffic enforcement, emergency incident management, public service, assistance and accident investigation will be the responsibility of our agency.

In reviewing this project, project Number 02-176, our concern is what effect this project will have on traffic. The project will increase recurrent traffic congestion on The Old Road and, considering the development of several similar projects in the same geographical area, this project will add to the demand for emergency services in the surrounding communities. It is also anticipated that traffic volume and access to on and off ramps in the vicinity will be impacted during peak periods of traffic. In an effort to provide the highest level of service our Department prescribes too, and the level of service the public demands, our Area would require additional resources.

Lieutenant M. T. Hoose will be our Department's contact person for the project. If you have any questions or concerns, he may be reached at the above address or telephone number. Thank you for allowing us the opportunity to comment on this project.

Sincerely,

  
E. CONLEY, Captain  
Commander  
Newhall Area

Cc: Southern Division, CHP  
Special Projects Section, CHP

*Safety, Service, and Security*



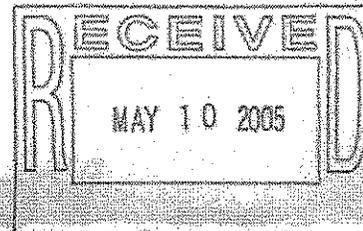
# COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

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

May 10, 2005

File No: 32-00.04-00



Mr. Daniel Fierros  
 Impact Analysis Section  
 Los Angeles County  
 Department of Regional Planning  
 320 West Temple Street  
 Los Angeles, CA 90012

Dear Mr. Fierros:

**Tract Map No. 53933, County Project No. 03-304, Lake View Estates Project**

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 May 2, 2005. We offer the following comments regarding sewerage service:

1. Previous comments submitted by the Districts in correspondence dated March 14, 2005 (copy enclosed), to Ms. Jessica Douglas of Rincon Consultants, Inc., still apply to the subject project with the following updated information.
2. Due to the anticipated volume of wastewater to be generated by the proposed project and from other planned developments in the area, the proposed project may have significant impacts on the District's sewerage system. Although there is no relief sewer scheduled for construction at this time, as additional flows are generated and the District's trunk sewer nears capacity, construction of a relief sewer will be scheduled, depending on the availability of relief project funding. Therefore, the availability of capacity within the District's sewerage system should be verified as the proposed project develops.
3. The Santa Clarita Valley Joint Sewerage System currently processes an average flow of 19 mgd.

If you have any questions, please contact the undersigned at (562) 699-7411, extension 2717.

Very truly yours,

James F. Stahl

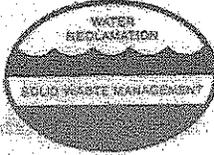
Ruth I. Frazen  
 Engineering Technician  
 Planning & Property Management Section

RIF:rf

Enclosures

c: M. Cabrera

490423.1



# COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

355 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

March 14, 2005

File No: 32-00.00-00

Ms. Jessica Douglas, Assistant Planner  
 Rincon Consultants, Inc.  
 790 East Santa Clara Street  
 Ventura, CA 93001

COPY

Dear Ms. Douglas:

### Tentative Tract Map No. 53933

This is in reply to your letter, which was received by the County Sanitation Districts of Los Angeles County (Districts) on March 9, 2005. We offer the following comments regarding sewerage service:

1. The 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. Copies of the Districts' Annexation Information and Processing Fees sheets are enclosed for your convenience.
2. The wastewater flow originating from the proposed project will discharge to a local sewer line, which is not maintained by the Districts, for conveyance to the Districts' Castaic Trunk Sewer, located in The Old Road just south of Romeo Canyon Road. This 15-inch diameter trunk sewer has a design capacity of 3.1 million gallons per day (mgd) and conveyed a peak flow of 1.7 mgd when last measured in 2003.
3. The Districts operate two water reclamation plants (WRPs), the Saugus WRP and the Valencia WRP, which 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). The SCVJSS has a design capacity of 28.1 mgd and currently processes an average flow of 18.8 mgd.
4. The expected average wastewater flow from the project site is 66,950 gallons per day. A copy of the Districts' average wastewater generation factors is enclosed for your information.
5. 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

Ms. Jessica Douglas

2

March 14, 2005

project on the present Sewerage System. Payment of a connection fee will be required before a permit to connect to the sewer is issued. A copy of the Connection Fee Information Sheet is enclosed for your convenience. For more specific information regarding the connection fee application procedure and fees, please contact the Connection Fee Counter at extension 2727.

6. In order for the Districts to conform to 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 that 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 that 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

*Handwritten signature: Ruth I. Frazen*  
Ruth I. Frazen

Engineering Technician  
Planning & Property Management Section

RIF:rf

Enclosures

c: M. Cabrera

471001.1

**INFORMATION SHEET FOR  
APPLICANTS REQUESTING ANNEXATION TO A  
COUNTY SANITATION DISTRICT OF LOS ANGELES COUNTY**

**A. ELIGIBILITY CRITERIA FOR ANNEXATION TO A COUNTY SANITATION DISTRICT OF LOS ANGELES COUNTY**

1. The property is contiguous to said County Sanitation District or, if not contiguous, may be drained by gravity to a trunk sewer of that District,
2. The property is not included in whole or in part in any other agency providing services similar to those of the said County Sanitation District, and
3. The property is to be benefited by its inclusion in the said County Sanitation District.

**B. HOW DO I INITIATE THE ANNEXATION APPLICATION PROCESS?**

1. WRITE TO: County Sanitation Districts of Los Angeles County  
P.O. Box 4998, Whittier, CA 90607  
Attn: Annexation Fee Program

The letter should contain the following information and support documentation about the property involved:

- a) Property location (street address, city, zip and Thomas Brothers map, page, grid)
- b) In case of a recorded single lot, include the County Assessor's map book-page-parcel map with the parcel highlighted.
- c) In case of a tract or parcel map, include a copy of the tentative or final map plus a closed-survey engineering traverse around the boundary to be annexed to the centerline of any public street.

CALL: County Sanitation Districts of Los Angeles County  
(562) 699-7411, Extension 2708  
7:00 a.m. through 4:30 p.m., Monday through Thursday  
7:00 a.m. through 3:30 p.m., Fridays, except holidays

2. Districts' staff will calculate the acreage involved and will provide the applicant with a quote of annexation fees to be paid. At this time, the applicant will also be provided with a "Request for Annexation" form along with necessary instructions.
3. An annexation application file will be opened upon submittal by applicant of all the required documents (refer to Section C) along with a check for the annexation fee made payable to:

County Sanitation Districts of Los Angeles County

**C. WHAT DOCUMENTS DO I NEED TO FILE?**

1. "Request for Annexation" Form (4 pages): All applicants must complete, in detail, and return the Request for Annexation form signed by the legal owner whose name appears on the current Los Angeles County assessment roll. See C5) for assistance in completing page 4 of this form.
2. Los Angeles County Local Agency Formation Commission Party Disclosure Form: All applicants must complete and return the Party Disclosure Form pursuant to the Local Agency Formation Commission Party Disclosure Form Information Sheet.
3. Annexation Fee payment as stated in the quotation letter. Cash will not be accepted.

4. **Copy of Grant Deed** (Applicants must submit a copy of the Grant Deed which includes the legal description. Disregard this request if the proposed project is a tract/parcel map.)
5. **California Environmental Quality Act (CEQA):** All applications are subject to CEQA. **If you are applying for a single-family home on septic tank, your project is exempt and the Notice of Exemption will be prepared by this office.** As required by LAFCO, all other applicants must provide twenty six (26) copies of the Initial Study, Final Negative Declaration, Final Mitigated Negative Declaration, Notice of Determination, and Mitigation Monitoring and Reporting Program approved by a city or County Regional Planning Commission, or five (5) copies each of the Final Environmental Impact Report (EIR) and the Notice of Determination approved by a city or County Regional Planning Commission, whichever is applicable
6. **Radius Map and Corresponding Mailing Labels for LAFCO:** All developers are required to submit a radius map within a 300-foot radius of the exterior boundaries of the project area and each parcel of land lying entirely or partially within a 300-foot radius. A set of mailing labels of those landowners that are within a 300-foot radius of the exterior boundaries of the subject area is also required. Provide a list of the Assessor's parcel number, name, and address of each landowner.
7. **Please Note:** The annexation fees and application will not be accepted until *all* of the required items have been submitted.

#### D. HOW MUCH DO I HAVE TO PAY?

The annexation fee consists of three processing fees. The **Annexation Processing Fees** table is attached. The Sanitation Districts, as the lead agency for the annexation, will collect the processing fees at time of annexation application. The three processing fees are for: 1) County Sanitation Districts of Los Angeles County (CSD), 2) Local Agency Formation Commission (LAFCO), and 3) State Board of Equalization (SBE). The LAFCO and SBE processing fees are subject to change without notice. If their fees increase before your application is processed by this office for submittal to these agencies, then you will be notified and the additional monies must be paid before the annexation procedure can be finalized.

#### E. HOW LONG DOES IT TAKE TO PROCESS MY ANNEXATION APPLICATION?

If the project is a recorded single family lot, Districts' staff will begin processing the annexation application as soon as the required forms are submitted and the annexation fees paid. Upon payment of the annexation fees, for all Sanitation Districts except 26 & 32, the applicant may pay the connection fees and proceed with the project.

If the project is a tract or parcel map, Districts' staff will begin processing the annexation application as soon as the required forms, annexation fees and a copy of the recorded tract/parcel map blue line are submitted. Upon payment of annexation fees, the applicant may have the original sewer map signed off. Also, for all Sanitation Districts except 26 & 32, the applicant may pay the connection fees. The annexation procedure cannot be completed until after receipt, in this office, of the recorded tract/parcel blue line map.

#### F. WHERE CAN I GET ADDITIONAL INFORMATION?

For additional information, please call:

County Sanitation Districts of Los Angeles County

(562) 699-7411, Extension 2708

7:00 a.m. through 4:30 p.m., Monday through Thursday

7:00 a.m. through 3:30 p.m., Fridays, except holidays

## ANNEXATION PROCESSING FEES FOR THE COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

COUNTY SANITATION DISTRICTS' PROCESSING FEE	ACREAGE			FEE
	0.0	to	1.5	\$800
	>1.5	to	5.0	\$1,075
	>5.0	to	20.0	\$215/Acre
	Over 20.0			\$4,300 Plus \$35/Additional Acre And Every Fraction Thereof
LOCAL AGENCY FORMATION COMMISSION FILING FEE <sup>1</sup>	ACREAGE			FEE
ANNEXATIONS AND DETACHMENTS	0.0	to	1.0	\$2,500
	>1.0	to	5.0	\$3,000
	>5.0	to	10.0	\$3,500
	>10.0	to	25.0	\$5,000
	>25.0	to	50.0	\$6,000
	>50.0	to	160.0	\$7,000
	160.0+ Acres			\$8,000
OTHER PROPOSALS	Special Reorganization			\$10,000
	Incorporation/Disincorporation/Consolidation			\$7,500
	District Formation			\$7,500
	District Dissolution/Consolidation/Merger			\$5,000
	Establishment of Subsidiary District			\$4,000
	Reorganizations			Basic Fee** + 20%
	Amend Existing Sphere of Influence for an Annexation			\$500
	Amend Existing Sphere of Influence for Action other than an Annexation			20% of Basic Fee
	Amend/Update Existing Sphere of Influence Without other Action			
	0.0	to	1.0	\$2,500
	>1.0	to	5.0	\$3,000
	>5.0	to	10.0	\$3,500
	>10.0	to	25.0	\$5,000
	>25.0	to	50.0	\$6,000
	>50.0	to	160.0	\$7,000
160.0+ Acres			\$7,000	
Reconsideration of LAFCO Determinations			50% of Basic Fee	
Special District Study			Actual Cost	
Out-of-Agency Service Agreements			\$2,000	
Petition Verification			Actual Cost	
Notice/Radius Map			Actual Cost	
State Controller Review			\$2,000 + Actual Cost	
*The "Basic Fee" is the filing fee charged for the underlying change of organization associated with the action indicated. If more than one change of organization is proposed, it is the higher fee.				
STATE BOARD OF EQUALIZATION <sup>2</sup>	ACREAGE			FEE
SINGLE AREA TRANSACTIONS	0.0	to	1.0	\$300
	1.0	to	5.0	\$350
	6.0	to	10.0	\$500
	11.0	to	20.0	\$800
	21.0	to	50.0	\$1,200
	51.0	to	100.0	\$1,500
	101.0	to	500.0	\$2,000
	501.0	to	1,000.0	\$2,500
	1,001.0	to	2,000.0	\$3,000
	2,001.0 and Above			\$3,500
OTHER PROPOSALS	Deferral of Fees			\$35
	Additional County per Transaction			\$250
	Consolidation per District or Zone			\$300
	Entire District Transaction			\$300
	Coterminous Transaction			\$300
Dissolution or Name Change			\$0	

<sup>1</sup>Most recent LAFCO fee increase effective June 1, 2003.

<sup>2</sup>Most recent SBE fee increase effective December 2, 1998.

TABLE 1  
LOADINGS FOR EACH CLASS OF LAND USE

<u>DESCRIPTION</u>	<u>UNIT OF MEASURE</u>	<u>FLOW</u> (Gallons per Day)	<u>COD</u> (Pounds per Day)	<u>SUSPENDED</u> <u>SOLIDS</u> (Pounds per Day)
<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
Restaurtant	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	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
	1000 ft <sup>2</sup>	100	0.43	0.23
Recreational Vehicle Park	No. of Spaces	55	0.34	0.14
Convalescent Home	Bed	125	0.54	0.28
Laundry	1000 ft <sup>2</sup>	3,825	16.40	8.61
Mortuary/Cemetery	1000 ft <sup>2</sup>	100	1.33	0.67
Health Spa, Gymnasium				
With Showers	1000 ft <sup>2</sup>	600	2.58	1.35
Without Showers	1000 ft <sup>2</sup>	300	1.29	0.68
Convention Center, Fairground, Racetrack, Sports Stadium/Arena	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

**INFORMATION SHEET FOR APPLICANTS  
PROPOSING TO CONNECT OR INCREASE THEIR DISCHARGE TO  
THE COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY SEWERAGE SYSTEM**

## THE PROGRAM

The County Sanitation Districts of Los Angeles County are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting to a Sanitation District's sewerage system. Your connection to a City or County sewer constitutes a connection to a Sanitation District's sewerage system as these sewers flow into a Sanitation District's system. The County Sanitation Districts of Los Angeles County provide for the conveyance, treatment, and disposal of your wastewater. **PAYMENT OF A CONNECTION FEE TO THE COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY WILL BE REQUIRED BEFORE A CITY OR THE COUNTY WILL ISSUE YOU A PERMIT TO CONNECT TO THE SEWER.**

### I. WHO IS REQUIRED TO PAY A CONNECTION FEE?

1. Anyone connecting to the sewerage system for the first time for any structure located on a parcel(s) of land within a County Sanitation District of Los Angeles County.
2. Anyone increasing the quantity of wastewater discharged due to the construction of additional dwelling units on or a change in land usage of a parcel already connected to the sewerage system.
3. Anyone increasing the improvement square footage of a commercial or institutional parcel by more than 25 percent.
4. Anyone increasing the quantity and/or strength of wastewater from an industrial parcel.
5. If you qualify for an Ad Valorem Tax or Demolition Credit, connection fee will be adjusted accordingly.

### II. HOW ARE THE CONNECTION FEES USED?

The connection fees are used to provide additional conveyance, treatment, and disposal facilities (capital facilities) which are made necessary by new users connecting to a Sanitation District's sewerage system or by existing users who significantly increase the quantity or strength of their wastewater discharge. The Connection Fee Program insures that all users pay their fair share for any necessary expansion of the system.

### III. HOW MUCH IS MY CONNECTION FEE?

Your connection fee can be determined from the Connection Fee Schedule specific to the Sanitation District in which your parcel(s) to be connected is located. A Sanitation District boundary map is attached to each corresponding Sanitation District Connection Fee Schedule. Your City or County sewer permitting office has copies of the Connection Fee Schedule(s) and Sanitation District boundary map(s) for your parcel(s). If you require verification of the Sanitation District in which your parcel is located, please call the Sanitation Districts' information number listed under Item IX below.

### IV. WHAT FORMS ARE REQUIRED\*?

The Connection Fee application package consists of the following:

1. Information Sheet for Applicants (this form)
2. Application for Sewer Connection

3. Connection Fee Schedule with Sanitation District Map (one schedule for each Sanitation District)

\*Additional forms are required for Industrial Dischargers.

#### V. WHAT DO I NEED TO FILE?

1. Completed Application Form
2. A complete set of architectural blueprints (not required for connecting one single family home)
3. Fee Payment (checks payable to: County Sanitation Districts of Los Angeles County)
4. Industrial applicants must file additional forms and follow the procedures as outlined in the application instructions

#### VI. WHERE DO I SUBMIT THE FORMS?

Residential, Commercial, and Institutional applicants should submit the above listed materials either by mail or in person to:

County Sanitation Districts of Los Angeles County  
 Connection Fee Program, Room 130  
 1955 Workman Mill Road  
 Whittier, CA 90601

Industrial applicants should submit the appropriate materials directly to the City or County office which will issue the sewer connection permit.

#### VII. HOW LONG DOES IT TAKE TO PROCESS MY APPLICATION?

Applications submitted by mail are generally processed and mailed within three working days of receipt. Applications brought in person are processed on the same day provided the application, supporting materials, and fee is satisfactory. Processing of large and/or complex projects may take longer.

#### VIII. HOW DO I OBTAIN MY SEWER PERMIT TO CONNECT?

*An approved Application for Sewer Connection will be returned to the applicant after all necessary documents for processing have been submitted.* Present this approved-stamped copy to the City or County Office issuing sewer connection permits for your area at the time you apply for actual sewer hookup.

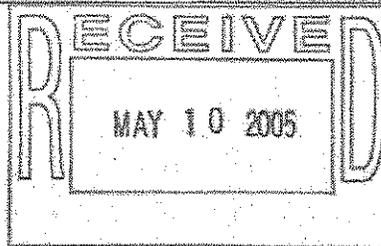
#### IX. HOW CAN I GET ADDITIONAL INFORMATION?

If you require assistance or need additional information, please call the County Sanitation Districts of Los Angeles County at (562) 699-7411, extension 2727.

#### X. WHAT ARE THE DISTRICTS' WORKING HOURS?

The Districts' offices are open between the hours of 7:00 a.m. and 4:00 p.m., Monday through Thursday, and between the hours of 7:00 a.m. and 3:00 p.m. on Friday, except holidays. When applying in person, applicants must be at the Connection Fee counter at least 30 minutes before closing time.

DEPARTMENT OF TRANSPORTATION  
 DISTRICT 7, REGIONAL PLANNING  
 IGR/CEQA BRANCH  
 100 SO. MAIN ST.  
 LOS ANGELES, CA 90012  
 PHONE (213) 897-6536  
 FAX (213) 897-1337  
 E-Mail: NersesYerjianian@dot.ca.gov



*Flex your power!  
 Be energy efficient!*

Ms. Christina Tran  
 Department of Regional Planning  
 County of Los Angeles  
 320 West Temple St.  
 Los Angeles CA. 90012

IGR/CEQA# 050506/NY  
 NOP/Lake View Estates Project  
 LA/5/59.0

May 9, 2005

Dear Ms. Tran:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Lake View Estates Project (70 SF Residential Units & 90,000 SF Commercial/Industrial) development.

Based on the information received, and to assist us in our efforts to completely evaluate and assess the impacts of this project on the State transportation system, a traffic study in advance of the DEIR should be prepared to analyze the following information:

Please reference the Department's **Traffic Impact Study Guideline** on the Internet at <http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf>

1. Presentations of assumptions and methods used to develop trip generation, trip distribution, choice of travel mode, and assignments of trips to State Route 5.
2. Consistency of project travel modeling with other regional and local modeling forecasts and with travel data. The IGR/CEQA office may use indices to check results. Differences or inconsistencies must be thoroughly explained.
3. Analysis of ADT, AM, and PM peak-hour volumes for both existing and future conditions in the affected area. This should include freeways, interchanges, and intersections, and all HOV facilities. Interchange Level of Service should be

Ms. Tran

May 9, 2005

specified (HCM2000 method requested). Utilization of transit lines and vehicles, and of all facilities, should be realistically estimated. Future conditions would include build-out of all projects (see next item) and any plan-horizon years.

4. Inclusion of all appropriate traffic volumes. Analysis should include traffic from the project, cumulative traffic generated from all specific approved developments in the area, and traffic growth other than from the project and developments. That is, include: existing + project + other projects + other growth.
5. Discussion of mitigation measures appropriate to alleviate anticipated traffic impacts. These mitigation discussions should include, but not be limited to, the following:
  - description of transportation infrastructure improvements
  - financial costs, funding sources and financing
  - sequence and scheduling considerations
  - implementation responsibilities, controls and monitoring
 Any mitigation involving transit, HOV, or TDM must be rigorously justified and its effects conservatively estimated. Improvements involving dedication of land or physical construction may be favorably considered.
6. Specification of developer's percent share of the cost, as well as a plan of realistic mitigation measures under the control of the developer. The following ratio should be estimated: Additional traffic volume due to project implementation is divided by the total increase in the traffic volume (see Appendix "B" of the Guidelines). That ratio would be the project equitable share responsibility.

We note for purposes of determining project share of costs, the number of trips from the project on each traveling segment or element is estimated in the context of forecasted traffic volumes which include build-out of all approved and not yet approved projects, and other sources of growth. Analytical methods such as select-zone travel forecast modeling might be used.

The Department as a commenting agency under CEQA has jurisdiction superceding that of MTA in identifying the freeway analysis needed for this project. Caltrans is responsible for obtaining measures that will off-set project vehicle trip generation that worsens Caltrans facilities and hence, it does not adhere to the CMP guide of 150 or more vehicle trips added before freeway analysis is needed. MTA's Congestion Management Program in acknowledging the Department's role, stipulates that Caltrans must be consulted to identify specific locations to be analyzed on the State Highway System. Therefore State Route(s) mentioned in item #1 and it's facilities must be analyzed per the Department's **Traffic Impact Study Guidelines**.

Ms. Tran

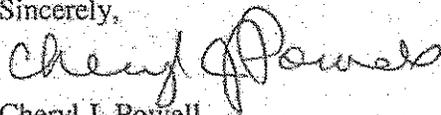
May 9, 2005

We look forward to reviewing the DEIR. We expect to receive a copy from the State Clearinghouse. However, to expedite the review process, you may send two copies in advance to the undersigned at the following address:

Cheryl J. Powell  
IGR/CEQA Branch Chief  
Caltrans District 07  
Regional Transportation Planning Office  
100 S. Main St., Los Angeles, CA 90012

If you have any questions regarding this response, please call the Project Engineer/Coordinator Mr. Yerjanian at (213) 897-6536 and refer to IGR/CEQA # 050506NY.

Sincerely,

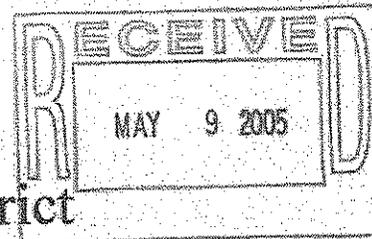


Cheryl J. Powell  
IGR/CEQA Branch Chief  
Regional Transportation Planning



## South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4182  
(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)



April 29, 2005

Mr. Daniel Fierros  
Impact Analysis Section  
Los Angeles County Dept. of Regional Planning  
320 West Temple Street  
Los Angeles, CA 90012

Dear Mr. Fierros:

### **Notice of Preparation of a Program Environmental Impact Report for Lake View Estates Project**

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The SCAQMD'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). Please send the SCAQMD a copy of the Draft EIR upon its completion.

#### **Air Quality Analysis**

The SCAQMD 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 SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. Alternatively, lead agency may wish to consider using the California Air Resources Board (CARB) approved URBEMIS 2002 Model. This model is available on the CARB Website at: [www.arb.ca.gov](http://www.arb.ca.gov).

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 calculated. 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 analysis. It is recommended that lead agencies for projects generating or attracting vehicular trips, especially heavy-duty diesel-fueled vehicles, perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis") can be found on the SCAQMD's CEQA webpages at the following internet address: [http://www.aqmd.gov/ceqa/handbook/mobile\\_toxic/diesel\\_analysis.doc](http://www.aqmd.gov/ceqa/handbook/mobile_toxic/diesel_analysis.doc). 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 that go beyond what is required by law 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 SCAQMD CEQA Air Quality Handbook for sample air quality mitigation measures. Additionally, SCAQMD'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

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's World Wide Web Homepage (<http://www.aqmd.gov>).

The SCAQMD is willing to work with the Lead Agency to ensure that project-related emissions are accurately identified, categorized, and evaluated. Please call Charles Blankson, Ph.D., Air Quality Specialist, CEQA Section, at (909) 396-3304 if you have any questions regarding this letter.

Sincerely,



Steve Smith, Ph.D.  
Program Supervisor, CEQA Section  
Planning, Rule Development and Area Sources

SS:CB:li

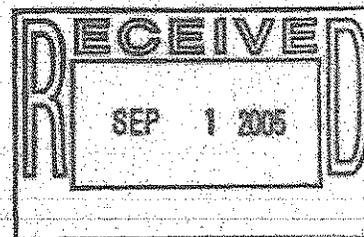
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Control Number



**COUNTY OF LOS ANGELES**

**FIRE DEPARTMENT**

1320 NORTH EASTERN AVENUE  
 LOS ANGELES, CALIFORNIA 90063-3294  
 (323) 890-4330



P. MICHAEL FREEMAN  
 FIRE CHIEF  
 FORESTER & FIRE WARDEN

August 30, 2005

Mr. Daniel Fierros  
 Department of Regional Planning  
 320 West Temple Street  
 Los Angeles, CA 90012

Dear Mr. Fierros:

**NOTICE OF PREPARATION, LAKE VIEW ESTATES PROJECT, COUNTY PROJECT NO. 03-304/TM53933 (CASTAIC), FFER #200500090**

The Notice of Preparation has been reviewed by the Planning Division, Land Development Unit, and Forestry Division of the County of Los Angeles Fire Department. The following are their comments:

**PLANNING DIVISION – 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 149, located at 31770 Ridge Route in Castaic, is the jurisdictional (closest) station for this property. The Initial Study erroneously states: "The project site is approximately seven miles from the nearest fire station, which is Station 76." Following are the closest response units, their distance, approximate response time, and staff:

EQUIPMENT	DISTANCE (a)/MILES	TIME (a)/MINUTES	STAFFING
Engine 149	1.3	4.0	3
Squad 149	"	"	2
Engine 76	4.5	6.9	4
Hazardous Materials Squad 76	"	"	5
Quint (b) 126	7.3	12.5	4

- (a) to the intersection of "B" Court and "C" Court.
- (b) a quint is a combination engine/ladder truck apparatus

**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	LAKELAND	NORWALK	ROLLING HILLS	SOUTH GATE
BALDWIN PARK	CERRITOS	EL MONTE	INDUSTRY	LANCASTER	PALMDALE	ROLLING HILLS ESTATES	TEMPLE CITY
BELL	CLAREMONT	GARDENA	INGLEWOOD	LAWDALE	PALOS VERDES ESTATES	ROSEMead	WALNUT
BELL GARDENS	COMMERCE	GLENDORA	IRVINDALE	LOMITA	PARAMOUNT	SAN DIMAS	WEST HOLLYWOOD
BELLFLOWER	COVINA	HAWAIIAN GARDENS	LA CANADA-FLINTRIDGE	LYNWOOD	PICO RIVERA	SANTA CLARITA	WESTLAKE VILLAGE
			LA HABRA				WHITTIER

Mr. Daniel Fierros  
August 30, 2005  
Page 2

**PROJECT IMPACT ON SERVICES:**

Any development will increase the service demand on existing resources. Although this development would be in reasonable proximity to an existing fire station, it would increase service demand on the existing fire protection resources in the general area. Additional manpower, equipment, and facilities are needed in the area now.

**SERVICE RESPONSIBILITY:**

The applicant shall participate in an appropriate financing mechanism, such as a developer fee or an in-kind consideration in lieu of developer fees, 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.

**LAND DEVELOPMENT UNIT -- GENERAL REQUIREMENTS:**

1. The proposed development may necessitate multiple ingress/egress access for the circulation of traffic, and emergency response issues.
2. The development of this project must comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows and fire hydrants.
3. 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 (VHHFSZ). 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.
4. 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.
5. 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. 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.
6. Access roads shall be maintained with a minimum of ten (10) feet of brush clearance on each side. Fire access roads shall have an unobstructed vertical clearance clear-to-sky with the exception of protected tree species. Protected tree species overhanging fire access roads shall be maintained to provide a vertical clearance of 13 feet, 6 inches.

Mr. Daniel Fierros  
August 30, 2005  
Page 3

7. The maximum allowable grade shall not exceed 15% except where topography makes it impractical to keep within such grade; in such cases, an absolute maximum of 20% will be allowed for up to 150 feet in distance. The average maximum allowed grade, including topographical difficulties, shall be no more than 17%. Grade breaks shall not exceed 10% in 10 feet.
8. When involved with a subdivision in unincorporated areas within the County of Los Angeles, 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.
9. Fire sprinkler systems are required in residential and commercial occupancies.

**COMMERCIAL/INDUSTRIAL:**

10. The development may require fire flows up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to a 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.
11. Fire hydrant spacing shall be 300 feet and shall meet the following requirements:
  - a. No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant.
  - b. No portion of a building shall exceed 400 feet via vehicular access from a properly spaced public fire hydrant.
  - c. Additional hydrants will be required if hydrant spacing exceeds specified distances.
  - d. When cul-de-sac depth exceeds 200 feet on a commercial street, hydrants shall be required at the corner and mid-block.
  - e. A cul-de-sac shall not be more than 500 feet in length, when serving land zoned for commercial use.
12. Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for all driveways exceeding 150 feet in length and at the end of all cul-de-sacs.
13. All on-site driveways/roadways shall provide a minimum unobstructed width of 28 feet, clear-to-sky. The on-site driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. The centerline of the access driveway shall be located parallel to, and within 30 feet of an exterior wall on one side of the proposed structure.
14. Driveway width for non-residential developments shall be increased when any of the following conditions will exist:

Mr. Daniel Fierros

August 30, 2005

Page 4

- a. Provide 34 feet in width, when parallel parking is allowed on one side of the access roadway/driveway. Preference is that such parking is not adjacent to the structure.
- b. Provide 42 feet in width, when parallel parking is allowed on each side of the access roadway/driveway.
- c. Any access way less than 34 feet in width shall be labeled "Fire Lane" on the final recording map, and final building plans.
- d. For streets or driveways with parking restrictions: The entrance to the street/driveway and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs stating "NO PARKING - FIRE LANE" in three-inch high letters. Driveway labeling is necessary to ensure access for Fire Department use.

#### SINGLE-FAMILY DWELLING:

15. Single-family detached homes shall require a minimum fire flow of 1,250 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration. Two-family dwelling units (duplexes) shall require a fire flow of 1,500 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration. When there are five or more units taking access on a single driveway, the minimum fire flow shall be increased to 1,500 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration.
16. Fire hydrant spacing shall be 600 feet and shall meet the following requirements:
  - a. No portion of lot frontage shall be more than 450 feet via vehicular access from a public fire hydrant.
  - b. No portion of a structure should be placed on a lot where it exceeds 750 feet via vehicular access from a properly spaced public fire hydrant.
  - c. When cul-de-sac depth exceeds 450 feet on a residential street, hydrants shall be required at the corner and mid-block.
  - d. Additional hydrants will be required if hydrant spacing exceeds specified distances.
17. 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.
18. Fire Department access shall provide a minimum unobstructed width of 28 feet, clear-to-sky and be within 150 feet of all portions of the exterior walls of the first story of any single unit. If exceeding 150 feet, provide 20 feet minimum paved width "Private Driveway/Fire Lane" clear-to-sky to within 150 feet of all portions of the exterior walls of the unit. Fire Lanes serving 3 or more units shall be increased to 26 feet.

Mr. Daniel Fierros  
August 30, 2005  
Page 5.

19. Streets or driveways within the development shall be provided with the following:
- a. Provide 36 feet in width on all streets where parking is allowed on both sides.
  - b. Provide 34 feet in width on cul-de-sacs up to 700 feet in length. This allows parking on both sides of the street.
  - c. Provide 36 feet in width on cul-de-sacs from 701 to 1,000 feet in length. This allows parking on both sides of the street.
  - d. For streets or driveways with parking restrictions: The entrance to the street/driveway and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs stating "NO PARKING - FIRE LANE" in three-inch high letters. Driveway labeling is necessary to ensure access for Fire Department use.
  - e. Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road.

**LIMITED ACCESS DEVICES (GATES ETC.):**

20. All access devices and gates shall meet the following requirements:
- a. Any single gated opening used for ingress and egress shall be a minimum of 26 feet in width, clear-to-sky.
  - b. Any divided gate opening (when each gate is used for a single direction of travel - i.e., ingress or egress) shall be a minimum width of 20 feet clear-to-sky.
  - c. Gates and/or control devices shall be positioned a minimum of 50 feet from a public right-of-way, and shall be provided with a turnaround having a minimum of 32 feet of turning radius. If an intercom system is used, the 50 feet shall be measured from the right-of-way to the intercom control device.
  - d. All limited access devices shall be of a type approved by the Fire Department.
  - e. Gate 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:**

21. All proposals for traffic calming measures (speed humps/bumps/cushions, traffic circles, roundabouts, etc.) shall be submitted to the Fire Department for review, prior to implementation.
22. Should any questions arise regarding subdivision, water systems, or access, please contact the County of Los Angeles Fire Department, Land Development Unit's EIR Specialist at (323) 890-4243.

Mr. Daniel Fierros  
August 30, 2005  
Page 6

**FORESTRY DIVISION - OTHER ENVIRONMENTAL CONCERNS:**

1. 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.
2. This project will require an EIR fee deposit of \$1,000 payable to the Los Angeles County Fire Department at the time the DEIR is submitted for review (see enclosed).

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,



DAVID R. LEININGER, CHIEF, FORESTRY DIVISION  
PREVENTION SERVICES BUREAU

DRL:lc

Enclosure



## LOS ANGELES COUNTY FIRE DEPARTMENT ENVIRONMENTAL REVIEW FEES & DEPOSITS

Effective September 11, 1991, the County of Los Angeles Fire Department is requiring a deposit fee whenever a review for impact is requested from the Fire Prevention, Forestry, and/or Planning Divisions as part of the environmental review process. The applicant shall pay a minimum deposit fee of \$1,000 from which actual costs shall be billed and deducted. Additional deposits may have to be made if actual review costs exceed 80% of deposited funds. A larger deposit may be made for more complex projects to ensure prompt continuation of environmental review efforts. All unused funds shall be refunded to the applicant.

All Environmental Review Deposits should be made payable and sent to:

Los Angeles County Fire Department  
P.O. Box 910901  
Commerce, CA 90091-0901  
Attn: Financial Management Division

If you have any questions regarding the Environmental Review Fee or Deposit amount, please call the Forestry Division at (323) 890-4330. If you have any questions regarding your Environmental Review Deposit status, please contact the Financial Management Division at (323) 838-2345.

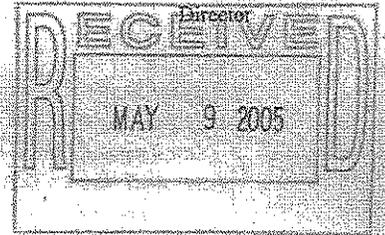


STATE OF CALIFORNIA  
 Governor's Office of Planning and Research  
 State Clearinghouse and Planning Unit



Arnold  
 Schwarzenegger  
 Governor

Sean Walsh  
 Director



Notice of Preparation

May 2, 2005

To: Reviewing Agencies

Re: Lake View Estates Project, Project No. 03-304, Tentative Tract Map 53933  
 SCH# 2005051009

Attached for your review and comment is the Notice of Preparation (NOP) for the Lake View Estates Project, Project No. 03-304, Tentative Tract Map 53933 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.

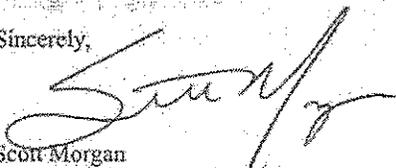
Please direct your comments to:

Daniel Fierros  
 Los Angeles County Department of Regional Planning  
 320 W. Temple Street  
 Los Angeles, CA 90012

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  
 Senior Planner, State Clearinghouse

Attachments  
 cc: Lead Agency

**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2005051009  
**Project Title** Lake View Estates Project, Project No. 03-304, Tentative Tract Map 53933  
**Lead Agency** Los Angeles County Department of Regional Planning

**Type** NOP Notice of Preparation  
**Description** This is an application to subdivide the subject property of existing four parcels into 70 single family lots, 3 industrial lots (i.e., 150,000 square feet), 3 open space lots, and 1 park lot. The project is requesting a Conditional Use Permit for development within Hillside Management area, a Zone Change from A-2-2 to M-1 for 8.16 acres and from A-2-2 to RPD-2.5 U/AC for 39.09 acres, and an Oak Tree Permit to remove 15 and to encroach upon 3 oak trees. Plan Amendment may be required pending Subdivision Committee review of the project. Site is currently vacant.

**Lead Agency Contact**

**Name** Daniel Fierros  
**Agency** Los Angeles County Department of Regional Planning  
**Phone** (213) 974-6461 **Fax**  
**email**  
**Address** 320 W. Temple Street  
**City** Los Angeles **State** CA **Zip** 90012

**Project Location**

**County** Los Angeles  
**City**  
**Region**  
**Cross Streets** Parker Road, The Old Road  
**Parcel No.** 2865-12-02  
**Township** 5N **Range** 25 **Section** **Base** SB

**Proximity to:**

**Highways** 5  
**Airports**  
**Railways**  
**Waterways**  
**Schools**  
**Land Use** Vacant/A-2-2/Non-urban, Low & Medium Density Residential

**Project Issues** Aesthetic/Visual; Air Quality; Archaeologic-Historic; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Noise; Public Services; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Traffic/Circulation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Landuse; Cumulative Effects

**Reviewing Agencies** Resources Agency; Department of Forestry and Fire Protection; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Game, Region 5; Department of Health Services; Native American Heritage Commission; California Highway Patrol; Caltrans, District 7; Air Resources Board, Major Industrial Projects; Regional Water Quality Control Board, Region 4

**Date Received** 05/02/2005 **Start of Review** 05/02/2005 **End of Review** 05/31/2005

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

County: Los Angeles

SCH# ZU000

- Resources Agency
- Resources Agency  
Nadell Gayou
- Dept. of Boating & Waterways  
David Johnson
- California Coastal Commission  
Elizabeth A. Fuchs
- Colorado River Board  
Gerald R. Zimmerman
- Dept. of Conservation  
Roseanne Taylor
- California Energy Commission  
Environmental Office
- Dept. of Forestry & Fire Protection  
Allen Robertson
- Office of Historic Preservation  
Wayne Donaldson
- Dept. of Parks & Recreation  
B. Noel Tighman  
Environmental Stewardship Section
- Reclamation Board  
DeeDee Jones
- Santa Monica Mountains Conservancy  
Paul Edelman
- S.F. Bay Conservation & Dev't. Comm.  
Steve McAdani
- Dept. of Water Resources  
Resources Agency  
Nadell Gayou
- Fish and Game
- Dept. of Fish & Game  
Scott Flint
- Environmental Services Division
- Fish & Game Region 1  
Donald Koch
- Fish & Game Region 2  
Banky Curtis

- Fish & Game Region 3  
Robert Floetke
- Fish & Game Region 4  
William Laudermilk
- Fish & Game Region 5  
Don Chadwick  
Habitat Conservation Program
- Fish & Game Region 6  
Gabrina Gatchel  
Habitat Conservation Program
- Fish & Game Region 6 I/M  
Tammy Allen  
Inyo/Mono, Habitat Conservation Program
- Dept. of Fish & Game M  
George Isaac  
Marine Region
- Other Departments
- Food & Agriculture  
Steve Shaffer  
Dept. of Food and Agriculture
- Dept. of General Services  
Public School Construction
- Dept. of General Services  
Robert Sleppy  
Environmental Services Section
- Dept. of Health Services  
Veronica Rametiz  
Dept. of Healthy/Drinking Water
- Independent Commissions/Boards
- Coachella Valley Mountains Conservancy
- Delta Protection Commission  
Debbi Eddy
- Office of Emergency Services  
Dennis Castillo
- Governor's Office of Planning & Research  
State Clearinghouse
- Native American Heritage Comm.  
Debbie Treadway

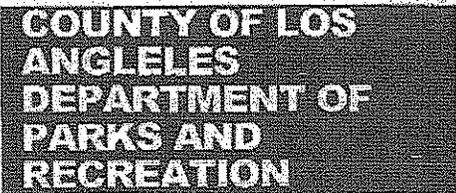
- Public Utilities Commission  
Ken Lewis
- San Gabriel & Lower LA Rivers Conservancy
- State Lands Commission  
Jean Sarino
- Tahoe Regional Planning Agency (TRPA)  
Cherry Jacques
- Business, Trans. & Housing
- Caltrans - Division of Aeronautics  
Sandy Hasnard
- Caltrans - Planning  
Terr Pencovic
- California Highway Patrol  
John Olejnik  
Office of Special Projects
- Housing & Community Development  
Lisa Nichols  
Housing Policy Division
- Dept. of Transportation
- Caltrans, District 1  
Mike Eagon
- Caltrans, District 2  
Don Anderson
- Caltrans, District 3  
Jeff Pukverman
- Caltrans, District 4  
Tim Sable
- Caltrans, District 5  
David Murray
- Caltrans, District 6  
Marc Birnbaum
- Caltrans, District 7  
Cheryl J. Powell

- Caltrans, District 8  
John Pagano
- Caltrans, District 9  
Gayle Rosander
- Caltrans, District 10  
Tom Dumas
- Caltrans, District 11  
Mario Orso
- Caltrans, District 12  
Bob Joseph
- Cal EPA
- Air Resources Board
- Airport Projects  
Jim Lemmer
- Transportation Projects  
Kurt Karperos
- Industrial Projects  
Mike Tolstrup
- California Integrated Waste Management Board  
Sue O'Leary
- State Water Resources Control Board  
Jim Hockenberry  
Division of Financial Assistance
- State Water Resources Control Board  
Student Intern, 401 Water Quality Certification Unit  
Division of Water Quality
- State Water Resources Control Board  
Steven Herrera  
Division of Water Rights
- Dept. of Toxic Substances Control  
CEQA Tracking Center
- Department of Pesticide Regulation

- Regional Water Quality Board (RWQCB)
- RWQCB 1  
Catherine Hudson  
North Coast Region (1)
- RWQCB 2  
Environmental Document Coordinator  
San Francisco Bay Region (2)
- RWQCB 3  
Central Coast Region (3)
- RWQCB 4  
Jonathan Bishop  
Los Angeles Region (4)
- RWQCB 5S  
Central Valley Region (5)
- RWQCB 5F  
Central Valley Region (5)  
Fresno Branch Office
- RWQCB 5R  
Central Valley Region (5)  
Redding Branch Office
- RWQCB 6  
Lahontan Region (6)
- RWQCB 6V  
Lahontan Region (6)  
Victorville Branch Office
- RWQCB 7  
Colorado River Basin Region (7)
- RWQCB 8  
Santa Ana Region (8)
- RWQCB 9  
San Diego Region (9)
- Other

Last Updated on 3/11/05

Bryan Moscardini  
510 South Vermont Avenue, Suite 201  
Los Angeles, CA 90020  
213 351-5133 / fax 213 639-3959



# Fax

<b>To:</b> Daniel Fierros	<b>From:</b> Bryan Moscardini
<b>Fax:</b> 213 626-0434 / 217 5108	<b>Pages:</b> 2, including this
<b>Phone:</b> 213 974-6461	<b>Date:</b> 6/1/2005
<b>Re:</b> Lakeview Estates TM 53933	<b>CC:</b>

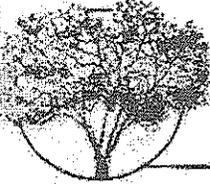
Urgent     For Review     Please Comment     Please Reply     Please Recycle

**Comments:**

Mr. Fierros,

Please find a copy of our Department's response letter to the above project. The original will follow via US Mail.

Bryan Moscardini  
Park Project Coordinator

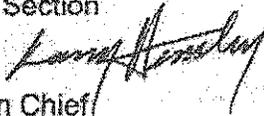


COUNTY OF LOS ANGELES  
DEPARTMENT OF PARKS AND RECREATION  
"Creating Community Through People, Parks and Programs"



June 1, 2005

TO: Daniel Fierros  
Department of Regional Planning  
Impact Analysis Section

FROM: Larry Hensley   
Planning Division Chief

SUBJECT: NOTICE OF PREPARATION  
LAKEVIEW ESTATES PROJECT  
COUNTY PROJECT NO.03-304 / TM 53933

The Department of Parks and Recreation has reviewed the Notice of Preparation for the proposed project. The proposed project requires new or expanded recreational facilities for future residents. Some of our specific concerns are as follows:

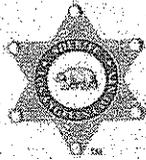
- The developer's Quimby obligation (0.67 acres or \$81,740 in-lieu fees) can be partially satisfied by the proposed 0.54 acre community park and supplemented by the payment of remaining in-lieu fees (\$15,860).
- Provide regional park facilities for the enjoyment of the residents in the Santa Clarita Valley area by meeting the standard of six (6) acres per thousand population\* as established in the County's General Plan. This could take several forms including but not limited to trails, trail heads, and additional facilities for the Santa Clarita Valley.

If you have any questions, please contact me at (213) 351-5098.

LH:bm(c:response-Lakeview Estates)

c: Parks and Recreation (James Barber, John Hunt, Joan Rupert,  
Bryan Moscardini)

\*Population (approximately 222) based on the anticipated growth relating to the number of projected dwelling units within the development.

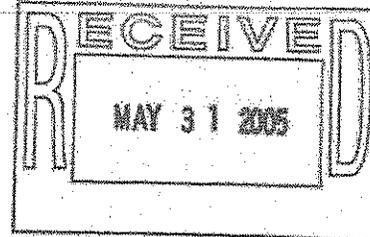


Leroy D. Baca, Sheriff

County of Los Angeles  
**Sheriff's Department Headquarters**  
 4700 Ramona Boulevard  
 Monterey Park, California 91754-2169



May 23, 2005



Daniel Fierros, Regional Planning Assistant II  
 Impact Analysis Section  
 Department of Regional Planning  
 County of Los Angeles  
 320 West Temple Street, Room 1348  
 Los Angeles, California 90012

Dear Mr. Fierros:

**REVIEW OF ENVIRONMENTAL DOCUMENT  
 NOTICE OF PREPARATION PROJECT NO. 03-304 / TM53933  
 LAKE VIEW ESTATES PROJECT**

This is in response to your letter dated April 27, 2005, requesting our Department's review of the above identified project. Our Department has completed its review and have several concerns. Attached is the letter from Patti A. Minutello, Captain of the Santa Clarita Sheriff's Station addressing these concerns. We have selected several mitigation measures and request them to be incorporated into the Final Environmental Impact Report.

We would like to emphasize the importance of the recommended widening of streets for ease of egress and ingress onto the project site in the event of an emergency.

Should you have any questions regarding this matter, please contact Mr. Mike Kameya, of my staff at (626) 300-3013.

Sincerely,

LEROY D. BACA, SHERIFF

Gary T. K. Tse, Director  
 Facilities Planning Bureau

*A Tradition of Service Since 1850*

Mr. Fierros

-2-

May 23, 2005

GTKT:MKmk/jh

Attachment/s

cc: Patti A. Minutello, Captain, Santa Clarita Sheriff's Station  
Roger Wallace, Sergeant, Santa Clarita Sheriff's Station  
Patrick Rissler, Deputy, Santa Clarita Sheriff's Station  
Victor Rampulla  
Adrienne Ferree  
Matt Rodriguez  
Mike Kameya  
Chrono  
File  
(EIR-NOP-LakeViewEstatesProj)



LEROY D. BACA, SHERIFF

County of Los Angeles  
Sheriff's Department Headquarters  
4700 Ramona Boulevard  
Monterey Park, California 91754-2169  
(661) 255-1121



May 5, 2005

Mr. Gary T.K. Tse, Director  
Facilities Planning Bureau  
1000 South Fremont Avenue  
Building A-9 East 5<sup>th</sup> Floor North  
Alhambra, California 91803

Dear Tse:

NOTICE OF PREPARATION  
LAKE VIEW ESTATES PROJECT  
TENTATIVE TRACT NO. 53933

The proposed Project consisting of 70 residential units located at west of The Old Road south of Parker Road in Castaic is within the jurisdiction of the Los Angeles County Sheriff's Department, Santa Clarita Valley Station, 23740 Magic Mountain Parkway, Valencia, California. The station is located approximately 6-8 miles from the project site.

It is anticipated that the non-emergent response time to a request for service would be approximately 30-40 minutes. The priority response time would be approximately 10-14 minutes and the response time under emergent circumstances would be approximately 8-10 minutes. All response times are approximations, only, and would be dependent on both the deployment of area radio cars and traffic conditions.

This station serves an area of 656 square miles, which is made up of the City of Santa Clarita and unincorporated County area between the Los Angeles City Limits to the South, the Kern County Line to the North and involving all area between the Ventura County Line to the West and the township of Aqua Dulce to the East. The population served by our station is approximately 200,000 residents.

*A Tradition of Service*

NOTICE OF PREPARATION  
LAKE VIEW ESTATES PROJECT, TENTATIVE TRACT NO. 53933

PAGE 2

Our ideal officer to population ratio is one deputy per 1,000 residents and with our current staffing of 171 sworn deputies currently assigned, our ratio is less than ideal at one deputy per every 1,169 residents. Assuming a residential density of 3.01 persons per dwelling unit, this proposed project will generate a population increase of 210. Based on the above, this project would not require an increase in deputy personnel.

Our primary concern is our ability to provide an adequate level of protection and service to all areas we police. Due to the rapidly expanding population of the Santa Clarita Valley and its record-setting home building, it is difficult to project the impact of this project on law enforcement.

Adding this project and other projects in progress, either proposed, approved or committed, it is certain they will all significantly strain our resources to the breaking point. While not directly a builder's matter, our ability to provide a sufficient level of law enforcement services must be considered when applications for new projects such as these are considered.

While we do not oppose this project, we are seriously concerned about our ability to adequately police this area. Without a commitment from the Board of Supervisors to provide sufficient funding, we may face a situation where we cannot provide timely emergency services.

After a close review of the street layout of the project we would recommend that "A" street right of way be widened to 66 feet all the way to "D" street versus the proposed reduction to 64 feet. In addition, the following cul-de-sacs "B", "C" and "E" be widened to 60 feet instead of the proposed 58 feet. We believe the above changes would ease ingress and egress for the project area, especially in the event of an emergency as emergent equipment is coming into the area. Also, in the event future development is proposed off of the above listed streets.

It is suggested, for the security and safety of the residents, that the following crime prevention measures be implemented during site and building layout design:

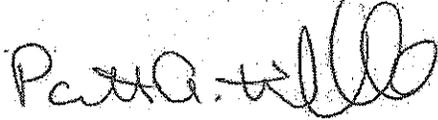
- Provide lighting in open areas and parking lots;
- Provide sufficient street lighting for the project streets;
- Ensure the visibility of doors and windows from the street;
- Ensure that the required building address numbers are lighted and readily apparent from the street for emergency response agencies;

NOTICE OF PREPARATION  
LAKE VIEW ESTATES PROJECT, TENTATIVE TRACT NO. 53933

Should you have further questions, please feel free to call me at (661) 255-1121 extension 5102, or Deputy Patrick Rissler at extension 5159.

Sincerely,

LERROY D. BACA, SHERIFF



Patti A. Minutello, Captain  
Santa Clarita Valley Station

PAM:par

## Appendix A

Items Related to  
Castaic Town Council / Community Input

- Meeting Agendas for 5 Castaic Public Meetings for Tract 53933
- Castaic Town Council Project Submission / Public Notification requirements
- Sample Correspondence / Chronology (Castaic Town Council does not routinely provide written responses to the developer)

**CASTAIC AREA TOWN COUNCIL**

Land use committee meeting agenda

Castaic Union School District Board Room  
28131 Livingston Ave.  
Castaic, California

**JUNE 7, 2004**

**I.**

**PRELIMINARY FUNCTION**

1.1 – CALL TO ORDER/ESTABLISHMENT ON QUORUM  
BART DAVIDSON – CHAIRMAN

1.2 – FLAG SALUTE

1.3 – APPROVAL OF MINUTES

**II.**

2.1 – Pam Publin - retirement

**III. OLD BUSINESS**

3.1 – N/A

**IV. NEW BUSINESS**

4.1 –BAHRAM SAFAVI- TRACK MAP53933  
70 HOME PROJECT OFF THE OLD ROAD

**V. GENERAL**

NEXT LAND USE MEETIN JUNE 7,2004

**CASTAIC AREA TOWN COUNCIL**  
Land use committee meeting agenda

Castaic Union School District Board Room  
28131 Livingston Ave.  
Castaic, California

**JULY 12, 2004**

**I.**

**PRELIMINARY FUNCTION**

1.1 - CALL TO ORDER/ESTABLISHMENT ON QUORUM  
BART DAVIDSON - CHAIRMAN

1.2 - FLAG SALUTE

1.3 - APPROVAL OF MINUTES

**II.**

2.1 - Pam Publin - retirement  
ANNOUNCEMENT OF OPEN SEAT ON THE COMMITTEE

**III. OLD BUSINESS**

3.1 - REPORT ON TABBAA PROPERTY  
CHARLES ANDERSON

**IV. NEW BUSINESS**

4.1 - CASTAIC COMMERCE CENTER  
PRESENTED BY P. A. RIVERSIDE DEVELOPMENT LLC  
PRE MEETING FOR CUP APPLICATION WITH THE  
COUNTY  
LOCATION - ACROSS FROM RALPHS ON OLD ROAD  
PETER LUND PRESENTING

4.2 - BAHRAM SAFAVI - TRACK MAP 53933  
70 HOME PROJECT OFF THE OLD ROAD

2<sup>nd</sup> PRSENTATION REFER TO YOUR LAST  
MONTHS PACKAGE FOR YOUR PAPERWORK ON  
THIS

---

**V. GENERAL**

**NEXT TOWN COUNCIL MEETING JULY 21,2004**  
**NEXT LANDUSE COMMITTEE MEETING AUGUST 2,2004**

**CASTAIC AREA TOWN COUNCIL  
-Meeting Agenda-**

---

Wednesday - July 21, 2004 - 6:30 p.m. to 10:00 p.m.  
28131 Livingston Avenue - Castaic Union School District Board Room

---

**I. PRELIMINARY FUNCTIONS**

- 1.1 - Call to Order / Establishment of Quorum
- 1.2 - Flag Salute / Invocation
- 1.3 - Approval of **June** Minutes
- 1.4 - Treasurer's Report - Lloyd Carder
- 1.5 - Awards and Recognition
  - a. Pam Duben
  - b. Tere Tucker
  - c. Cub Scout Troop 580
  - d. Boy Scout Troop 583

**II. SPECIAL REPORTS**

- 2.1 - Report from Los Angeles County Supervisor's Office
  - Millie Jones
- 2.2 - Report from Castaic Union School District Superintendent
  - Beverly Silsbee
- 2.3 - Status of Northlake Development
  - Sam Beltri, SunCal

**III. COMMITTEE REPORTS**

- 3.1 - Safety Committee - Patti Gustafsson
- 3.2 - Parks & Recreation Committee
  - a. Report on meeting of elected officials and L.A. County Parks Department
- 3.3 - Land Use Report(s) / Presentation(s) - Bart Davidson
  - a. Castaic Commerce Center
    - Presented by P A Riverside Development, LLC
    - Location: across from Ralphs on The Old Road
    - Peter Lund presenting

*Castaic Area Town Council Mtg Agenda 7/21/04*  
(Contd)

b. Bahram Safavi - Tract Map 53933  
70-home project off The Old Road

**IV. OLD BUSINESS**

- 4.1 - Castaic Animal Shelter
- 4.2 - Open Council seat in Region V
- 4.3 - Newhall County Water District meeting of July 15, 2004, regarding Northlake water assessment

**V. NEW BUSINESS**

- 5.1 - Castaic Lake 5K Run – May 1, 2005

**VI. GENERAL**

- 6.1 - Correspondence
- 6.2 - Open Discussion
- 6.3 - Announcements
  - a. Castaic Union School District Golf Tournament - October 15, 2004
  - b. Castaic Lake All Night Fishing Derby - September 24, 2004
- 6.4 - Land Use Meeting  
Monday, August 2, 2004 – 7:00 p.m.  
Castaic Union School District Board Room, 28131 Livingston Avenue
- 6.5 - Next Planning and Committee Night  
Tuesday, August 3, 2004 - 7:00 p.m.  
Castaic Chamber of Commerce Office, 31744 Castaic Road, Suite 102-B
- 6.6 - Next Town Hall Meeting  
Wednesday, August 18, 2004 - 6:30 p.m.  
Castaic Union School District Board Room, 28131 Livingston Avenue

**VII. ADJOURNMENT**

- 7.1 - Meeting Adjournment

**CASTAIC AREA TOWN COUNCIL**  
**LAND USE AND COMMUNITY STANDARDS COMMITTEE**  
Castaic Union School District Board Room - 28131 Livingston Ave. - Castaic, Ca

---

July 11, 2005

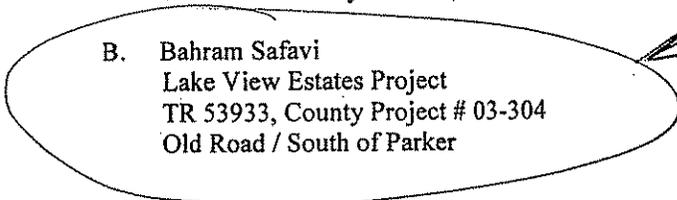
I. PRELIMINARY FUNCTION

- A. Call to order
- B. Flag salute
- C. Approval of June 6, 2005 minutes

II. OLD BUSINESS

III. NEW BUSINESS

- A. John Radich / RH Noville  
Request to add guest house on property  
PM 17713 Assessor 3247-054-005  
31315 Sloan Canyon Road, Castaic
- B. Bahram Safavi  
Lake View Estates Project  
TR 53933, County Project # 03-304  
Old Road / South of Parker



IV. GENERAL DISCUSSION

- A. Questions from the floor

Next Town Council "Town Hall Meeting": July 20, 2005

Next Land Use Committee Meeting: August 1, 2005

*If you would like to address the committee during the meeting, please fill out a Request to Speak form at the meeting, located on the back table by the entrance to the board room. Once completed, quietly bring the form to the front and give it to the meeting chairperson.*

For any questions about this meeting or the Land Use and Community Standards Committee, please contact: Robert Kelly Chair person (661) 295-1586 or robert.kelly@castaic.org

**CASTAIC AREA TOWN COUNCIL**  
**-Meeting Agenda-**

Wednesday – July 20, 2005 - 6:30 p.m.  
28131 Livingston Avenue - Castaic Union School District Board Room

**I. PRELIMINARY FUNCTIONS**

- 1.1 - Call to Order / Establishment of Quorum
- 1.2 - Flag Salute / Invocation
- 1.3 - Approval of June minutes
- 1.4 - Treasurer's Report
  - a. June
  - b. July
- 1.5 - Town Council Budget

**II. SPECIAL REPORTS**

- 2.1 - Report from Los Angeles County Supervisor's Office –  
Millie Jones
- 2.2 - L.A. County Fire Department

**III. COMMITTEE REPORTS**

- 3.1 - Safety Committee - Patti Gustafsson
- 3.2 - Parks & Recreation Committee - Paul Fancett
- 3.3 - Vision Committee - Joanne Carras
- 3.4 - Land Use Committee
  - a. John Radich  
Guest house and garages  
31315 Sloan Canyon  
PM17713
  - b. Bahram Safavi, Lakeview Estates  
The Old Road / South of Parker  
TR53933

**IV. OLD BUSINESS**

- 4.1 - Naming of new post office in Castaic
- 4.2 - Review of S/R-126 Commerce Center Drive project

V. **NEW BUSINESS**

5.1 - Castaic Area Town Council storage facility

VI. **GENERAL**

6.1 - Correspondence

6.2 - Open Discussion

6.3 - Announcements

a. Annexation meeting - **Wednesday, July 27, 2005 at 6:30 p.m., Castaic Middle School, 28900 Hillcrest Pkwy, Castaic**

- Castaic Area Town Council
- West Ranch Town Council
- County of Los Angeles
- City of Santa Clarita

b. Meeting of Castaic Non-profit organizations - **Wednesday, August 10, 2005 at 6:30 p.m., Marie Callendar's Restaurant, Magic Mountain Pkwy and The Old Road**

6.4 - Land Use Meeting - **Monday, August 1, 2005 – 6:30 p.m.**

Castaic Union School District Board Room  
(28131 Livingston Avenue)

6.5 - Next Planning and Committee Night - **Tuesday, August 2, 2005 - 7:00 p.m.**

Castaic Chamber of Commerce Office  
(31744 Castaic Road, Suite 102-B)

6.6 - Next Town Hall Meeting

**Wednesday, August 17, 2005 - 6:30 p.m.**

Castaic Union School District Board Room  
(28131 Livingston Avenue)

VII. **ADJOURNMENT**

Compliance With Castaic Town Council  
for the 5 Public  
Presentations



## Castaic Town Council

### Project Submission Guidelines

(Guidelines to submit projects for consideration  
to the Castaic Town Council Land Use Committee)

The following guidelines will expedite the consideration process. If there is not enough information submitted, or there was improper posting and notification, a project may be tabled without consideration, requiring rescheduling onto the land use calendar.

#### Submission for consideration

- 1 A Letter, Fax, or E-mail must be submitted to the land use chairperson prior to (or at) the town council meeting that precedes the land use meeting. *All agenda items must be announced at the prior town council meeting before any consideration can be made by the land use committee.*
- 2 The following items shall be presented to the land use chairperson at least **fourteen (14) calendar days before the land use meeting. (Seven (7) copies of each required)**
  - a) A copy of the Los Angeles County Department of Regional Planning Zoning and Subdivision Application. ([http://planning.co.la.ca.us/dr\\_p\\_app\\_forms.html](http://planning.co.la.ca.us/dr_p_app_forms.html)). If an application has not been started, please give Zoning, CUP, Parcel Map, or Assessor Parcel Number information.
  - b) Map showing project with nearest cross streets with boundaries of the subject property in relation to the adjoining public roads.
  - c) Map showing project details.
  - d) Color renderings if available.

#### Notification

Public Notifications

##### 3. LETTER:

Developer must send letter notifications to all property owners within a 500' radius at least **fourteen (14) calendar days before the land use meeting**. If no residential structures exist within the 500' radius, the residential notification will be outlined by the land use chair (min of 5 residences.) Copy of letter will need to be provided at the Land Use meeting. **PLEASE SEE #6 FOR CONTENT OF LETTER**

##### 4. LEGAL NOTICE:

Developer must also post notification in the daily newspapers such as, The Signal. Notify the paper at least **fourteen (14) calendar days before the land use meeting**. Also, notify the LA Times and the Daily News with a press release at the same time as The Signal. Copy of Legal Notice will need to be provided at the Land Use meeting. **PLEASE SEE #6 FOR CONTENT OF LEGAL NOTICE/PRESS RELEASE**



## Castaic Town Council

### Posting

#### 5. SIGN:

- a) Please post the sign(s) at least fourteen (14) calendar days before the land use meeting. The applicant shall post sign(s) according to the following specifications:
- b) **Size.** Dimension of sign(s) shall be four (4) feet in width and eight (8) feet in length;
- c) **Height.** Sign(s) shall be six (6) feet in height.
- d) **Materials.** Sign(s) shall be made of 1/2 plywood (minimum).
- e) **Location.** One sign shall be located on each public road frontage adjoining the proposed project, legible and accessible by foot from said public road(s). If the subject property is not visible from an existing public road, the sign-posting requirement will be directed by the land use chairperson.
- f) **Colors.** BLACK letters on YELLOW background.
- g) **Lettering:** Signs shall use block style lettering with four (4) inch major letters and two (2) inch minor letters.



#### 6. CONTENT:

- a) NOTICE OF HEARING with Los Angeles County case number, if applicable.
- b) Current zoning and proposed zoning.
- c) A description of the current proposal including design at build-out.
- e) The time and date of the CATC Land Use meeting where project is being submitted.
- e) A telephone number which may be called for information about the proposal.
- f) Location of the land use meeting (Castaic School District Office, 28131 Livingston Avenue, Castaic, CA 91355.)
- g) A white overlay in the public hearing box will be used to change the meeting date when project moves to the Castaic Town Council with the date, time and hearing place lettering in black.

7. **REMOVAL OF SIGN(S):** shall be removed from the subject property within one week following the Castaic Area Town Council meeting.



## **Castaic Town Council**

### **Possible Questions To Be Answered**

Please be prepared to answer questions based on the following list. Although this list is not complete, these are the types of questions that will be asked.

- |  |                                    |
|--|------------------------------------|
| a. Schools (impacts, funding & agreements) | j. Fencing (Styles and set backs)  |
| b. Water availability                      | k. Style of home/business          |
| c. Electricity availability                | l. Equestrian/Hiking Trails        |
| d. Sewage availability                     | m. Impact to environment           |
| e. Water runoff                            | n. Cost of Homes/Apartments/Condos |
| f. Amount of earth being moved/graded      | o. Types of street Lighting        |
| g. Oak Tree removal                        | p. Home Owner Association          |
| h. Community benefit                       | q. Assessments                     |
| i. Traffic Study                           | r. Noise                           |
|  | s. Lot sizes                       |
|  | t. Park info                       |

### **Next Step**

After the land use committee has voted to either, endorse, not endorse, or take no position on a certain development or land use, the secretary will write to the town council our official findings with recommendations and any necessary conditions. Any project brought before the land use committee will be put on the town council meeting agenda.

The developer must then update existing postings required by the land use committee to show the new (agreed to) council project presentation time and date at least seven (7) days before the town council meeting. Notification to local newspapers is also required for the town council meeting.

This process is an added format and does not abrogate the public notice requirement by the County of Los Angeles for their approval process.

*The Castaic Town Council Land Use Chair can be gotten on the council web site [www.Castaic.org](http://www.Castaic.org)*



Print - Close Window

Date: Fri, 2 Jul 2004 15:55:25 -0700 (PDT)  
 From: "s surna" <surna@yahoo.com>  
 Subject: Bahram's Presentation for 7/12/04 - TR53933  
 To: "Bart Davidson Castaic LUC Chair" <region4@castaic.org>

*Re: 7/12/2004 Presentation  
 To Land Use Committee*

To: Mr Bart Davidson, Castaic LUC Chair

Bart

We aim to address all your comments on our 6/7/04 presentation to the Land Use Committee in the upcoming LUC hearing of July 12th . The material we had sent you previously for the first hearing, together with the new Exhibits that we will bring with us should be sufficient for addressing your comments. The items we will be addressing includes the following:

1. Height of Back-cut at the Entry:  
Explored alternatives to reduce the height of the back-cut
2. Road Design / Traffic Safety:  
The design of the intersection at The Old Road
3. Frontage Improvement On The Old Road:  
Public Work's widening of The Old Road
4. Access:  
Fire Department conditions for approval
5. Significant Ridgeline:  
Exceptions / CSD
6. Minimum & Average Lot Size:  
Exceptions / CSD
7. Oak Trees:  
Location map

Please let me know if you have any questions / comments.

Thanks & happy 4th  
 Bahram

Bahram Safavi  
 310 293-3884

Do you Yahoo!?

**YAHOO! Mail** 

**Date:** Tue, 13 Jul 2004 08:56:49 -0700 (PDT)  
**From:** "s surna" <surna@yahoo.com>  
**Subject:** Request for Your Input / Bahram Safavi's Tr 53933  
**To:** region3@castaic.org

Print - Close Window

7/12/2004  
LUC Endorsement

To: Mr Lloyd Carder and Mr Steve Boldvich,  
Castaic Town Council

Request to  
discuss Project

Lloyd & Steve

(no response)

Our plan was approved by Castaic Landuse Committee and Bart (LUC Chair) tells me we are scheduled for the July 21, 04 Town Council meeting. I would very much like the chance to talk to you before the town council meeting regarding our project, to see if I can provide you with additional info and get your input.

Please let me know how I can contact you. The project info and my phone no. is as follwos; please feel free to call me any time:

Tract 53933, 70 Homes+3Commercial Lots, on The Old Rd just south of Parker.

Thanks  
Bahram

Bahram Safavi  
310 293-3884

Do you Yahoo!?  
New and Improved Yahoo! Mail - 100MB free storage!  
[http://promotions.yahoo.com/new\\_mail](http://promotions.yahoo.com/new_mail)



Print - Close Window

Date: Tue, 13 Jul 2004 08:46:10 -0700 (PDT)  
 From: "s surna" <surna@yahoo.com>  
 Subject: Request for your Input: Tr53933 / Bahram Safavi  
 To: region4@castaic.org

To: Mr Bob Lewis, Castaic Town Council

Bob

Our plan was approved yesterday (7/12/04) by Castaic Landuse Committee, and Bart (LUC Chair) tells me we are scheduled for the July 21, 04 Town Council meeting. I would very much like the chance to talk to you before the town council meeting, and as soon as possible, regarding our project, to see what you think of it and get your input.

Please let me know how I can contact you. The project info and my phone no. is as follwos; please feel free to call me any time:

Tract 53933, 70 Homes+3Commercial Lots, on The Old Rd just south of Parker.

Thanks  
 Bahram

Bahram Safavi  
 310 293-3884

---

Do you Yahoo!?  
 Take Yahoo! Mail with you! Get it on your mobile phone.  
<http://mobile.yahoo.com/mailedemo>

Request to  
discuss Project  
Prior to  
Public Meeting  
(No Response)

Yahoo! Mail - surna@yahoo.com

Print - Close Window

**YAHOO! MAIL**

Date: Fri, 22 Apr 2005 16:36:04 -0700 (PDT)  
 From: "Barton W Davidson" <daith2@sbcglobal.net>  
 Subject: Re: TR53933 / Lake View Estates - Chronology of Interaction with Castaic Town Council & LUC  
 To: "s surna" <surna@yahoo.com>

thank you this does help  
 bart

--- s surna <surna@yahoo.com> wrote:  
 > April 22, 2005

>  
 > To:  
 > Mr Bart Davidson  
 > Castaic Land Use Committee, Chair  
 >  
 > Re:  
 > TR 53933 / County Proj No 03-304  
 > Lake View Estates (70Homes + Commercial)

> Bart

> Thanks again for scheduling us for a second  
 > presentation to the Castaic Town Council on May 18th  
 > to update them on our Tract 53933.

> As your records will confirm, our plan was endorsed  
 > unanimously by Castaic's Land Use Committee and  
 > recommended to the Town Council (please see  
 > attached).

> We will ask for Town Council's endorsement once we  
 > have our EIR.

> As agreed, I am sending you attached a chronology of  
 > our interactions with the Town Council and related  
 > events to date. I am also mailing you the attached  
 > letter with copies of our plans (same as what you  
 > already have).

> The Notice of Preparation (NOP) for the EIR will be  
 > sent to you by LA County at the same time that it is  
 > sent to all interested parties / agencies.

> Thanks  
 > Bahram

> Bahram Safavi  
 > 310 293-3884

> Do You Yahoo!?  
 > Tired of spam? Yahoo! Mail has the best spam  
 > protection around  
 > <http://mail.yahoo.com>

*→ Presentation was  
 later cancelled by  
 Town Council*

Bahram Safavi

April 22, 2005

Mr. Bart Davidson  
 Land Use Committee Chair/ Council Member  
 Castaic Area Town Council  
 28658 Meadowgrass Drive  
 Castaic, CA 91384  
 661 702-0742 / 818 221-6200 x6524  
[Daiith2@earthlink.net](mailto:Daiith2@earthlink.net) / [region4@castaic.org](mailto:region4@castaic.org)

Re: Tract 53933 / Lake View Estates - Chronology

(Partial)  
 Chronology  
 To April 22, 05  
 LUC endorsement

Dear Bart

Thanks again for taking time to talk to me on the phone on 4/18. Thanks also for scheduling us for an update (no-vote-required) second presentation to the Castaic Town Council on May 18<sup>th</sup>, regarding our Tract 53933 - Lake View Estates- with 70 homes & 3 commercial lots, located on The Old Road 1/5<sup>th</sup> of a mile south of Parker. As your records will confirm, our plan was endorsed unanimously by Land Use Committee, but the Council was not in a position to vote at our first presentation. We will ask for Council's vote once we have our EIR. As agreed, I am sending you below a chronology of our presentations and related events to date:

1. 4/15/2004: Met with Bart Davidson: Walked the 47-acre property and reviewed/discussed the plan.
2. 6/7/2004: 1<sup>st</sup> Presentation to Castaic Land Use Committee (LUC): Taking a vote was made pending a follow-up presentation, which would provide clarifications including: CSD compliance items, possible reduction of the height of the cut at the entry, traffic safety of the intersection of our A-Street & The Old Road and related items including design of the left-turn lane, deceleration lane & frontage improvements.
3. 7/12/2004: 2<sup>nd</sup> Presentation to Castaic Land Use Committee (LUC): Updated plan showed the design details of the intersection of our A-Street with The Old Road, after meeting with Public Works' Traffic & Lighting Division and PW's Design Division regarding their planned widening for The Old Rd and road design requirements. The height of the entry cut was also reduced by changing the slope to 1½: 1. Further clarified and demonstrated that the plan was inline with all the provisions of the CSD, including ridgeline protection, lot size exemptions (due to clustering), etc. LUC voted unanimously endorsing and recommending the plan to the Town Council with the following 5 stipulations: (i) Widen "Lot C" (re-numbered as Lot 77) at the "neck" if feasible; (ii) Connect to any existing Horse trails; (iii) Vary garage setbacks (20 to 24ft); (iv) White rail fence accenting at the entry and at the Park; (v) Estimate B&T dues to be used for The Old Road frontage improvements and compare with County's cost if available.
4. 7/21/2004: 1<sup>st</sup> Presentation to Town Council: We believe Council's response on the plan concept was positive while it was evident that more background info was needed than could be provided in the available time. Before a vote could be taken, Council members needed clarification on various items including the following: The Old Rd widening / Bike lanes, use of B&T Fees, Traffic Safety, Stop Sign at Parker Rd-The Old Rd, Parker Fwy Ramp, type of Commercial use, Oak Trees and compliance with the CSD on ridgelines, park requirement, etc. It was understood that all concerns would be addressed if an EIR (Environmental Impact Report) was to be prepared. Therefore, our request for Council's formal endorsement was postponed.

P.O. Box 34898, Los Angeles, CA 90034; Ph. (310)293-3884; Email: [surna@yahoo.com](mailto:surna@yahoo.com)

*Bahram Safavi**April 22, 2005*

To: Mr. Bart Davidson, Castaic LUC Chair  
 Re: TR53933/ May 18, '05 Presentation to Town Council.

Page 2 of 2

Subsequent to the endorsement of our plan by Land Use Committee and the positive response of the Town Council on our plan concept, SR Consultants has since last July been processing the same plan for us thro the county. We have also committed to an Environmental Impact Report (EIR) for the LUC-endorsed plan, which has the County of Los Angeles as the Lead Agency, and Rincon Inc. as consultants. The EIR will include the study of various areas of concern including Traffic, Geotechnical Hazards, Flood Hazards, Fire, Noise, Water Quality, Air Quality, Biota, Oak Trees, Visual Qualities, Utilities, Land Use, Public Services, etc. The formal Notice of Preparation (NOP) for the EIR will be forwarded by the County to the Castaic Town Council at the same time that it will be distributed to all interested parties/ agencies. With this write-up I am also mailing you additional full-size copies of our plan (same as the one you already have) for distributing to the Council members. For their info, I am also copying this letter to all interested parties. Any questions that you, Council members or others have please do not hesitate to contact me.

Cordially

Bahram Safavi

Encl.:

TR53933 Plan (5 Full size Copies)  
 Vicinity & Site Location Map (10 Copies)

cc:

Bob Lewis, Castaic Town Council  
 Lloyd Carder, Castaic Town Council  
 Robert Kelly, Castaic Town Council  
 Patti Gustafsson, Castaic Town Council  
 Joanne Carras, Castaic Town Council  
 Paul Fancett, Castaic Town Council  
 Phil Hoff, Castaic Town Council  
 John Kunak, Castaic Town Council  
 Bruce Van Wetter, Castaic Town Council  
 Millie Jones, Senior Deputy, Board of Supervisors, 5<sup>th</sup> Dist.  
 Ellen Fitzgerald, Regional Planning, Land Div., Head  
 Karen Simmons, Regional Planning  
 Hsiao-ching Chen, Impact Analysis, DRP  
 Daniel Fierros, Impact Analysis, DRP  
 Patrick Arakawa, Traffic & Lighting Div, DPW  
 Marian Tadrous, Traffic & Lighting Div, DPW  
 Farhad Agahi, Design Division, DPW  
 Josephine Gutierrez, Design Division, DPW  
 Scott Schell, Associated Transportation Engineers  
 Mike Gialketsis, Rincon Consultants  
 Ron Druschen, SR Consultants

*P.O. Box 34898, Los Angeles, CA 90034; Ph. (310)293-3884; Email: [surna@yahoo.com](mailto:surna@yahoo.com)*

Yahoo! Mail - surna@yahoo.com

**YAHOO! MAIL**

**Date:** Wed, 4 May 2005 18:57:39 -0700 (PDT)  
**From:** "Barton W Davidson" <daith2@sbcglobal.net>  
**Subject:** Re: TR53933 / Lake View Estates - Chronology of Interaction with Castaic Town Council & LUC  
**To:** "s surna" <surna@yahoo.com>  
**CC:** "Bruce Van Wetter" <brucevw@msn.com>, "Phil Hof" <philhof2002@yahoo.com>, jnkunak@aol.com, "millie jones" <mijones@bos.co.la.cas.us>, lloyd@arcmachines.com, "Perkins/Lewis" <perklew@pacbell.net>, robert.kelly@warnerbros.com, bvanwetter@wlb.com, "Phil Hof" <philh@scvnet.com>

this is to inform you the castaic area town council has chosen not to review your project and has returned it to landuse committee for review

july 1 is the the next opening  
 would you like to be on the agenda  
 bart davidson  
 landuse  
 chairman

--- s surna <surna@yahoo.com> wrote:

> April 22, 2005  
 >  
 > To:  
 > Mr Bart Davidson  
 > Castaic Land Use Committee, Chair  
 >  
 > Re:  
 > TR 53933 / County Proj No 03-304  
 > Lake View Estates (70Homes + Commercial)  
 >  
 >  
 > Bart  
 >  
 > Thanks again for scheduling us for a second  
 > presentation to the Castaic Town Council on May 18th  
 > to update them on our Tract 53933.  
 >  
 > As your records will confirm, our plan was endorsed  
 > unanimously by Castaic's Land Use Committee and  
 > recommended to the Town Council (please see  
 > attached).  
 > We will ask for Town Council's endorsement once we  
 > have our EIR.  
 >  
 > As agreed, I am sending you attached a chronology of  
 > our interactions with the Town Council and related  
 > events to date. I am also mailing you the attached  
 > letter with copies of our plans (same as what you  
 > already have).  
 >  
 > The Notice of Preparation (NOP) for the EIR will be  
 > sent to you by LA County at the same time that it is  
 > sent to all interested parties / agencies.  
 >  
 > Thanks  
 > Bahram  
 >  
 > Bahram Safavi  
 > 310 293-3884  
 >  
 >  
 > Do You Yahoo!?

*Town Council presentation  
 needs repeat  
 presentation to LUC  
 (No reason provided.)*

Yahoo! Mail - surna@yahoo.com

Print - Close Window

# YAHOO! MAIL

**From:** "Lloyd Carder" <lloyd@arcmachines.com>  
**To:** "Phil Hof" <philhof2002@yahoo.com>, "Barton W Davidson" <daith2@sbcglobal.net>, "s surna" <surna@yahoo.com>  
**CC:** "Bruce Van Wetter" <brucevw@msn.com>, "Phil Hof" <philhof2002@yahoo.com>, jnkunak@aol.com, "millie jones" <mijones@bos.co.la.cas.us>, "Perkins/Lewis" <perklew@pacbell.net>, robert.kelly@warnerbros.com, bvanwetter@wlb.com, "Phil Hof" <philh@scvnet.com>  
**Subject:** Re: TR53933 / Lake View Estates - Chronology of Interaction with Castaic Town Council & LUC  
**Date:** Thu, 5 May 2005 06:08:48 -0700

I agree wasn't Bruce going to call and report back?  
 ?  
 Lloyd

*Town Council also unclear about reasons for repeat LUC presentation.*

--- Original Message ---

**From:** Phil Hof  
**To:** Barton W Davidson ; s surna  
**Cc:** Bruce Van Wetter ; Phil Hof ; jnkunak@aol.com ; millie jones ; lloyd@arcmachines.com ; Perkins/Lewis ; robert.kelly@warnerbros.com ; bvanwetter@wlb.com ; Phil Hof  
**Sent:** Wednesday, May 04, 2005 7:30 PM  
**Subject:** Re: TR53933 / Lake View Estates - Chronology of Interaction with Castaic Town Council & LUC

I'm confused--his email indicates we already approved it. Why is it going back to Land Use then?  
 Thanks,  
 -Phil

**Barton W Davidson** <daith2@sbcglobal.net> wrote:

this is to inform you the castaic area town council has choosen not to review your project and has returned it to landuse committe for review  
 july 1 is the the next opening  
 would you like to be on the agenda  
 bart davidson  
 landuse  
 chairman  
 --- s surna wrote:  
 > April 22, 2005  
 >  
 > To:  
 > Mr Bart Davidson  
 > Castaic Land Use Committee, Chair  
 >  
 > Re:  
 > TR 53933 / County Proj No 03-304  
 > Lake View Estates (70Homes + Commercial)  
 >  
 >  
 > Bart  
 >  
 > Thanks again for scheduling us for a second  
 > presentation to the Castaic Town Council on May 18th  
 > to update them on our Tract 53933.  
 >  
 > As your records will confirm, our plan was endorsed  
 > unanimously by Castaic's Land Use Committee and  
 > recommended to the Town Council (pll ease see  
 > attached).  
 > We will ask for Town Council's endorsement once we

Yahoo! Mail - surna@yahoo.com

- > have our EIR.
- >
- > As agreed, I am sending you attached a chronology of
- > our interactions with the Town Council and related
- > events to date. I am also mailing you the attached
- > letter with copies of our plans (same as what you
- > already have).
- >
- > The Notice of Preparation (NOP) for the EIR will be
- > sent to you by LA County at the same time that it is
- > sent to all interested parties / agencies.
- >
- > Thanks
- > Bahram
- >
- > Bahram Safavi
- > 310 293-3884
- >
- >
- > Do You Yahoo!?
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- > protection around
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---

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**YAHOO! MAIL****Date:** Mon, 20 Jun 2005 18:22:58 -0700 (PDT)**From:** "surna" <surna@yahoo.com>**Subject:** Re: Fwd: Bahram to Bart / TR53933: Lake View Estates - Duplicate**To:** BDavidson@pharmavite.net

**CC:** "Robert Kelly - Castaic LUC Chair" <region3@castaic.org>, "Bart Davidson Castaic LUC Chair" <region4@castaic.org>, "Board of Sup - Millie Jones" <MJJones@iacbos.org>, "Board of Sup - Paul Novak" <PNovak@iacbos.org>, "Hsiao-ching Chen IA DRP" <hchen@planning.co.la.ca.us>, "Daniel Fierros IA DRP" <dfierros@planning.co.la.ca.us>, "Castaic Region 5" <region5@castaic.org>, "Castaic Region 1" <region1@castaic.org>, "Castaic Rgion 2" <region2@castaic.org>, "Karen Simmons DRP" <ksimmons@planning.co.la.ca.us>, EFitzgerald@planning.co.la.ca.us

Re:TR 53933 /County Proj 03-304: 70Homes & 3  
Commercial Lots  
Location: The Old Rd, 0.25 miles South of Parker Rd

*TO: MR. Bart Davidson  
X-LUC Chair  
Summary / Chronology*

Bart

Thanks for your email. This is to let you know that we have received your confirmation, and that we are preparing for a repeat presentation to Castaic Land Use Committee (LUC) scheduled for July 11th, 2005 (6:30PM). We also note that we now have a new LUC Chair - Mr. Robert Kelly.

We thank you for all your input and coordination over the past 2 years while you were the LUC Chair and we look forward to working with the new Chair and with yourself in a new capacity. I will call you, and Robert at the contact phone number you given us (818-954-2256) to coordinate another site visit and provide any additional info/docs LUC needs. I am copying this message to update others involved in this project, and to the email address listed on Castaic Website for Robert Kelly ([region3@castaic.org](mailto:region3@castaic.org)), but please let us know if there is an additional email address for him that we should be using.

For the record, below I will recap some of the key events regarding our project - please also refer to the attached "Chronology" of our interaction with the Castaic Town Council, dated April 22, 05, copies of which we had previously sent to all members of the Castaic LUC / TC and other interested parties:

As you are aware Castaic LUC had, about one year ago in our second presentation on July 12, 2004, approved/endorsed our plan. As you also recall, subsequent to LUC approval we made an introductory presentation to the Castaic Town Council (July 21, 2004), in which you were present. As your records will show the Council basically asked us for more info, but the limitation of time allotted to our presentation did not allow us to fully respond to all questions; it was also clear that if we had an EIR the questions we were asked would be addressed. Since last July we have been processing the same plan through the county's Regional Planning and Public Works, and we also initiated an EIR.

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As you know, logically we had placed the processing of our project on hold until we could obtain LUC's input and then secure LUC's plan endorsement. We received LUC's input on our first presentation on June 7, 2004, and after incorporating the input in our plan, we secured the LUC's endorsement on July 12, '04; subsequently as I already mentioned we got the input from the Council on July 21, '04. We then went ahead with processing the same plan and also have been intensely busy with various in-depth studies included in a comprehensive EIR, which are all of course based on the same LUC-endorsed plan.

As you recall, in late March (2005) I contacted you to schedule an update presentation to the Town Council, which was at first tentatively scheduled for May 18, 2005. We had timed our request for a presentation in May so that we could also answer any questions on the Notice of Preparation (NOP) sent out to the Town Council by LA County for the project's EIR, and also have a chance to discuss Council's questions in light of the EIR and the related studies in progress. However, as we were preparing for our presentation you surprised us by informing me in early May, that our presentation to the Town Council was cancelled and that the Council would like us to instead make a repeat presentation to the Land Use Committee.

As I said before, we aim to comply with the Council's need for a repeat presentation to the LUC, and provide you with any additional info needed. Per your instructions we are also repeating another course of public notifications including a Notice of Hearing sign on property, advertising and letters to the neighbors.

However, as I also mentioned to you before, the reasons for this requested 3rd presentation to LUC remains unclear for us; I think you can understand that we are also concerned and somewhat shaken in our belief that the Town Council is as committed to following their own published process of evaluation and approval, as we ourselves have demonstrated to be. We are directed to make a repeat presentation to the LUC whereas we have already demonstrated we are in compliance with the CSD, answered fully all the questions the LUC panel had, and secured the LUC's endorsement last July. Furthermore, we have since last July committed to an extensive EIR process for our LUC-endorsed plan, specifically to further ensure we fully address any concerns the Council may have about our project.

If you, Robert or others have any questions or comments please email me and/or call us at 310-293-3884.

Thanks  
Bahram

Bahram Safavi  
P.O. Box 34898

[http://us.f320.mail.yahoo.com/ym/ShowLetter?box=Inbox&MsgId=1168\\_7905597\\_181764\\_2526\\_24834...](http://us.f320.mail.yahoo.com/ym/ShowLetter?box=Inbox&MsgId=1168_7905597_181764_2526_24834...) 6/20/2005

*Bahram Safavi*

June 22, 2005

Mr. Robert Kelly  
 Land Use Committee (LUC) Chair/ Council Member  
 Castaic Area Town Council  
 29873 Arroyo Oak Lane  
 Castaic, CA 91384  
 Phone: 661 295-1586; [RDKelly58@yahoo.com](mailto:RDKelly58@yahoo.com)

**Re: Presentation to LUC - Tract 53933 / LA County Proj No. 03-304; Lake View Estates**

Dear Mr. Kelly,

Thank you for confirming that we are scheduled for a repeat presentation to the Castaic Land Use Committee (LUC) on Monday July 11<sup>th</sup>, 2005 at 6:30PM. I understood you have new members on the LUC.

Per your request enclosed please find 8 additional copies of information package for the project, which is the same as the information you already have on file. As you requested we have also included copies of a prior email & the "Chronology" letter, which gives a summary of our interaction with the Castaic LUC and Town Council; this chronology in summary is as follows:

**Chronology**

April 15, 2004: Site Visit by Land Use Committee Chair, Bart Davidson  
 June 7, 2004 : 1<sup>st</sup> Presentation to Land Use Committee: Comments received & incorporated  
 July 12, 2004 : 2<sup>nd</sup> Presentation to Land Use Committee: Plan unanimously Endorsed by LUC  
 July 21, 2004 : Presentation to Town Council for info only: No voting; EIR would be helpful  
 August 2004 : Started EIR- related and other process based on the LUC-endorsed plan

As mentioned in our 6/20/05 email (attached), we have been given no official reason for Castaic Council's request to make a repeat presentation to the LUC, even though we have already secured LUC's endorsement. If you need additional information or a site visit please email me or call us at 310-293-3884.

Thank you

Bahram Safavi

**Encl.:**

4/22/05 "Chronology" & 6/20/05 Email (8 copies)  
 80-scale TR53933 Plan & Vicinity Map (8 Copies)  
 Zoning & Subdivision Application (8 copies)

**cc:**

Millie Jones, Senior Deputy, Board of Supervisors, 5<sup>th</sup> Dist.  
 Paul Novak, Planning Deputy, Board of Supervisors, 5<sup>th</sup> Dist.  
 Hsiao-ching Chen & Daniel Fierros: Impact Analysis, DRP

P.O. Box 34898, Los Angeles, CA 90034; Ph. (310)293-3884; Email: [surna@yahoo.com](mailto:surna@yahoo.com)

Yahoo! Mail - surna@yahoo.com

**YAHOO! MAIL**

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**Date:** Wed, 22 Jun 2005 16:59:17 -0700 (PDT)**From:** "s surna" <surna@yahoo.com>**Subject:** 7/11/05 Presentation to LUC; TR53933 / County Proj 03-304- Lake View Estates**To:** RDKelly58@yahoo.com**CC:** "Robert Kelly - Castaic LUC Chair" <region3@castaic.org>, "Board of Sup - Millie Jones" <MJJones@lacbos.org>, "Board of Sup - Paul Novak" <PNovak@lacbos.org>, "Karen Simmons DRP" <ksimmons@planning.co.la.ca.us>, "Daniel Fierros IA DRP" <dfierros@planning.co.la.ca.us>, "Hsiao-ching Chen IA DRP" <hchen@planning.co.la.ca.us>**To:** Mr. Robert Kelly, Castaic LUC Chair

Robert

Thank you for calling me and confirming today that we are scheduled for a repeat (3rd) presentation to the Castaic Land Use Committee (LUC) on Monday July 11th, 2005 at 6:30PM. I understood you are the new Chair and we have new members on the LUC.

Per your request we are sending 8 copies of a project information package to your address below (cover page attached). If the address we are using for you is incorrect please let me know and dont forget to also let us know when you would like a site visit:

29873 Arroyo Oak Lane  
Castaic, CA 91384  
Phone: 661 295-1586

Thank you

Bahram

Bahram Safavi  
310-293-3884

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**Attachments**

Files:

 Cstc\_CSD\_7\_11\_05\_3rd\_LUC\_Presentation\_6\_22\_05.doc (41k) [View]

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# YAHOO! MAIL

Date: Wed, 13 Jul 2005 12:31:45 -0700 (PDT)

From: "s surna" <surna@yahoo.com>

Subject: Re: 7/11/05 Presentation to LUC; TR53933 / County Proj 03-304- Lake view estates

To: RDKelly58@yahoo.com

CC: "Robert Kelly - Castaic LUC Chair" <region3@castaic.org>, "Board of Sup - Millie Jones" <MJJones@lacbos.org>, "Board of Sup - Paul Novak" <PNovak@lacbos.org>, "Karen Simmons DRP" <ksimmons@planning.co.la.ca.us>, "Daniel Fierros IA DRP" <dfierros@planning.co.la.ca.us>, "Hsiao-ching Chen IA DRP" <hchen@planning.co.la.ca.us>, "Bahram" <surna@yahoo.com>

To: Robert Kelly, LUC Chair  
Re: TR53933; County Proj. No.: 03-304

Robert

Our thanks to you and all the Castaic Land Use Committee (LUC) members for renewing LUC's endorsement of our plan with a unanimous vote on the 7/11/05 hearing and for allowing us the time to make a presentation and update you on our plan processing.

As we discussed in the hearing our plan has not changed since it was endorsed unanimously by LUC almost exactly one year ago (7/12/04), and for the past year we have been busy processing the same plan and doing an EIR.

I understood the LUC hearing recommendations were as follows - and please correct me if I am wrong:  
1) The LUC endorsement/approval of our TR53933 plan as submitted was renewed;  
2) LUC recommends that the plan be forwarded to Castaic Town Council (TC) for their review and approval, with recommendations that the developer addresses the site drainage and wherever possible provide for additional off-street parking (for RVs and cars).

If possible please let us have a copy of LUC's endorsement / recommendations and your own comments in writing.

Thankyou also for scheduling us for an update presentation at TC's next public hearing on July 20, 05. We plan to also give the council a follow up presentation at a later date asking for their formal approval after we have completed our draft EIR.

Thanks again  
Bahram

Bahram Safavi  
310 293-3884

--- s surna <surna@yahoo.com> wrote:

> To: Mr. Robert Kelly, Castaic LUC Chair

[http://us.f320.mail.yahoo.com/vm/ShowLetter?box=Inbox&MsgId=7293\\_4717372\\_230134\\_2293\\_1246...](http://us.f320.mail.yahoo.com/vm/ShowLetter?box=Inbox&MsgId=7293_4717372_230134_2293_1246...) 7/13/2005

7/11/05  
LUC Renewed  
endorsement of  
TR 53933 Plan  
(previously endorsed 7/12/04)

1<sup>st</sup> Endorsed 7/12/04  
Renewed Endors. 7/11/05

Yahoo! Mail - surna@yahoo.com

>  
> Robert  
>  
> Thank you for calling me and confirming today that .  
> we  
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> Castaic, CA 91384  
> Phone: 661 295-1586  
>  
> Thank you  
>  
> Bahram  
>  
> Bahram Safavi  
> 310-293-3884  
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# YAHOO! MAIL

Date: Fri, 22 Jul 2005 12:54:21 -0700 (PDT)

From: "s surna" <surna@yahoo.com>

Subject: RESPONSE TO TOWN COUNCIL; Re: 7-20-05 presentation - Lake View Estates: Tract 53933

To: "Robert Kelly - Castaic LUC Chair" <rdkelly58@yahoo.com>, "Robert Kelly - Castaic LUC Chair" <region3@castaic.org>, "Castaic Region 1" <region1@castaic.org>, "Castaic Rgion 2" <region2@castaic.org>, "Castaic Region 4" <region4@castaic.org>, "Castaic Region 5" <region5@castaic.org>, "Board of Sup - Millie Jones" <MJJones@lacbos.org>, "Board of Sup - Paul Novak" <PNovak@lacbos.org>, "Hsiao-ching Chen IA DRP" <hchen@planning.co.la.ca.us>, "Daniel Fierros IA DRP" <dfierros@planning.co.la.ca.us>, "Bob Lewis Castaic TC, President" <perklew@pacbell.net>, "Ellen Fitzgerald - DRP" <efitzgerald@planning.co.la.ca.us>, "Karen Simmons DRP" <ksimmons@planning.co.la.ca.us>, "Bart Davidson - LUC" <bdavidson@pharmavite.net>, "Bart Davidson" <daith2@earthlink.net>, dkoutnik@planning.co.la.ca.us

CC: "Bahram" <surna@yahoo.com>

To: Castaic Town Council Members & Robert Kelly, LUC Chair

Re: Lake View Estates / Tract 53933

With our sincere thanks to all the Castaic Town Council members for the opportunity to make a presentation on July 20, 2005, and for their input and comments, this is to serve as a summary response to some of the questions raised by the Council members, for which there was insufficient time to respond to in the meeting - please see the attached file for the resonse.

We also request from the Impact Analysis Section of DRP to allow late comments on the NOP from the Castaic Town Council and Board of Supervisor's Millie Jones / Paul Novak.

Thank You  
Bahram Safavi  
310 293-3884

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### Attachments

Files:

 Cstc\_2nd\_TC\_Presentation\_Response\_7\_20\_05.doc (36k) [View]

*Written  
Response to  
Town Council  
Questions / TOPICS  
of Interest  
re: 7/20/05  
Public Mtg.*

July 22, 2005  
Bahram Safavi

## RESPONSE TO CASTAIC TOWN COUNCIL

### Tract 53933; Lake View Estates

- An imaginative curvilinear land design, preserving the natural setting and fully in line with the CSD
- 70 homes, 3 commercial lots, a park site & open spaces on a 47-acre site

With our sincere thanks to the Castaic Town Council for the opportunity to make a presentation on July 20, 2005, and for their input and comments, this is to serve as a summary response to some of the questions raised by the Council members, for which there was insufficient time to respond to in the meeting:

### Status with the Department of Regional Planning (DRP):

1. EIR-related studies in progress (Impact Analysis Section), including Geology & Traffic: CSD items part of the EIR. (It was necessary to clear / connect access roads on site for geo work – for which we got a grading permit from the Building & Safety, Public Works).
2. As we confirmed by contacting Ms. Ellen Fitzgerald, Subdivision Head, yesterday (7/21/05): We already have all the Subdivision Committee's comments on our plan to which we need to formally respond. To date we have informally discussed various aspects of the plan with Ellen, including CSD compliance requirements, to ensure we remain on the right tract. In timing our formal response to the Subdivision Committee, we need to coordinate with the completion of the EIR-related studies – will be happy to explain further if needed.

### NOP (Notice of Preparation)

1. We are informing the County to expect late comments for the NOP from the Castaic Town Council and Millie Jones (Board of Sup.), who stated had not received copies of the NOP. The NOP comment period was in early May to early June 2005.
2. This is to confirm that the Castaic Town Council, Millie Jones & Paul Novak were all on the county list of recipients for the NOP and copies of the NOP was mailed on 4/27/05 (certified mail).
3. An additional copy of NOP is mailed to Ms. Jones per her request. We will be happy to also provide the Council with an additional copy if needed.
4. The NOP has also been available on line: [http://planning.co.la.ca.us/TR53933\\_NOP.pdf](http://planning.co.la.ca.us/TR53933_NOP.pdf)

### CSD Requirements

1. We have been aware of the CSD long before its recent approval by the Board of Supervisors.
2. Our plan has incorporated the CSD requirements
3. The EIR for Tract 53933 will include addressing the CSD requirements
4. We will follow any specific procedure suggested by the DRP to demonstrate CSD compliance
5. We will make a presentation to the Town Council after completion of the EIR, to further demonstrate compliance with CSD-related items, including: Ridgelines, Lot Sizes, Park-site, etc

Bahram Safavi, P. O. Box 34898, Los Angeles, CA 90034; (310)293-3884; [surna@yahoo.com](mailto:surna@yahoo.com)

July 22, 2005  
Bahram Safavi

RESPONSE TO CASTAIC TOWN COUNCIL

(Contd.)

Oak Trees

1. An Oak Tree Survey for TR 53933 by an arborist indicates: 28 oak trees; 10 removed & none encroached.
2. Initially, our Subdivision Application had indicated 27 oak trees; 15 oaks removed and 3 encroached based on a conservative estimate.

Commercial Element

1. County has indicated a preference for M1-DP in place of the proposed M1 zoning
2. The commercial lots are intended for office use
3. We have kept in mind a use which is very compatible with the residential element

## **Appendix B**

---

*Geotechnical Reports and Drainage Concept* □  
*Hydrology Study* □ *SUSMP Report*

---

*J Byer Group Inc, Geotechnical Report*

THE J. BYER GROUP, INC.

A GEOTECHNICAL CONSULTING FIRM

1461 E. CHEVY CHASE DR. #200, GLENDALE, CA 91206

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GEOLOGIC AND SOILS ENGINEERING EXPLORATION

TENTATIVE TRACT 53933

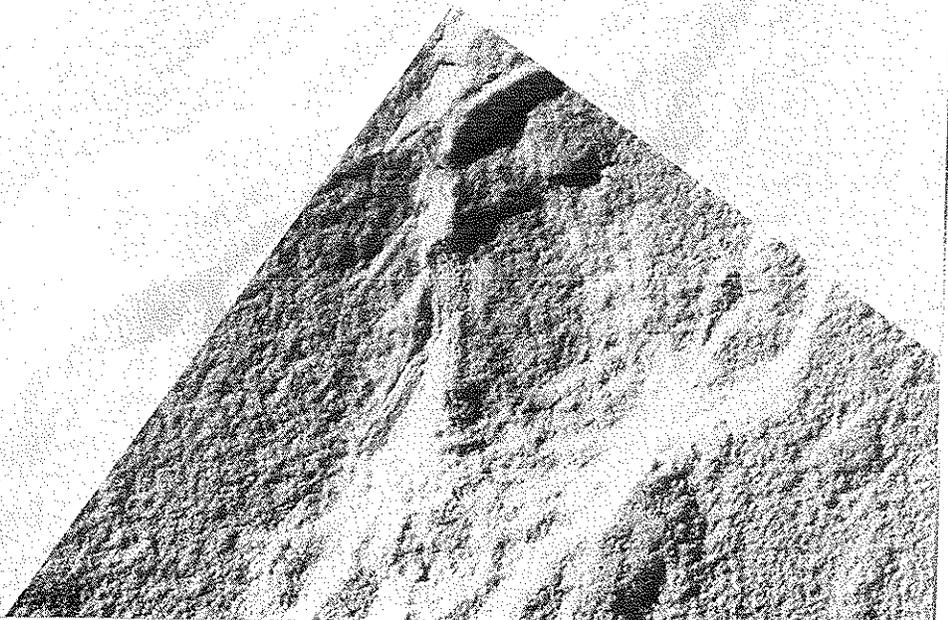
THE OLD ROAD

CASTAIC, CALIFORNIA

FOR MR. BAHRAM SAFAVI

THE J. BYER GROUP, INC. PROJECT NUMBER JB 20122-B

AUGUST 29, 2005



GEOLOGIC AND SOILS ENGINEERING EXPLORATION  
TENTATIVE TRACT 53933  
THE OLD ROAD  
CASTAIC, CALIFORNIA  
FOR MR. BAHRAM SAFAVI  
THE J. BYER GROUP, INC. PROJECT NUMBER JB 20122-B  
AUGUST 29, 2005

INTRODUCTION

This report has been prepared per our signed Agreement dated April 25, 2005 and summarizes findings of The J. Byer Group, Inc. geologic and soils engineering exploration performed on the site. The purpose of this study is to evaluate the nature, distribution, engineering properties, relative stability, and geologic structure of the earth materials underlying the site with respect to the development of Tentative Tract 53933.

INTENT

It is the intent of this report to assist in the design and completion of the proposed project. The recommendations are intended to reduce geotechnical risks affecting the project. The professional opinions and advice presented in this report are based upon commonly accepted standards and are subject to the general conditions described in the NOTICE section of this report.

## EXPLORATION

The scope of the field exploration was determined from our initial site visit and consultation with Mr. Safavi and SR Consultants. The preliminary plans prepared by SR Consultants, dated September 30, 2003, were considered prior to beginning work on this project. Exploration was conducted using techniques normally applied to this type of project in this setting. This report is limited to the area of the exploration and the proposed project as shown on the enclosed Geologic Map and cross sections. Conditions affecting portions of the property outside the area explored are beyond the scope of this report.

Exploration was conducted on May 12 and 13, July 18, and August 1, 2005 with the aid of a track-mounted backhoe, hollow stem auger drill rig, and a cone penetrometer testing rig. The exploration sites were accessed with the use of a D-5 track-mounted dozer. A water truck was used for dust control. The exploration included excavating seven trenches, drilling 10 borings and two cone penetrometer soundings to a maximum depth of 40 feet. Samples of the earth materials were obtained from the borings at frequent intervals and delivered to the soils engineering laboratory for testing and analysis. Downhole observation of the earth materials was performed in the trenches. Exposures of earth materials were geologically mapped.

Office tasks included laboratory testing of selected soil samples, review of previously prepared reports for the adjacent properties, preparation of five geologic cross sections, preparation of the Geologic Map, liquefaction analysis, and slope stability calculations. The earth materials exposed in the trenches and borings are described on the enclosed Trench Diagrams and Log of Borings. Appendix I contains a discussion of the laboratory testing procedures and results.

The proposed project, surface geologic conditions, and the locations of the trenches and borings are shown on the Geologic Map. Subsurface distribution of the earth materials, projected geologic structure, and the proposed grading are shown on Sections A, B, C, D, and E.

PRIOR WORK

The following reports were provided to The J. Byer Group by the client:

*Geologic Report on Feasibility of Residential Development, MB 2865, Page 12, Parcels 902 and 904, Castaic California, by Allen E. Seward Engineering Geology Inc., dated November 4, 1981;*

*Feasibility Soils and Geologic Investigation, Tentative Tract 34365, The Old Road Near Parker Road, Castaic, California, by Triad Foundation Engineering Inc., Dated September 10, 1982;*

*Preliminary Geotechnical Investigation and Fault Rupture Hazard Study, Proposed Condominium Tract 46798, County of Los Angeles, Castaic, California, by Leighton & Associates, Inc., dated April 10, 1989;*

*Preliminary Geotechnical Evaluation, 40 Acre Site, Castaic Area, County of Los Angeles, by Leighton & Associates, Inc., dated January 31, 1992; and*

*Preliminary Geologic and Soils Engineering Investigation, Grading Plan Review, Tract 46798, The Old Road, Castaic, California, by GeoConcepts, Inc., dated June 23, 2004.*

The data contained in these reports was reviewed and considered as part of our work on this project.

In 1989, Leighton & Associates conducted a geotechnical investigation and fault rupture hazard study for Tract 46798 which is south and adjacent to the subject parcel. Tract 46798 was approved by the County of Los Angeles. The Leighton & Associates report included exploration trenches and borings on the southern edge of the subject property. Pertinent exploration by Leighton & Associates is shown on the enclosed Geologic Map and described in the enclosed trench and boring logs (LA-T1, LA-T5, LA-T8, and LA-B4). The J. Byer Group accepts geologic/geotechnical responsibility for the use of the Leighton & Associates data.

### PROPOSED DEVELOPMENT

Information concerning the proposed project was provided by the client and SR Consultants. The preliminary plan prepared by SR Consultants, dated September 30, 2003, was a guide for the field exploration and the preparation of this report. It is proposed to subdivide the parcel into 77 lots for single-family residential use. The entrance to the subdivision will be accessed via "A" Street on the northeast portion of the parcel from The Old Road. Retaining walls, up to 10 feet high, will be used to increase level area. Grading will be performed during the development of Tract 53933 and will consist of conventional removals, cut, and fill operations to create level pads for residences and streets. Cut slopes are programmed at a 1½:1 and 2:1 gradient and will be up to 160 feet high. Fill slopes are programmed at a 2:1 gradient up to 100 feet high. Formal plans have not been prepared and await the conclusions and recommendations of this report.

### SITE DESCRIPTION

The subject property consists of an undeveloped, 47 acre hillside parcel in the Castaic section of the County of Los Angeles, California. It is located south of Castaic Lake, west of the confluence of Castaic Valley and Charlie Canyon, west of the Golden State (5) Freeway, and approximately one mile south of the Lake Hughes Road freeway exit. The surrounding area to the northwest has been developed with single family homes. A construction and materials yard is present east of the subject project. The Castaic Hill Oil Fields are west of the site.

Past grading on the northeast portion of the site has consisted of creating cut slopes associated with the construction of The Old Road. Physical relief is about 350 feet with variable slope gradients. The site consists of narrow canyons, steep slopes, and narrow ridge lines.

Vegetation on the site consists of an assemblage of native chaparral. Surface drainage is by sheetflow runoff down the contours of the land. The two main canyons on the east portion of the site direct surface water to the east, toward The Old Road.

### GROUNDWATER

No groundwater was encountered during exploration to a maximum depth of 40 feet. The enclosed Historic High Ground Water Map shows that the nearest potential high groundwater elevation (-10 feet) is just east of the Golden State (5) Freeway, in the Castaic Valley. Seasonal fluctuations in groundwater levels may occur due to variations in climate, irrigation, and other factors not evident at the time of the exploration. Fluctuations in groundwater levels may also occur across the site. Rising groundwater can saturate earth materials, causing subsidence of the site or instability of slopes.

### EARTH MATERIALS

#### Fill

Fill, associated with previous site grading, was encountered in Borings 1 and 10 to a maximum observed depth of five feet. The fill consists of silty sand that is light brown, brown, dark brown, moist, medium dense, and contains gravel to three inches.

#### Soil

Natural residual soil blankets portions of the site and was encountered in Boring 5, and Trenches 2 and 6. The soil consists of silty sand that is brown, damp, and medium dense. The soil layer observed is on the order of three feet thick in Boring 5.

### Colluvium

Natural colluvial deposits blanket the lower portions of the steeper natural slopes. Colluvium was mapped on the south and west portions of the site and is also present on the south side of the central main canyon. Colluvium was encountered on the west portion of Trench #1 and consists of silty sand that is medium brown, dry, loose, and contains cobbles and boulders.

### Alluvium

Natural alluvium underlies the canyon bottoms. The alluvium is 32 feet thick in Borings 8 and 9. Generally, the alluvium is anticipated to gradually thicken in the downstream direction. The alluvium consists of silty sand and gravelly sand that is brown, medium dense to dense, damp to moist, and contains some gravel.

### Alluvial Terrace

Alluvial terrace deposits underlie the subject property and were encountered in Boring 5 and Trenches 1, 3, 4, 5, and 6. The terrace deposits consist of silty sand, sand, and gravelly sand that are reddish brown, slightly moist to moist, dense and is weathered.

### Bedrock

Bedrock underlying the site and encountered in the trenches and borings consists of sandstone and conglomerate mapped as part of the Saugus Formation by the California Division of Mines and Geology in *The Preliminary Geologic Map of the San Gabriel Fault Zone, Northwest of the Angeles Crest Highway, Los Angeles and Ventura Counties*, by F. H. Weber, 1978 and by T. W. Dibblee in *the Geologic Map of the Newhall Quadrangle*, 1996. Portions of both Regional Geologic Maps showing the subject property are enclosed.

The bedrock is also exposed in natural slopes throughout the site. The conglomerate is light brown, damp, moderately hard to hard, and is massive. The sandstone is light brown, gray, dry, moderately hard, weathered and is weakly to well bedded. Red sandstone layers are interbedded within the sandstone unit. The red sandstone is moderately hard, slightly moist, weathered, massive, and contains clay.

### GEOLOGIC STRUCTURE

The bedrock, alluvial terrace, and alluvium described are common to this area of Castaic. The alluvial terrace and alluvium is generally massive to horizontally layered and lack significant structural planes.

Bedding planes mapped within the sandstone generally strike northwest and dip between 16 and 54 degrees to the southwest which is consistent with regional trends. Joint planes mapped are randomly oriented and steeply dipping. Shear planes were mapped in Trench 1 and strike to the northwest. A shear plane mapped in Trench 4 strikes to the northeast. The geologic structure of the bedrock is favorably oriented for stability of the site and proposed project.

### GENERAL SEISMIC CONSIDERATIONS

The subject property and all of southern California are located in an active seismic region (CBC Seismic Zone IV). Moderate to strong earthquakes can occur on numerous local faults. The United States Geological Survey, California Geological Survey, private consultants, and universities have been studying earthquakes in southern California for several decades. Early studies were directed toward earthquake prediction and estimation of the effects of strong ground shaking. Studies indicate that earthquake prediction is not practical and not sufficiently accurate to benefit the general public. Governmental agencies are shifting their focus to earthquake resistant structures as opposed

to prediction. The purpose of the code seismic design parameters is to prevent collapse during strong ground shaking. Cosmetic damage should be expected.

Within the past 34 years, southern California and vicinity have experienced an increase in seismic activity beginning with the San Fernando earthquake in 1971. In 1987, a moderate earthquake struck the Whittier area and was located on a previously unknown fault. Ground shaking from this event caused substantial damage to the City of Whittier, and surrounding cities.

The January 17, 1994, Northridge earthquake was initiated along a previously unrecognized fault below the San Fernando Valley. The energy released by the earthquake propagated to the southeast, northwest, and northeast in the form of shear and compression waves, which caused the strong ground shaking in portions of the San Fernando Valley, Simi Valley, City of Santa Clarita, and City of Santa Monica.

Southern California faults are classified as: active, potentially active, or inactive. Faults from past geologic periods of mountain building, but do not display any evidence of recent offset, are considered "potentially active." Faults that have historically produced earthquakes or show evidence of movement within the past 11,000 years are known as "active faults."

According to the I. C. B. O. Publication *Maps of Known Active Fault Near Source Zones in California and Adjacent Portions of Nevada*, February 1998, the nearest known potentially active fault is the San Gabriel, located less than two kilometers to the site. The Building Code (Chapter 16) classifies the San Gabriel fault as a Type "B" fault. The following table lists the applicable seismic coefficients for the project:

BUILDING CODE SEISMIC COEFFICIENTS	
Earth Materials	Soft Rock
Soil Profile Type	$S_c$
Seismic Coefficient ( $C_a$ )	$0.40N_a$
Seismic Coefficient ( $C_v$ )	$0.56N_v$
Near-Source Factor ( $N_a$ )	1.3
Near-Source Factor ( $N_v$ )	1.6

The principal seismic hazard to the subject property and proposed project is strong ground shaking from earthquakes produced by local faults. Modern, well-constructed buildings are designed to resist ground shaking through the use of shear panels and reinforcement. Additional precautions may be taken to protect personal property and reduce the chance of injury, including strapping water heaters and securing furniture. It is likely that the subject property will be shaken by future earthquakes produced in southern California. However, secondary effects such as lurching, liquefaction, consolidation, ridge shattering, and landsliding should not occur at the subject property.

Ground Motion

Figure 3.3 of *Seismic Hazard Zone Report for the Newhall 7.5 Minute Quadrangle, Seismic Hazard Zone Report 01*, updated 2001, contains ground motion values assigned for this area of Los Angeles County. The Design Basis Earthquake (10 percent exceedance in 50 years) for the study area has a peak ground acceleration of 0.61g (Figure 3.2, Probabilistic PGA). The de-aggregated predominant earthquake magnitude is 6.6 (Figure 3.4, Predominate Earthquake). These ground motions could be expected at the site during the design life span of the development.

### Special Studies Zones

The State of California, Geological Survey has not included the subject parcel within a special studies zone for fault rupture. The enclosed Special Studies Zone Map shows the subject property. A zoned segment of the San Gabriel Fault is designated approximately three miles southeast of the site.

### San Gabriel Fault

The San Gabriel Fault crosses the southwest portion of the subject property. The enclosed Regional Geologic Maps (#1 and #2) show the subject property and San Gabriel Fault interpretations by T. W. Dibblee, Jr., and F. H. Weber. Dibblee shows one fault which crosses the southwest portion of the property. Weber infers three more, less defined faults on the site. The ICBO publication *Maps of Known Active Faults Near Source Zones in California and Adjacent Portion of Nevada* states that the San Gabriel Fault has a slip rate of 1 cm/year. The San Gabriel Fault is believed to be right-lateral.

Our fault study which included over 900 linear feet of trenching, 10 borings, two CPT soundings, and geologic mapping indicates that three potentially active faults cross the west portion of the site. Three fault shears were mapped in Trench 1 showing offset within the bedrock. The faults have been plotted on the Geologic Map.

A shear was also mapped in Trench 4 which formed an unconformable contact between two different sandstone types. The shear does not show any offset in the overlying older alluvial terrace deposits, indicating that it is not active.

### Restricted Use Area

The "Restricted Use Area," shown on the Geologic Map is drawn 50 feet from each side of the bedrock faults found in Trench 1.

The purpose of the restricted use area is to provide protection from potential fault rupture. During our exploration, we located three potentially active faults in Trench 1. No other faults were encountered in the other trenches excavated on the subject property.

The west restricted use area shown on the grading plan for Tentative Tract 53933 is projected from the 1989 Leighton & Associates findings for the adjacent Tract 46798.

Leighton & Associates designated two 150 foot wide "structural setback areas" on their Geotechnical Map for Tract 46798. SR Consultants projected the two Leighton & Associates structural setbacks on the Tentative Tract 53933 without benefit of a geologic exploration. Based upon our exploration, the eastern structural setback can be removed from the plan. The western "restricted use area" shown on the Geologic Map has been adjusted and incorporates geologic data collected for this report.

### Liquefaction

Liquefaction is a condition where a soil deforms at a constant low residual stress or with low residual resistance, due to the buildup and maintenance of high pore water pressures, which reduce the effective confining pressure to a very low value. Pore pressure build up leading to liquefaction may be due either to static or cyclic stress applications. The possibility of occurrence depends on the relative density of a sand, and the confining pressure. Liquefaction may also be caused by a critical hydraulic gradient during an upward flow of water in a sand deposit.

There are four general conditions necessary for liquefaction to occur: A groundwater table within 50 feet of the surface; fine grained, cohesionless soils (generally fine to medium grained sands with less than 10 to 15 percent passing the #200 sieve); low relative density of the soil so that the soil tends to become more compact upon shaking which aids development of pore pressures; and strong ground shaking.

The California Geological Survey has mapped the canyon bottoms of the site to be within areas where historic occurrence of liquefaction or geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacement such that mitigation as defined in Public Resources Code Section 2963(c) would be required. The location of the subject property in relation to these mapped zones of required investigation is shown on the enclosed *Seismic Hazard Zones, Newhall Quadrangle, Official Map*, released February 1, 1998.

Soils data collected in Borings 6 and 8, and CPTs 1 and 2 were utilized to quantify the liquefaction potential of the site. A ground acceleration of 0.61g, a design magnitude earthquake of 6.6, and a historic high groundwater level of 10 feet below grade were used for the analysis.

Since the CPT sounding collects data almost continuously (5 cm intervals), it is the preferred method for determining the liquefaction resistance of the soils. The interpreted CPT 1 blow counts were correlated with the actual SPT blow counts from Boring 8. CPT 2 was correlated with Boring 6. The interpreted blow counts are shown on the enclosed SPT (N<sub>1</sub>)<sub>60</sub> Blow Count Correlation chart.

The column "F.S. Liquef." of the "Interpretation of Electronic Piezocone Data - Liquefaction Analysis" lists the calculated safety factor of each foot thick layer of soil encountered in the CPT soundings.

The stresses and safety factor for liquefaction were calculated using the methodologies by T. L. Youd, et. al., (NCEER/NSF Workshop, 1998), P. K. Robertson (*Cyclic Liquefaction and its Evaluation Based on the SPT and CPT, 1997*), and "Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Landslides in California" (Southern California Earthquake Center, Figure 7.5b, p. 39, 2002).

Where no factor of safety is presented, the soil was determined to be too fine grained to be susceptible to liquefaction.

Several alluvial layers encountered in the CPT soundings have a safety factor for liquefaction of less than 1.2. It is recommended that the alluvium be removed and recompactd to eliminate the potential for liquefaction.

#### Lateral Spreading Hazard and Dynamic Settlement

Saturated soils that have experienced liquefaction may be subject to lateral spreading or flow failure where located adjacent to free-faces, such as slopes, channels, and rivers. Since the suspect alluvial soils will be removed and recompactd, mitigation is not required for lateral spreading or dynamic settlement.

### SLOPE STABILITY

#### Gross Stability

The subject property is located within a state mapped zone requiring landslide investigation mitigation per Seismic Hazard Mapping Act, State of California Public Resources Code, section 2690 et seq. The location of the subject property in relation to these zones of required investigation

is shown on the enclosed *Seismic Hazard Zones, Newhall Quadrangle, Official Map*, released February 1, 1998.

Proposed slopes on the subject property include a 160 foot high 1½:1 cut slope. Also, a 2:1 compacted fill slopes up to 100 feet high, are proposed. A natural 1:1 slope is shown on Section E. The gross stability of the cut slope was analyzed using the modified Bishop's method with the PCSTABLE 6 software program by Purdue University and modified by the University of Madison-Wisconsin. The proposed 2:1 compacted fill slopes and existing 1:1 natural slope were analyzed using Taylor's method. Sections B, C, and E were used as the basis for the enclosed calculations.

The analyses show that the subject property, proposed and existing slopes will be grossly stable with a factor of safety in excess of 1.5, and seismically stable with a factor of safety exceeding 1.1. A seismic coefficient of 0.15 was used in the seismic analysis. The calculations use the shear tests of samples believed to represent the weakest earth materials encountered during exploration. The cross sections and slope angles used are the most critical for the slopes analyzed.

#### DEBRIS FLOWS

The site experienced surficial instability and debris flows during the record rains of 2005. Numerous erosion scars were observed on the steep natural slopes. The east and southeast draining canyons have generated debris flows up to four feet thick and have deposited mud and debris onto the construction yard and The Old Road requiring clean-up with heavy equipment. The mitigating measures recommended in the "Conclusions and Recommendations" of this report should be implemented during development of the site.

Debris flow protection devices are recommended at the base of natural slopes and the mouths of canyons. Lots 48-54, 73, and 76 will require debris flow mitigation. Debris basins, berms, fences, and slough walls should be incorporated into the Grading Plan by the civil engineer.

## CONCLUSIONS AND RECOMMENDATIONS

### General Findings

The conclusions and recommendations of this exploration are based upon 10 borings, seven exploratory trenches, two cone penetrometer soundings, field geologic mapping, review of available records, consultation, years of experience observing similar properties in similar settings and review of the development plans. It is the finding of The J. Byer Group, Inc. that development of Tract 53933 is feasible from a geologic and soils engineering standpoint.

The recommended bearing material for the proposed residences is the future compacted fill which can be reached with conventional footings.

### Code Section 111

Relative to the County of Los Angeles Code Section 111, it is the finding of The J. Byer Group that following the implementation of the recommendations contained in this report, the subject property will be free of potential geologic hazards such as landsliding, settlement, slippage, and liquefaction. Potential fault rupture should not have adverse effects to the proposed residential units. The proposed development will not adversely effect the site or adjoining properties.

## SITE PREPARATION

### Removals

The exploration performed by The J. Byer Group was conducted to determine the anticipated removal depths of alluvial materials prior to placing approved compacted fill. The alluvial removal depths are shown on the Geologic Map. The alluvium is in excess of 32 feet thick near the eastern

portions of the main central canyon in the southern and western portions of the site. Our exploration and laboratory test results indicate that the alluvium should be removed and replaced as approved compacted fill. This recommendation is based upon two CPT tests, 10 hollow-stem borings, field density test results, and consolidation tests performed for this exploration.

The J. Byer Group performed a liquefaction potential analysis that indicates the alluvium is subject to significant liquefaction and excessive consolidation. Other removals include the standard stripping of top soil and colluvium, which in some areas may be 5 to 15 feet thick. The geologist will be present during grading to observe removals.

#### General Grading Specifications

The following guidelines may be used in preparation of the grading plan and job specifications. The J. Byer Group would appreciate the opportunity of reviewing the plans to insure that these recommendations are included. The grading contractor should be provided with a copy of this report.

- A. The area to receive compacted fill should be prepared by removing all vegetation, debris, existing fill, soil, colluvium, and alluvium. The exposed excavated area should be observed by the soils engineer or geologist prior to placing compacted fill. The exposed grade should be scarified to a depth of six inches, moistened to optimum moisture content, and recomacted to a minimum 94 percent of the maximum density.
- B. All building sites and graded pads shall have a minimum of five feet of compacted fill over the entire pad.
- C. Fill, consisting of soil approved by the soils engineer, shall be placed in horizontal lifts and compacted in six inch layers with suitable compaction equipment. The excavated onsite materials are considered satisfactory for reuse in the controlled fills. Any imported fill shall be observed by the soils engineer prior to use in fill areas. Rocks larger than six inches in diameter shall not be used in the fill.

- D. The fill shall be compacted to at least 94 percent of the maximum density for the material used. The maximum density shall be determined by ASTM D 1557-02 or equivalent.
- E. Field observation and testing shall be performed by the soils engineer during grading to assist the contractor in obtaining the required degree of compaction and the proper moisture content. Where compaction is less than required, additional compactive effort shall be made with adjustment of the moisture content, as necessary, until 94 percent compaction is obtained. One compaction test is required for each 500 cubic yards or two vertical feet of fill placed.
- F. The alluvium, when removed and replaced as approved compacted fill, will shrink approximately five percent in volume. The older alluvium, when removed and placed as compacted fill, is not expected to shrink. The Saugus Formation bedrock, when removed and placed as compacted fill, is expected to bulk in volume approximately five percent.

#### Fill Slopes

Fill slopes may be constructed at a 2:1 slope gradient as indicated on the Grading Plans. Compacted fill should be keyed and benched into bedrock, or alluvial terrace where they occur. The minimum width for a fill key is half the height of the total fill slope with a minimum fill thickness of 15 feet. Fill keys should be a minimum of three feet into the bedrock, or alluvial terrace. All fill slopes should be over-built approximately two to three feet and cut back to the compacted core. Track walking of fill slopes is not acceptable.

Subdrains should be placed below all fills and the back of keyways. The canyon subdrain should be designed to flow by gravity and should exit at the lowest possible elevation. Where the grades are insufficient to allow an exit by gravity, solid pipe may be placed in the compacted fill so that the subdrain may exit at the toe of the slope. Subdrains should also be placed at the rear of building pads where slopes ascend to the adjacent lots. A "Toe of Slope Drainage Detail" of these rear yard subdrains is enclosed. These rear yard subdrains should be directed to the tract storm drain system. The surface drains should be directed to the fronting street.

### Cut Slopes

Cut slopes may be created at a 1½:1 gradient per the enclosed calculations. A 160 foot high cut slope is proposed on the west side of "A" Street, near the entrance (see Section B). The Grading Plan also indicates 2:1 cut slopes up to 80 feet high as shown on Section D.

### Excavation Characteristics

The trenches, borings, and CPT soundings did encounter hard, cemented bedrock. Excavation difficulty is a function of the degree of weathering and amount of fracturing within the bedrock. The bedrock generally becomes harder and more difficult to excavate with increasing depth. Hard cemented layers are also known to occur at random locations and depths and may be encountered during foundation excavation. Should a hard cemented layer be encountered, heavy ripping or the use of jackhammers may be necessary.

## FOUNDATION DESIGN

### General Conditions

The following foundation recommendations are minimum requirements. The structural engineer may require footings that are deeper, wider, or larger in diameter, depending on the final loads.

### Spread Footings

Continuous and/or pad footings may be used to support the proposed residences provided they are founded in compacted fill. Continuous footings should be a minimum of 12 inches in width. Pad footings should be a minimum of 24 inches square. The following chart contains the recommended design parameters.

Bearing Material	Minimum Embedment Depth of Footing (Inches)	Vertical Bearing (psf)	Coefficient of Friction	Passive Earth Pressure (pcf)	Maximum Earth Pressure (psf)
Future Compacted Fill	18	2,000	0.40	250	4,000

Increases in the bearing value are allowable at a rate of 20 percent for each additional foot of footing width or depth to a maximum of 4,000 pounds per square foot. For bearing calculations, the weight of the concrete in the footing may be neglected.

The bearing values shown above are for the total of dead and frequently applied live loads and may be increased by one third for short duration loading, which includes the effects of wind or seismic forces. When combining passive and friction for lateral resistance, the passive component should be reduced by one third.

All continuous footings should be reinforced with a minimum of four #4 steel bars; two placed near the top and two near the bottom of the footings. Footings should be cleaned of all loose soil, moistened, free of shrinkage cracks and approved by the geologist prior to placing forms, steel or concrete.

#### Foundation Settlement

Settlement of the foundation system is expected to occur on initial application of loading. A settlement of  $\frac{1}{4}$  to  $\frac{1}{2}$  inch may be anticipated. Differential settlement should not exceed  $\frac{1}{4}$  inch.

### Foundation Setback

The Building Code requires that foundations be a sufficient depth to provide horizontal setback from a descending slope steeper than 3:1. The required setback is  $\frac{1}{3}$  the height of the slope with a minimum of five feet and a maximum of 40 feet measured horizontally from the base of the foundation to the slope face. The required setback for swimming pools is  $\frac{1}{6}$  the height of the slope with a minimum of five feet and a maximum of 20 feet measured horizontally from the base of the foundation to the slope face.

Geologic conditions on the site are favorable for stability. It is the opinion of The J. Byer Group that the required setback can be reduced 15 feet for manufactured slopes and 25 feet for natural slopes. The recommended setback is less than that required by the building code, but may be considered as an "alternative setback" per the Uniform Building Code.

### Toe of Slope Clearance

The Building Code requires a level yard setback between the toe of an ascending slope and the rear wall of the proposed structure of one half the slope height to a maximum 15 feet clearance for slopes steeper than 3:1. The Building Code requires a level setback between the toe of an ascending slope and the rear of a proposed swimming pool of one fourth the slope height to a maximum 7.5 feet clearance for slopes steeper than 3:1. For retained slopes, the face of the retaining wall is considered the toe of the slope.

## RETAINING WALLS

### General Design

Retaining walls up to 10 feet high, and with up to a 2:1 backslope may be designed for an equivalent fluid pressure of 43 pounds per cubic foot. Retaining walls should be provided with a subdrain or weepholes covered with a minimum of 12 inches of  $\frac{3}{4}$  inch crushed gravel.

### Backfill

Retaining wall backfill should be compacted to a minimum of 94 percent of the maximum density as determined by ASTM D 1557-02 or equivalent. Where access between the retaining wall and the temporary excavation prevents the use of compaction equipment, retaining walls should be backfilled with  $\frac{3}{4}$  inch crushed gravel to within two feet of the ground surface. Where the area between the wall and the excavation exceeds 18 inches, the gravel must be vibrated or wheel-rolled, and tested for compaction. The upper two feet of backfill above the gravel should consist of a compacted fill blanket to the surface. Retaining wall backfill should be capped with a paved surface drain.

### Foundation Design

Retaining wall footings may be sized per the "Spread Footings" section of this report.

### Freeboard

Retaining walls surcharged by a sloping condition should be provided with a minimum of 12 inches of freeboard for slough protection. An open "V" drain should be placed behind the wall so that all upslope flows are directed around the structure to the street or debris basin.

Temporary Excavations

Temporary excavations will be required during the removal and recompaction process. Deep removal excavations, exposing alluvium will be performed. The alluvium should be trimmed at a 1:1 gradient as shown on Sections A, C, and E. All excavations should be stabilized within 30 days of initial excavation. Water should not be allowed to pond on top of the excavations nor to flow toward them. No vehicular surcharge should be allowed within three feet of the top of the cut.

FLOOR SLABS AND PAVING

Floor Slabs

Floor slabs should be cast over approved compacted fill and reinforced with a minimum of #4 bars on 16 inch centers, each way. Slabs which will be provided with a floor covering should be protected by a polyethylene plastic vapor barrier. The barrier should be covered with a thin layer of sand, about one inch, to prevent punctures and aid in the concrete cure.

Paving

Prior to placing paving, the project should be graded in accordance with the "Site Preparation" section of this report. Trench backfill below paving should be compacted to 94 percent of the maximum dry density. Irrigation water should be prevented from migrating under paving. The following table shows the recommended pavement sections:

Service	Pavement Thickness (Inches)	Base Course (Inches)
Light Passenger Cars	3	4
Moderate Trucks (Storage, etc.)	4	6

The civil engineer may change these pavement sections based on the assumed traffic loads.

### DRAINAGE

Control of site drainage is important for the performance of the proposed project. Roof gutters are recommended. Pad and roof drainage should be collected and transferred to the street or approved location in non-erosive drainage devices. Drainage should not be allowed to pond on the pad or against any foundation or retaining wall. Drainage should not be allowed to flow uncontrolled over any descending slope. Planters located within retaining wall backfill should be sealed to prevent moisture intrusion into the backfill. Planters located next to raised floor type construction also should be sealed to the depth of the footings. Drainage control devices require periodic cleaning, testing and maintenance to remain effective.

### WATERPROOFING

Interior and exterior retaining walls are subject to moisture intrusion, seepage, and leakage and should be waterproofed. Waterproofing paints, compounds, or sheeting can be effective if properly installed. Equally important is the use of a subdrain that daylights to the atmosphere. The subdrain should be covered with ¾ inch crushed gravel to help the collection of water. Landscape areas above the wall should be sealed or properly drained to prevent moisture contact with the wall or saturation of wall backfill.

Construction of raised floor buildings where the grade under the floor has been lowered for joist clearance can also lead to moisture problems. Surface moisture can seep through the footing and pond in the underfloor area. Positive drainage away from the footings, waterproofing the footings, compaction of trench backfill and subdrains can help to reduce moisture intrusion.

### PLAN REVIEW

Formal grading plans ready for submittal to Los Angeles County should be reviewed by The J. Byer Group. Any change in scope of the project may require additional work.

### SITE OBSERVATIONS DURING CONSTRUCTION

The project geologist and geotechnical engineer should provide site observations during construction. These observations include bottoms prior to placing fill, compaction testing, of fill, benching, subdrains, temporary slopes, and permanent cut slopes. All fill that is placed should be tested for compaction and approved by the soils engineer prior to use for support of engineered structures. The County of Los Angeles requires that all subdrains be observed by a representative of the geotechnical engineer and the County Inspector.

Please advise The J. Byer Group, Inc. at least 24 hours prior to any required site visit. The agency approved plans and permits should be at the job site and available to our representative. The project consultant will perform the observation and post a notice at the job site of his visit and findings. This notice should be given to the agency inspector.

### CONSTRUCTION SITE MAINTENANCE

It is the responsibility of the contractor to maintain a safe construction site. When excavations exist on a site, the area should be fenced and warning signs posted. All excavations must be properly covered and secured. Soil generated by foundation and subgrade excavations should be either removed from the site or properly placed as a certified compacted fill. Soil must not be spilled over any descending slope. Workers should not be allowed to enter any unshored trench excavations over five feet deep.

GENERAL CONDITIONS

This report and the exploration are subject to the following NOTICE. Please read the NOTICE carefully, it limits our liability.

NOTICE

In the event of any changes in the design or location of any structure, as outlined in this report, the conclusions and recommendations contained herein may not be considered valid unless the changes are reviewed by us and the conclusions and recommendations are modified or reaffirmed after such review.

The subsurface conditions, excavation characteristics, and geologic structure described herein and shown on the enclosed cross sections have been projected from excavations on the site as indicated and should in no way be construed to reflect any variations that may occur between these excavations or that may result from changes in subsurface conditions.

Fluctuations in the level of groundwater may occur due to variations in rainfall, temperature, irrigation, and other factors not evident at the time of the measurements reported herein. Fluctuations also may occur across the site. High groundwater levels can be extremely hazardous. Saturation of earth materials can cause subsidence or slippage of the site.

If conditions encountered during construction appear to differ from those disclosed herein, notify us immediately so we may consider the need for modifications. Compliance with the design concepts, specifications, and recommendations requires geotechnical engineering review during the course of construction.

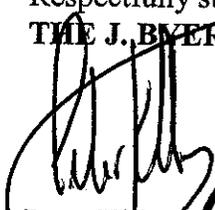
THE EXPLORATION WAS PERFORMED ONLY ON A PORTION OF THE SITE, AND CANNOT BE CONSIDERED AS INDICATIVE OF THE PORTIONS OF THE SITE NOT EXPLORED.

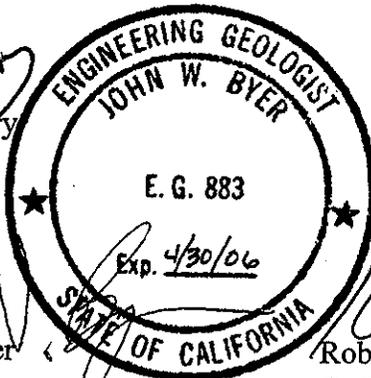
This report is issued and made for the sole use and benefit of the client, is not transferable and is as of the exploration date. Any liability in connection herewith shall not exceed the fee for the exploration. No warranty, expressed or implied, is made or intended in connection with the above exploration or by the furnishing of this report or by any other oral or written statement.

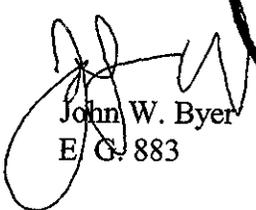
THIS REPORT WAS PREPARED ON THE BASIS OF THE PRELIMINARY DEVELOPMENT PLAN FURNISHED. FINAL PLANS SHOULD BE REVIEWED BY THIS OFFICE AS ADDITIONAL GEOTECHNICAL WORK MAY BE REQUIRED.

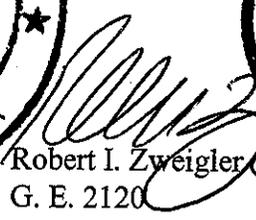
The J. Byer Group appreciates the opportunity to provide our service on this project. Any questions concerning the data or interpretation of this report should be directed to the undersigned.

Respectfully submitted,  
**THE J. BYER GROUP, INC.**

  
Peter Kilbury  
R. G. 7601



  
John W. Byer  
E. G. 883

  
Robert I. Zweigler  
G. E. 2120

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- Enc: Appendix I - Laboratory Testing  
Shear Diagrams (5 Pages)  
Consolidation Curves (12 Pages)  
Environmental Geotechnology Laboratory Corrosion Test Results Report  
Appendix II - Published Maps  
Appendix III - Exploration  
Appendix IV - Details, Calculation Sheets, and Sections A, B, C, D, and E

- In Pocket: Geologic Map  
Trench Diagrams (3 Sheets)

- xc: (4) Addressee (With Disk)  
(2) SR Consultants, Attention: Bob Martinez  
(1) Rincon Consultants, Attention: Mike Gialketsis

## APPENDIX I

### LABORATORY TESTING

Undisturbed and bulk samples of the alluvium, alluvial terrace, and bedrock were obtained from the borings and transported to the laboratory for testing and analysis. The samples were obtained by driving a ring lined barrel sampler conforming to ASTM D-3550-01 with successive drops of the Kelly bar weight. Experience has shown that sampling causes some disturbance of the sample, however the test results remain within a reasonable range. The samples were retained in brass rings of 2.50 inches outside diameter and 1.00 inches in height. The samples were stored in close fitting, waterproof containers for transportation to the laboratory.

#### Moisture-Density

The dry density of the samples was determined using the procedures outlined in ASTM D-2937-00. The moisture content of the samples was determined using the procedures outlined in ASTM D-2216-98. The results are shown on the Log of Borings.

#### Maximum Density

The maximum dry density and optimum moisture content of the future compacted fill was determined by remolding a bulk sample of the alluvium using the procedures outlined in ASTM D 1557-02, a five-layer standard. Remolded samples were prepared at 94 percent of the maximum density. The remolded samples were tested for shear strength.

Boring	Depth (Feet)	Soil Type	Maximum Density (pcf)	Optimum Moisture %	Expansion Potential
1	8-12	Gravelly Sand	134.0	9.0	Nil

#### Shear-Tests

Shear tests were performed on samples of future compacted fill, alluvium, alluvial terrace, and bedrock using the procedures outlined in ASTM D-3080-03 and a strain controlled, direct shear machine manufactured by Soil Test, Inc. The rate of deformation was 0.025 inches per minute. The samples were tested in an artificially saturated condition. Following the shear test, the moisture content of the samples was determined to verify saturation. The results are plotted on the "Shear Test Diagrams."

Consolidation

Consolidation tests were performed on insitu samples of the Alluvium using the procedures outlined in ASTM D-2435-03. Results are graphed on the "Consolidation Curves."

Corrosion

Sulfide, chloride, resistivity, and pH test results are provided. Bulk samples of future fill were collected from the subject property and delivered to Environmental Geotechnical Laboratories for corrosion testing. The results are enclosed in their report dated June 17, 2005 and are summarized in the following table.

Boring	Depth	Soil Type	pH	Chloride Content PPM	Sulfate Content (Percent by Weight)	Minimum Resistivity (ohm-cm)
1	8-12 Feet	Silty Sand	7.65	85	.004	5,100

# SHEAR DIAGRAM #1

JB: 20122-B  
 CLIENT: SAFAVI

CONSULT: JWB

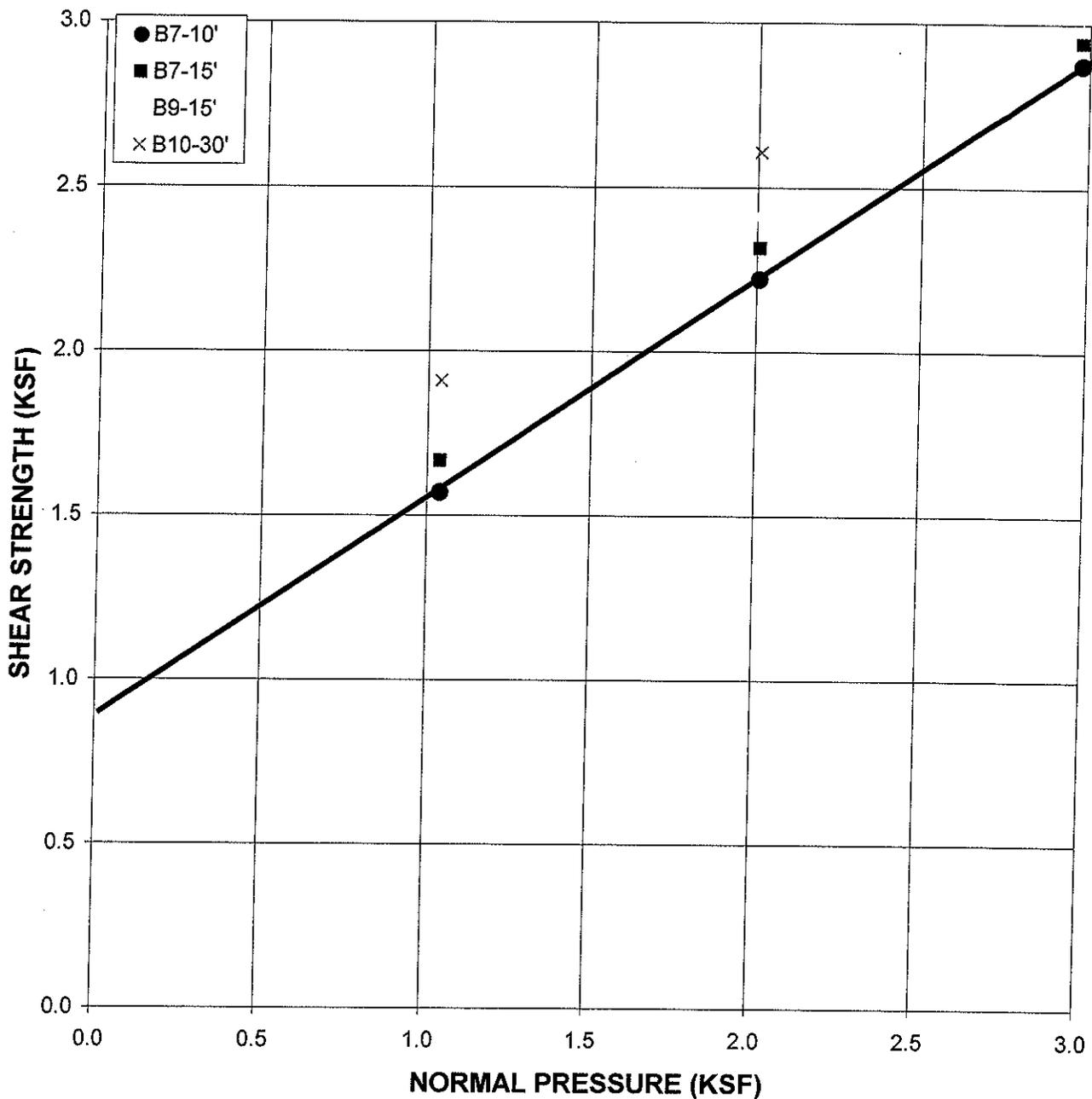
EARTH MATERIAL:

BEDROCK (CONGLOMERATE)

Phi Angle = 34 degrees  
 Cohesion = 873 psf

Average Moisture Content 16.3%  
 Average Dry Density (pcf) 115.0  
 Percent Saturation 99.5%

## DIRECT SHEAR TEST - ASTM D-3080 (ULTIMATE VALUES)



## SHEAR DIAGRAM #2

JB: 20122-B  
 CLIENT: SAFAVI

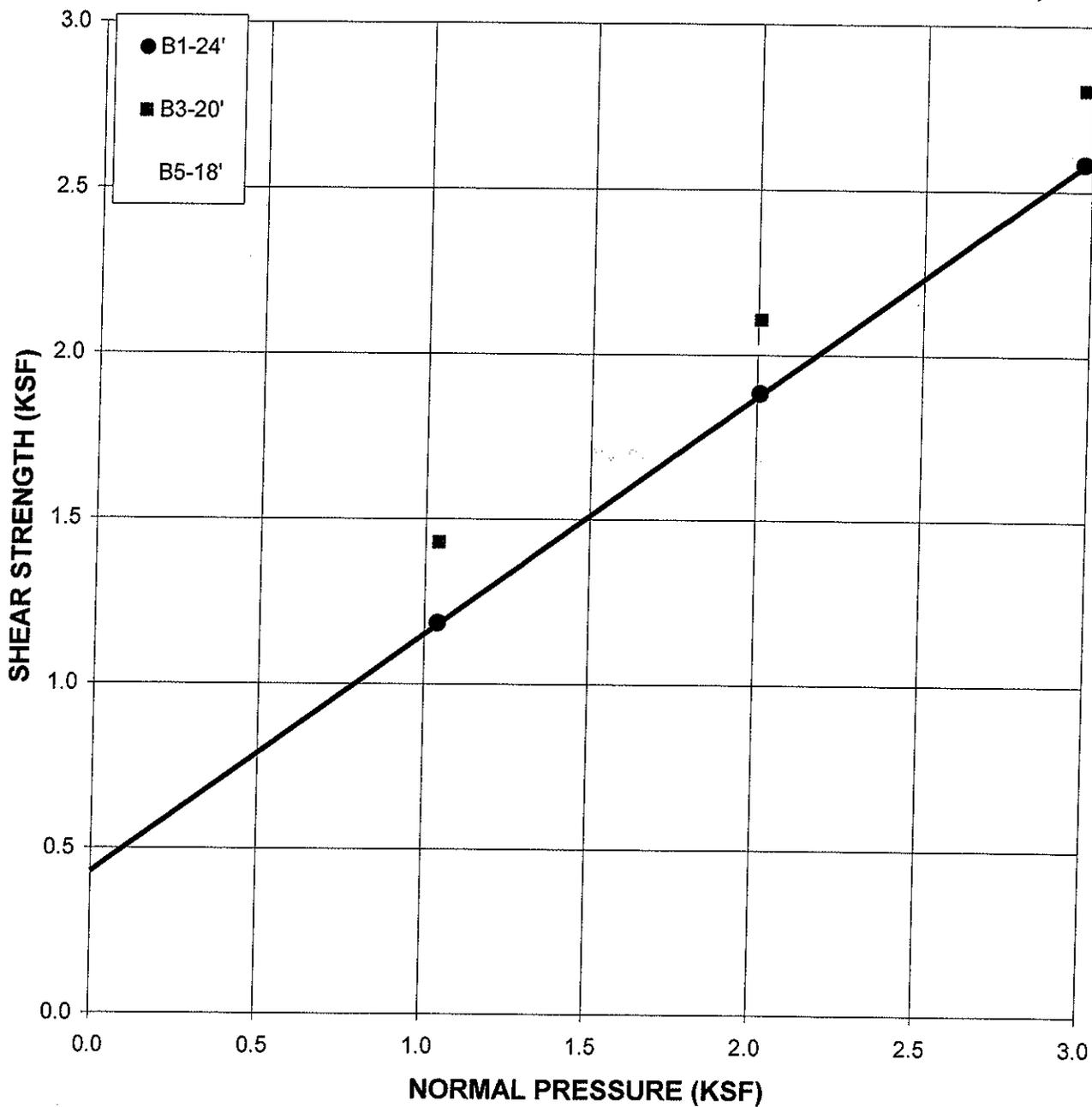
CONSULT: JWB

EARTH MATERIAL: BEDROCK (SANDSTONE)

Phi Angle = 36 degrees  
 Cohesion = 437 psf

Average Moisture Content 11.6%  
 Average Dry Density (pcf) 126.0  
 Percent Saturation 99.6%

### DIRECT SHEAR TEST - ASTM D-3080 (ULTIMATE VALUES)



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## SHEAR DIAGRAM #3

JB: 20122-B  
CLIENT: SAFAVI

CONSULT: JWB

EARTH MATERIAL:

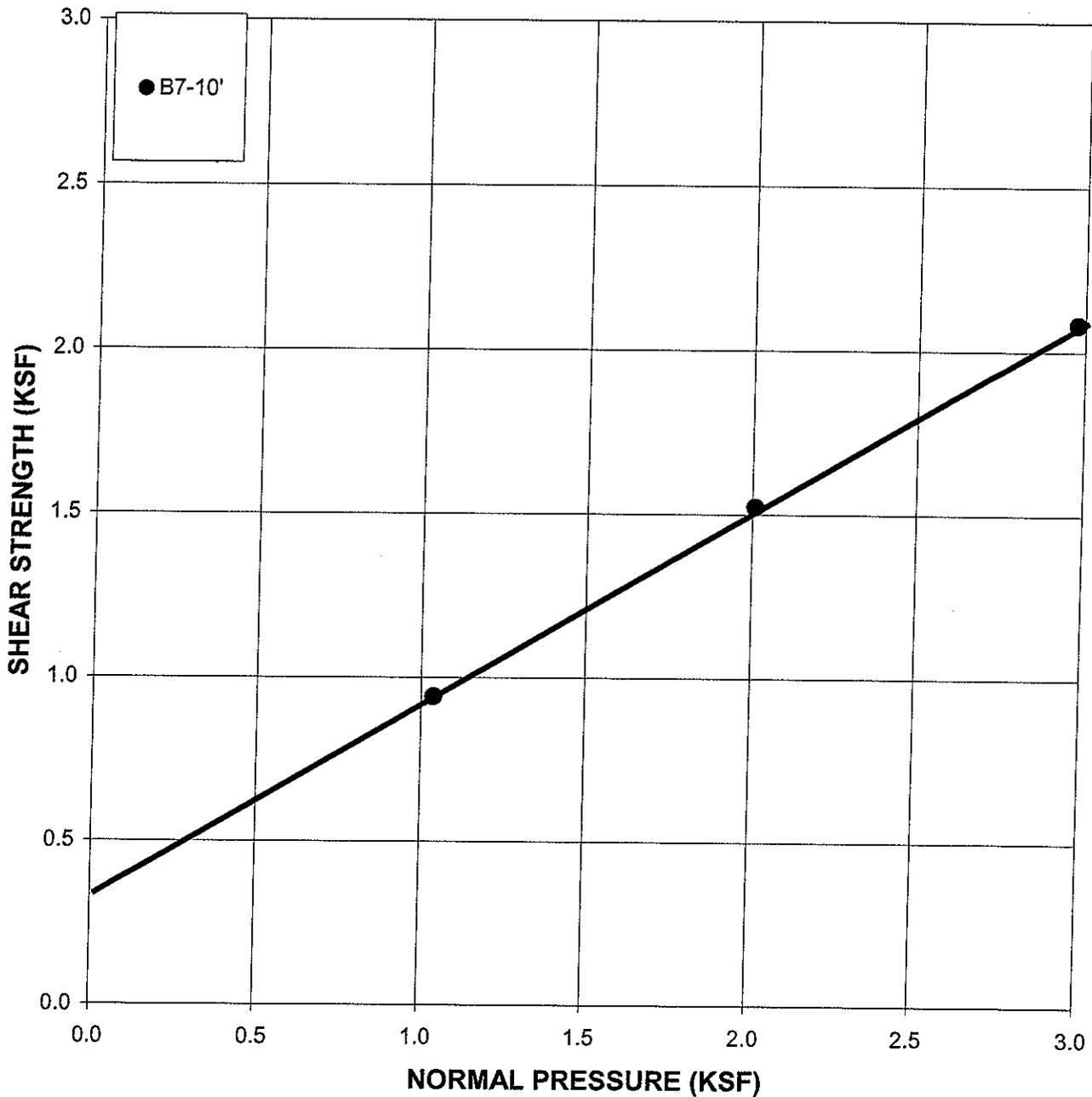
FUTURE COMPACTED FILL

SAMPLE REMOLDED TO 94% OF THE MAXIMUM DENSITY.

Phi Angle = 30 degrees  
Cohesion = 331 psf

Average Moisture Content 11.6%  
Average Dry Density (pcf) 126.0  
Percent Saturation 99.6%

### DIRECT SHEAR TEST - ASTM D-3080 (ULTIMATE VALUES)



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**SHEAR DIAGRAM #4**

JB: 20122-B  
CLIENT: SAFAVI

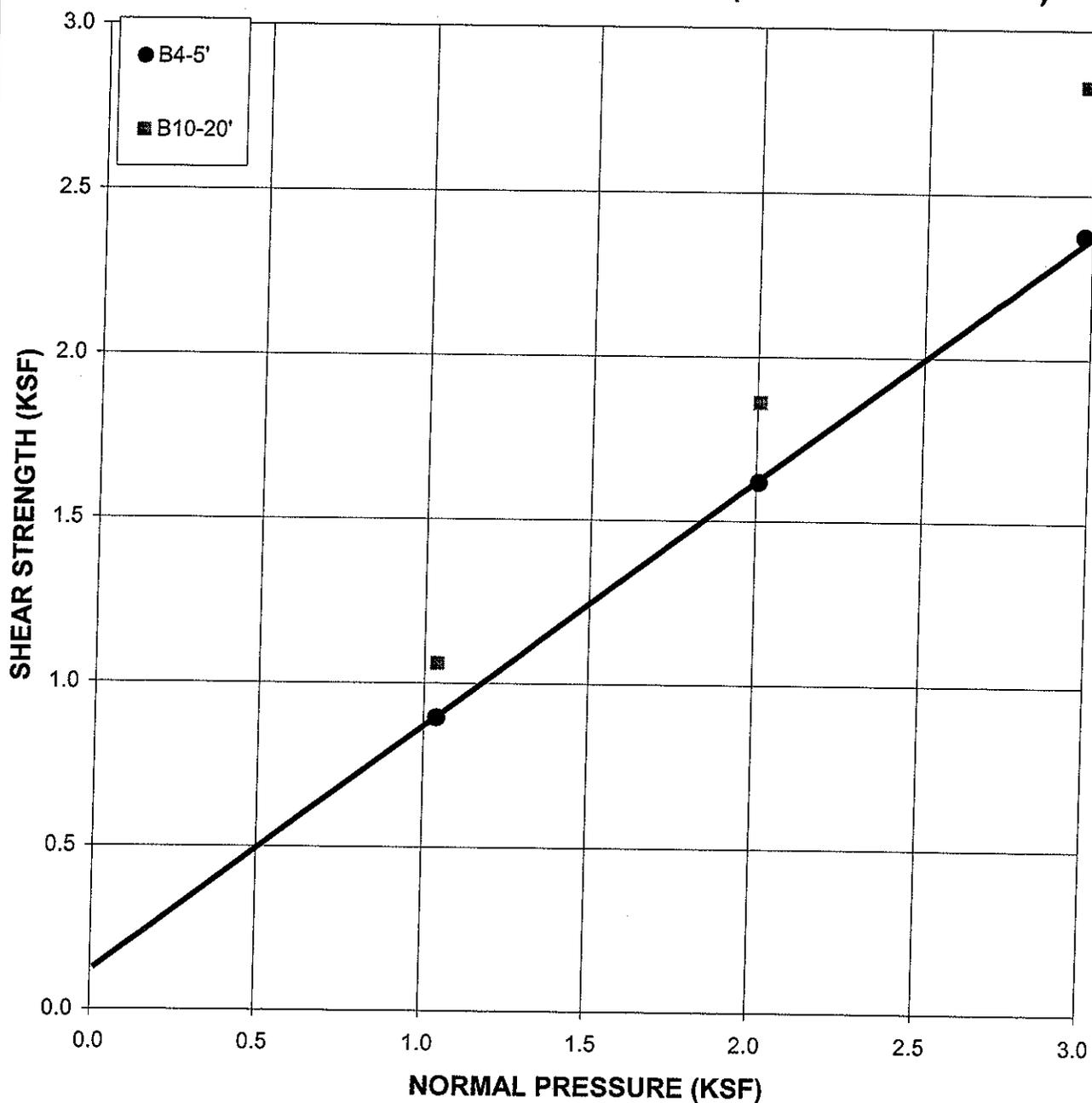
CONSULT: JWB

EARTH MATERIAL: ALLUVIUM

Phi Angle = 37 degrees  
Cohesion = 103 psf

Average Moisture Content 12.6%  
Average Dry Density (pcf) 123.5  
Percent Saturation 99.6%

**DIRECT SHEAR TEST - ASTM D-3080 (ULTIMATE VALUES)**



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**SHEAR DIAGRAM #5**

JB: 20122-B  
CLIENT: SAFAVI

CONSULT: JWB

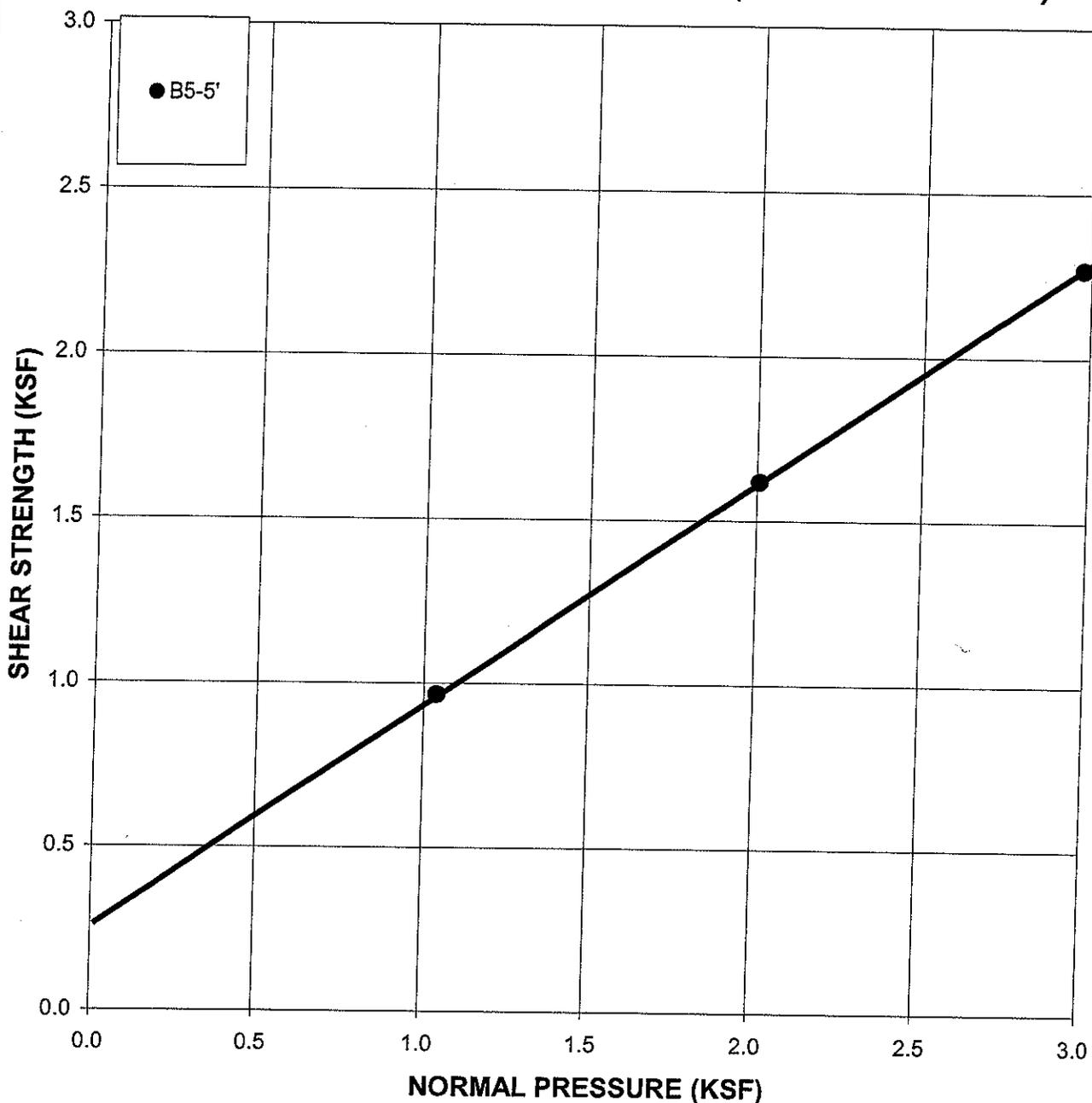
EARTH MATERIAL:

ALLUVIAL TERRACE

Phi Angle = 34 degrees  
Cohesion = 268 psf

Average Moisture Content 10.7%  
Average Dry Density (pcf) 128.3  
Percent Saturation 99.5%

**DIRECT SHEAR TEST - ASTM D-3080 (ULTIMATE VALUES)**



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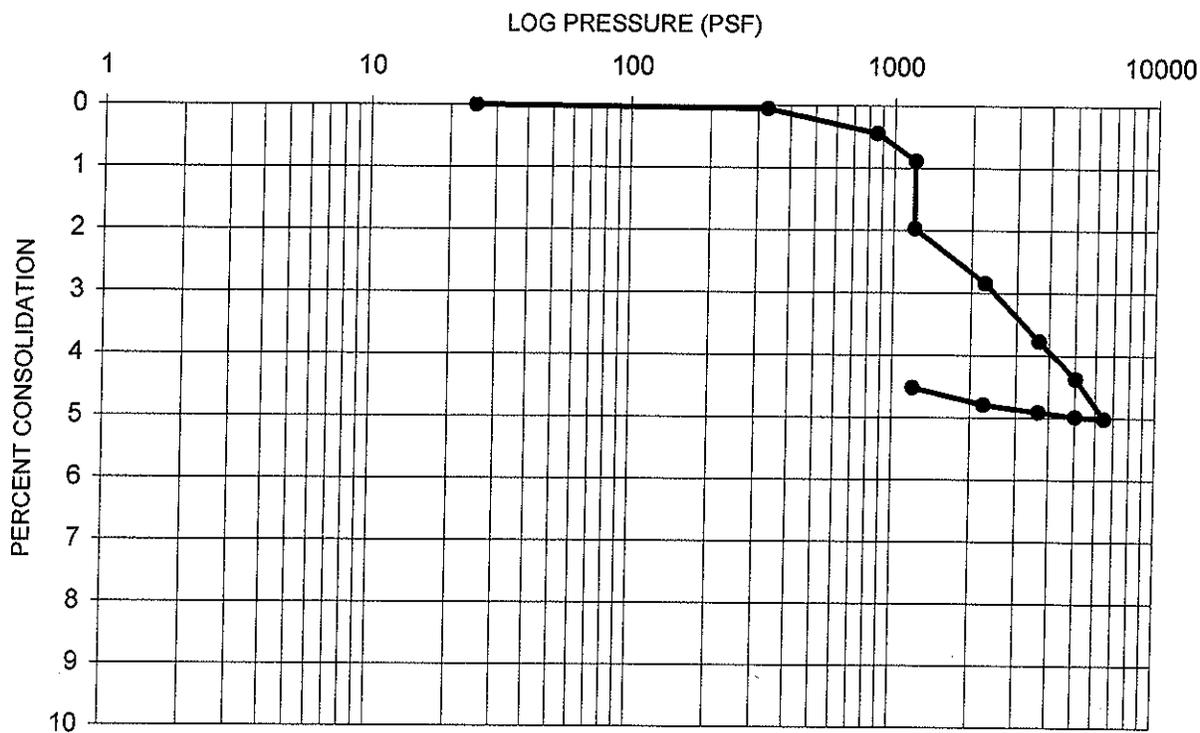
**CONSOLIDATION DIAGRAM #1**

JB: 20122-B CONSULTANT: PK

CLIENT: SAFAVI

Earth Material:	ALLUVIUM	Specific Gravity:	2.65
Sample Location:	B1-12'	Initial Void Ratio:	0.33
Dry Weight (pcf):	124.0	Water Added At (psf):	1206.0
Initial Moisture:	2.0%	Consolidation Coef. (Cc):	0.0642
Initial Saturation:	15.9%		

**CONSOLIDATION DIAGRAM  
 PERCENT CONSOLIDATION**



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## CONSOLIDATION DIAGRAM #2

JB: 20122-B CONSULTANT: PK

CLIENT: SAFAVI

Earth Material: ALLUVIUM

Sample Location: B1-18'

Dry Weight (pcf): 119.2

Initial Moisture: 4.3%

Initial Saturation: 29.4%

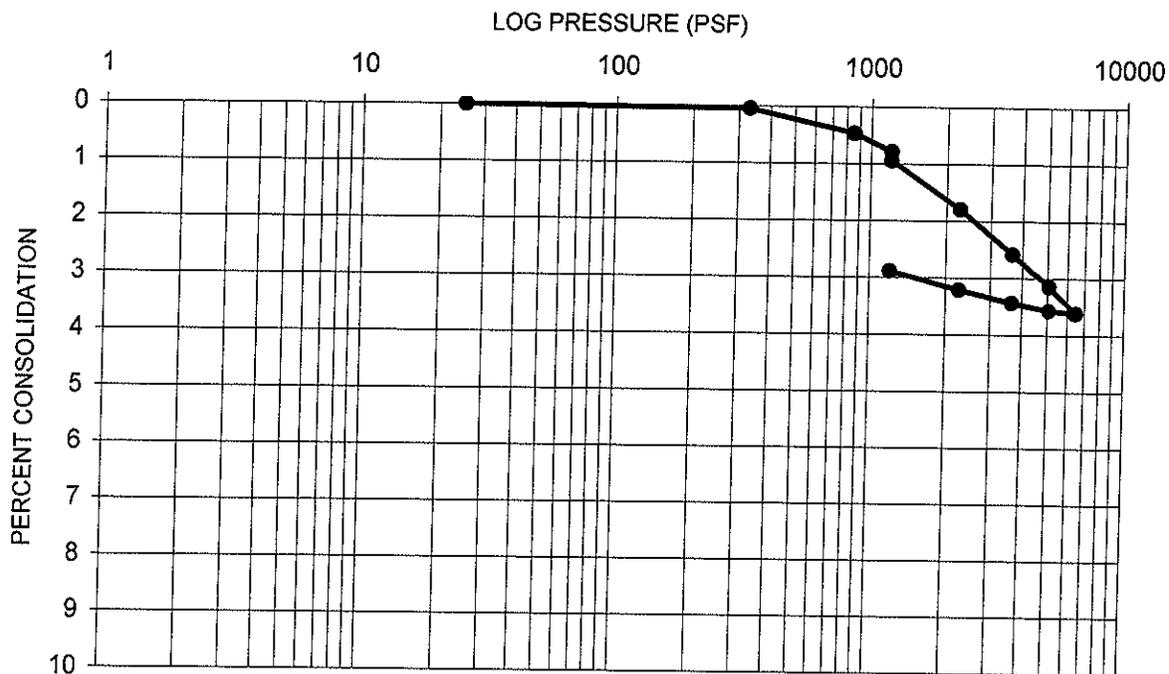
Specific Gravity: 2.65

Initial Void Ratio: 0.39

Water Added At (psf): 1203.0

Consolidation Coef. (Cc): 0.0560

### CONSOLIDATION DIAGRAM PERCENT CONSOLIDATION



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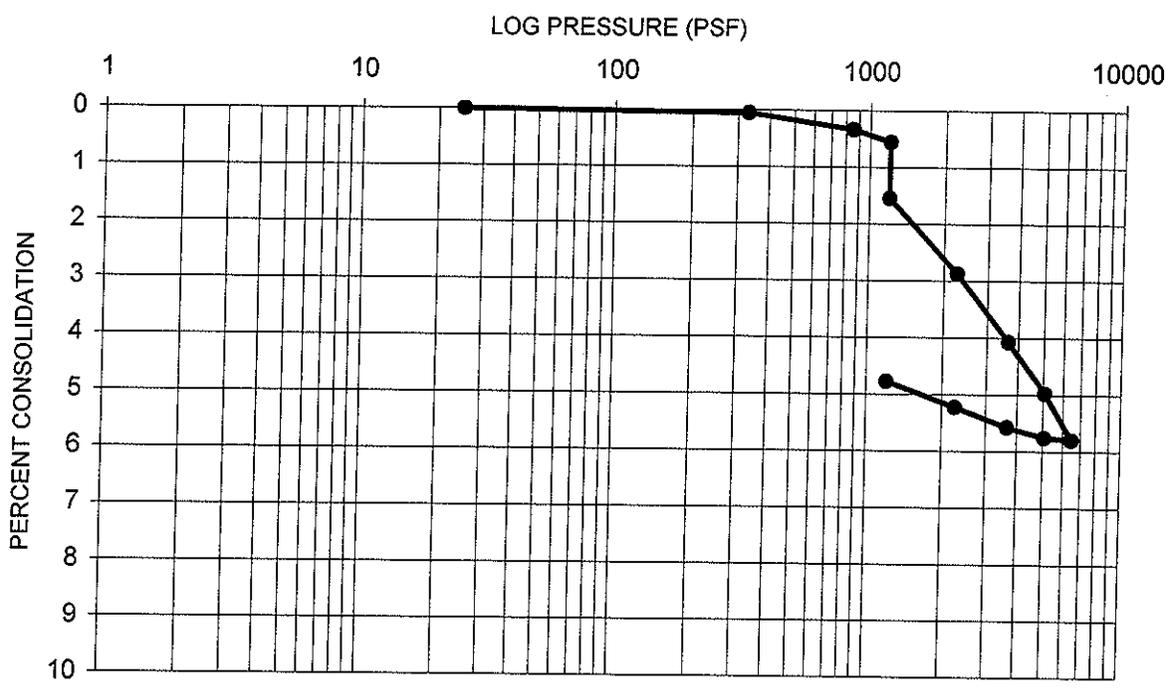
**CONSOLIDATION DIAGRAM #3**

JB: 20122-B CONSULTANT: PK

CLIENT: SAFAVI

Earth Material:	ALLUVIUM	Specific Gravity:	2.65
Sample Location:	B2-10'	Initial Void Ratio:	0.43
Dry Weight (pcf):	115.5	Water Added At (psf):	1203.0
Initial Moisture:	6.4%	Consolidation Coef. (Cc):	0.0939
Initial Saturation:	39.3%		

**CONSOLIDATION DIAGRAM  
 PERCENT CONSOLIDATION**



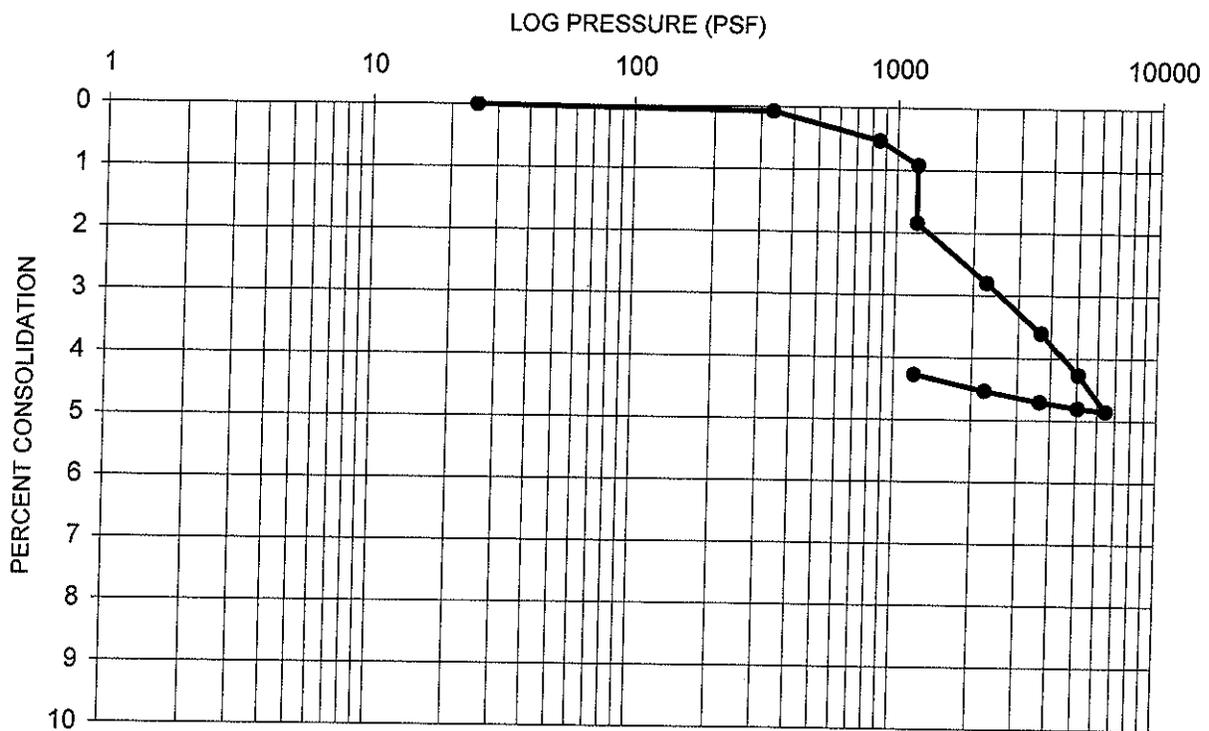
**CONSOLIDATION DIAGRAM #4**

JB: 20122-B CONSULTANT: PK

CLIENT: SAFAVI

Earth Material:	ALLUVIUM	Specific Gravity:	2.65
Sample Location:	B2-20'	Initial Void Ratio:	0.32
Dry Weight (pcf):	125.6	Water Added At (psf):	1203.0
Initial Moisture:	5.5%	Consolidation Coef. (Cc):	0.0614
Initial Saturation:	46.0%		

**CONSOLIDATION DIAGRAM  
PERCENT CONSOLIDATION**



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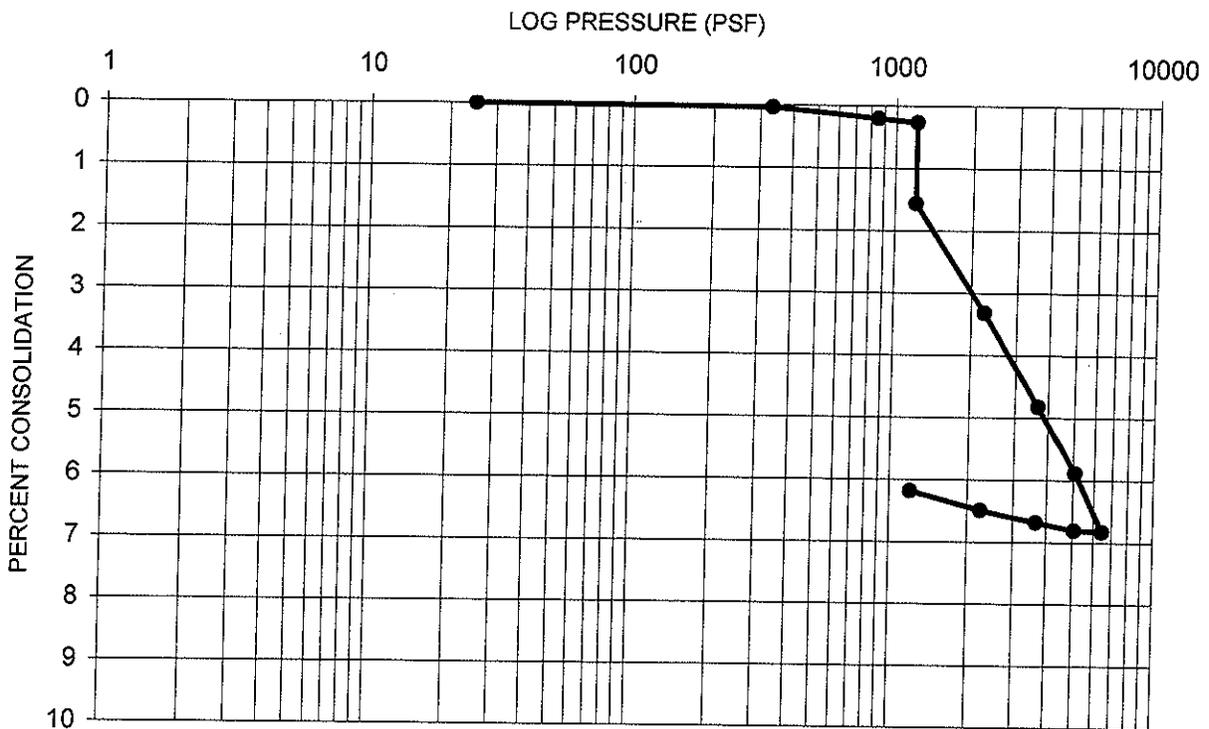
CONSOLIDATION DIAGRAM #5

JB: 20122-B CONSULTANT: PK

CLIENT: SAFAVI

Earth Material:	ALLUVIUM	Specific Gravity:	2.65
Sample Location:	B3-5'	Initial Void Ratio:	0.46
Dry Weight (pcf):	113.6	Water Added At (psf):	1203.0
Initial Moisture:	6.9%	Consolidation Coef. (Cc):	0.1137
Initial Saturation:	15.9%		

CONSOLIDATION DIAGRAM  
PERCENT CONSOLIDATION



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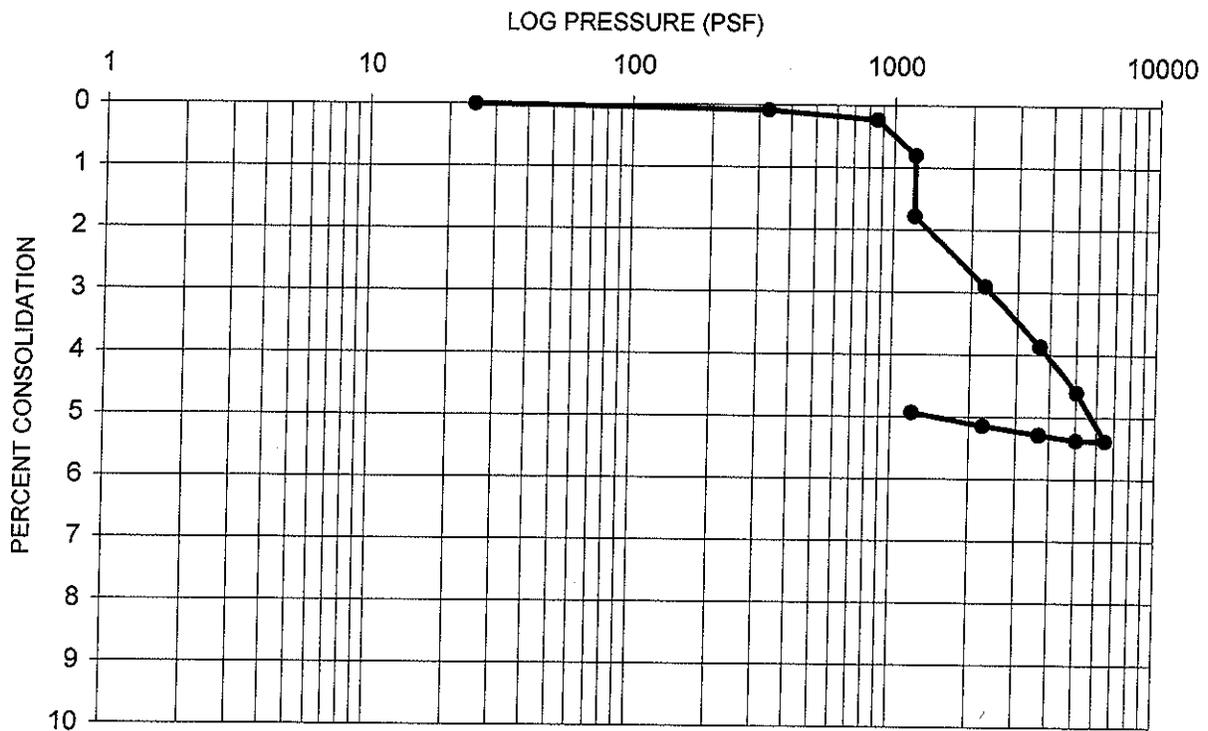
CONSOLIDATION DIAGRAM #6

JB: 20122-B CONSULTANT: PK

CLIENT: SAFAVI

Earth Material:	ALLUVIUM	Specific Gravity:	2.65
Sample Location:	B3-10'	Initial Void Ratio:	0.40
Dry Weight (pcf):	117.9	Water Added At (psf):	1206.0
Initial Moisture:	5.6%	Consolidation Coef. (Cc):	0.0790
Initial Saturation:	36.9%		

CONSOLIDATION DIAGRAM  
PERCENT CONSOLIDATION



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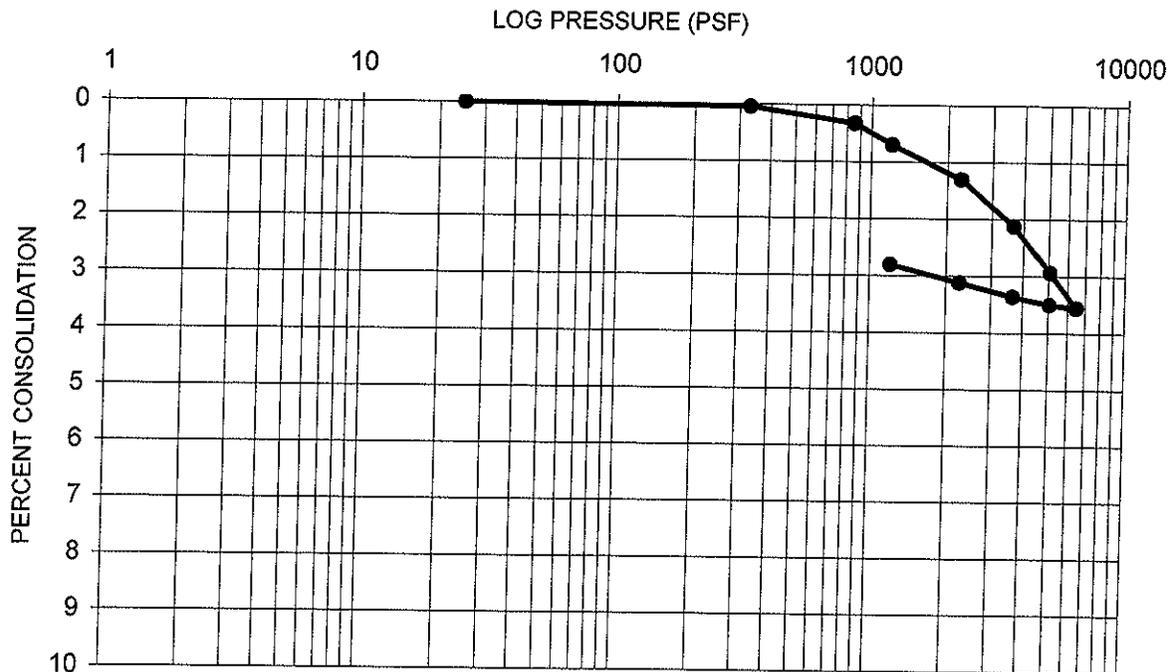
**CONSOLIDATION DIAGRAM #7**

JB: 20122-B CONSULTANT: PK

CLIENT: SAFAVI

Earth Material:	ALLUVIUM	Specific Gravity:	2.65
Sample Location:	B4-5'	Initial Void Ratio:	0.31
Dry Weight (pcf):	126.3	Water Added At (psf):	1203.0
Initial Moisture:	3.3%	Consolidation Coef. (Cc):	0.0679
Initial Saturation:	28.3%		

**CONSOLIDATION DIAGRAM  
PERCENT CONSOLIDATION**



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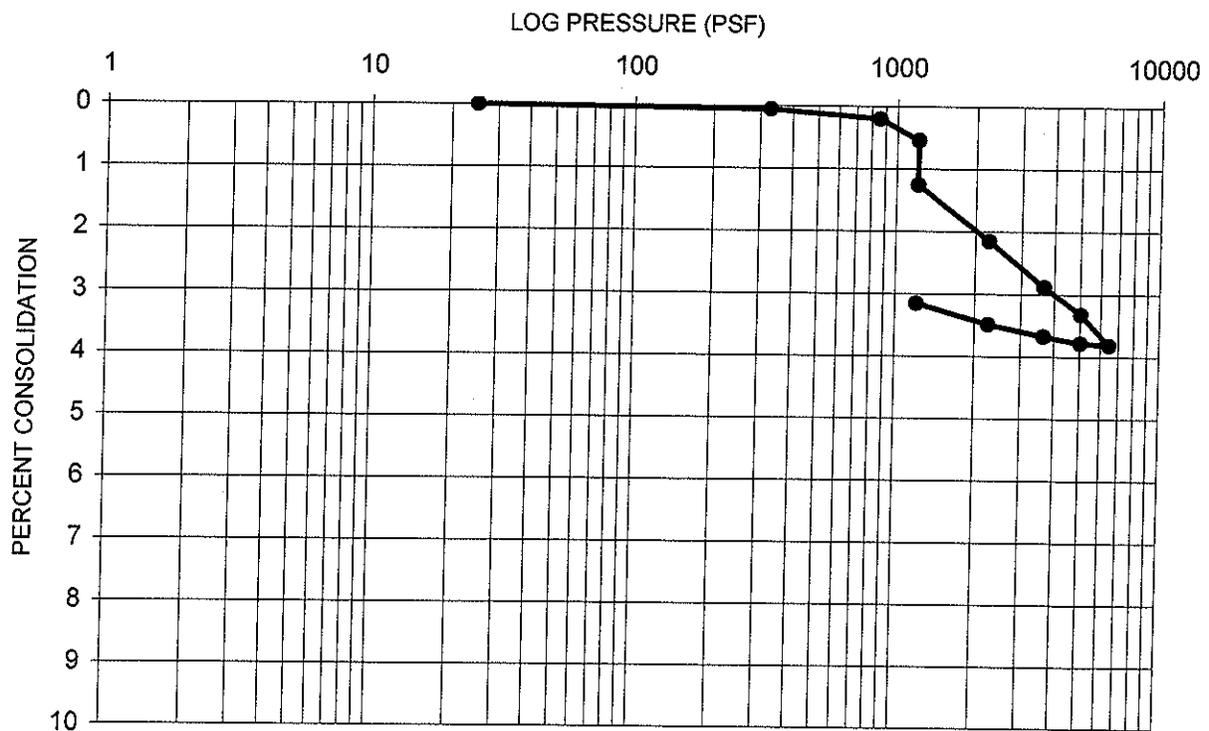
## CONSOLIDATION DIAGRAM #8

JB: 20122-B CONSULTANT: PK

CLIENT: SAFAVI

Earth Material:	ALLUVIUM	Specific Gravity:	2.65
Sample Location:	B8-15'	Initial Void Ratio:	0.50
Dry Weight (pcf):	109.9	Water Added At (psf):	1206.0
Initial Moisture:	3.1%	Consolidation Coef. (Cc):	0.0551
Initial Saturation:	16.3%		

### CONSOLIDATION DIAGRAM PERCENT CONSOLIDATION



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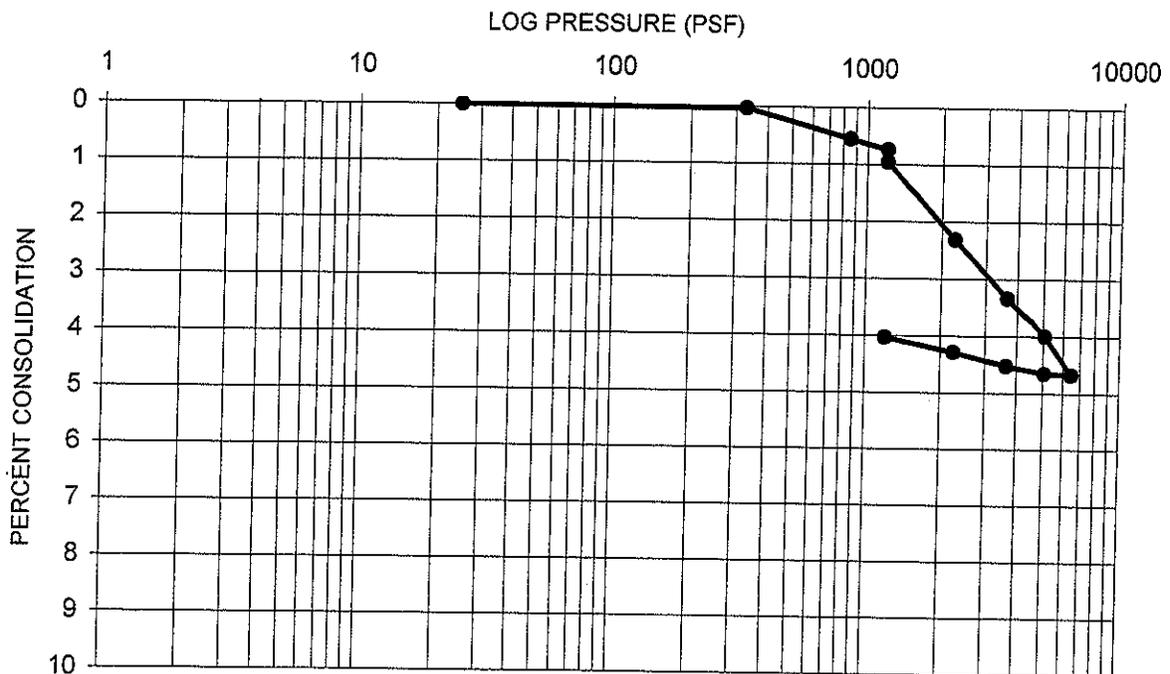
**CONSOLIDATION DIAGRAM #9**

JB: 20122-B CONSULTANT: PK

CLIENT: SAFAVI

Earth Material:	ALLUVIUM	Specific Gravity:	2.65
Sample Location:	B8-20'	Initial Void Ratio:	0.37
Dry Weight (pcf):	121.1	Water Added At (psf):	1203.0
Initial Moisture:	4.9%	Consolidation Coef. (Cc):	0.0715
Initial Saturation:	35.5%		

**CONSOLIDATION DIAGRAM  
 PERCENT CONSOLIDATION**



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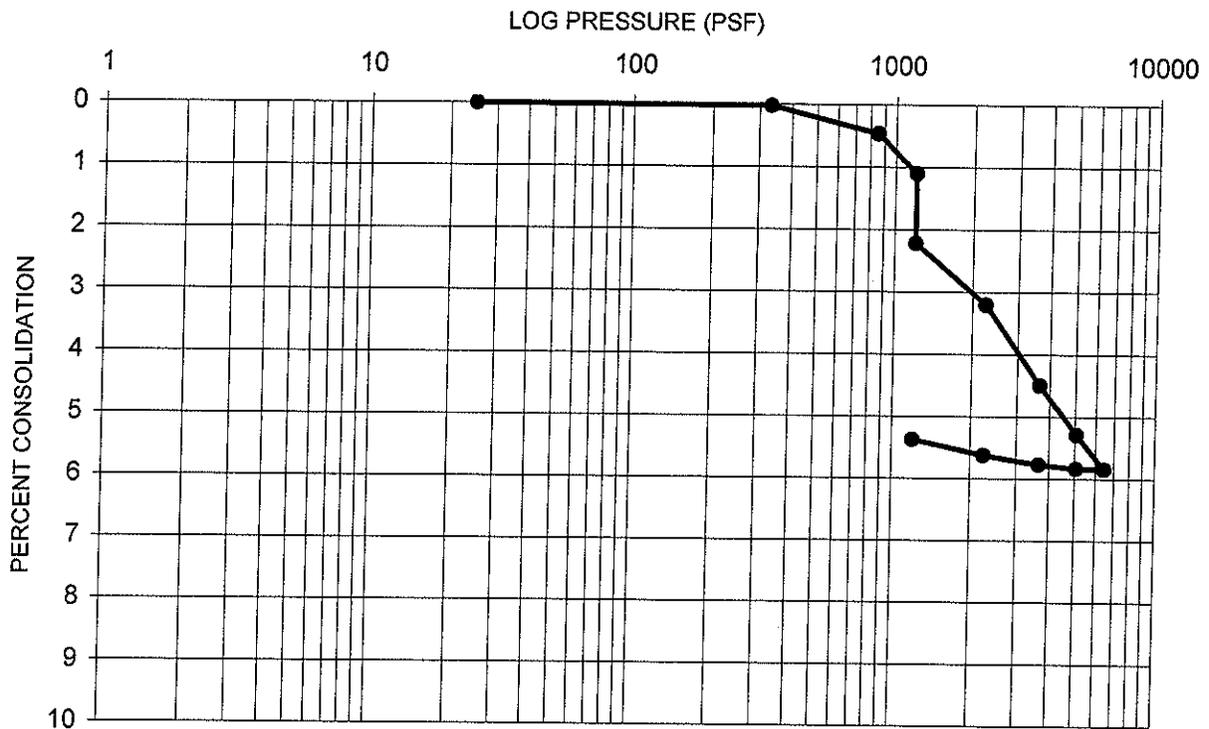
**CONSOLIDATION DIAGRAM #10**

JB: 20122-B CONSULTANT: PK

CLIENT: SAFAVI

Earth Material:	ALLUVIUM	Specific Gravity:	2.65
Sample Location:	B10-10'	Initial Void Ratio:	0.39
Dry Weight (pcf):	119.1	Water Added At (psf):	1203.0
Initial Moisture:	3.1%	Consolidation Coef. (Cc):	0.0790
Initial Saturation:	16.3%		

**CONSOLIDATION DIAGRAM  
 PERCENT CONSOLIDATION**



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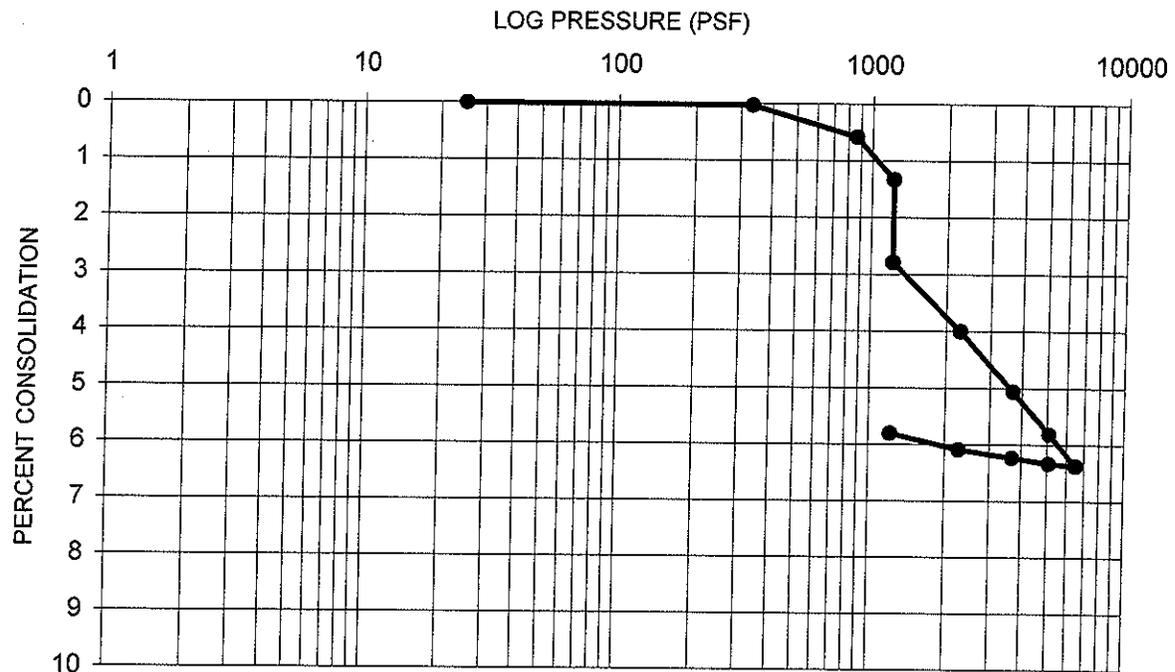
## CONSOLIDATION DIAGRAM #11

JB: 20122-B CONSULTANT: PK

CLIENT: SAFAVI

Earth Material:	ALLUVIUM	Specific Gravity:	2.65
Sample Location:	B10-15'	Initial Void Ratio:	0.30
Dry Weight (pcf):	127.7	Water Added At (psf):	1216.0
Initial Moisture:	5.2%	Consolidation Coef. (Cc):	0.0677
Initial Saturation:	46.7%		

### CONSOLIDATION DIAGRAM PERCENT CONSOLIDATION



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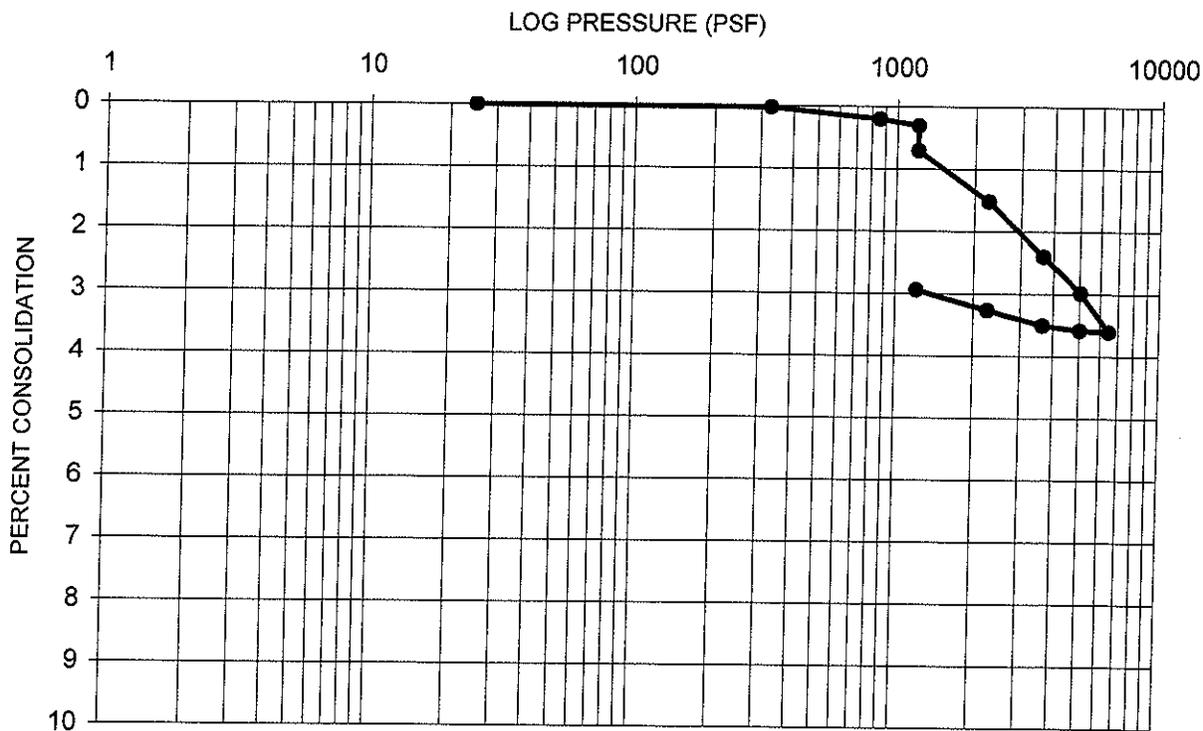
**CONSOLIDATION DIAGRAM #12**

JB: 20122-B CONSULTANT: PK

CLIENT: SAFAVI

Earth Material:	ALLUVIUM	Specific Gravity:	2.65
Sample Location:	B10-20'	Initial Void Ratio:	0.36
Dry Weight (pcf):	121.7	Water Added At (psf):	1206.0
Initial Moisture:	6.0%	Consolidation Coef. (Cc):	0.0629
Initial Saturation:	44.3%		

**CONSOLIDATION DIAGRAM  
 PERCENT CONSOLIDATION**



**SUMMARY OF CORROSION TEST RESULTS**

PROJECT NAME: Safari

EGL JOB NO.: 05-249-014

PROJECT NO.: 20122

CLIENT: J. Byer Group

DATE: 06-16-05

SUMMARIZED BY: VW

BORING NO	SAMPLE NO	DEPTH  (ft)	pH  CALTRANS 643	CHLORIDE CONTENT CALTRANS 422 (ppm)	SULFATE CONTENT CALTRANS 417 (% by weight)	MINIMUM RESISTIVITY CALTRANS 532 (ohm-cm)
BH-1	N/A	8-12	7.65	85	0.004	5100

## **APPENDIX II**

### **PUBLISHED MAPS**

Regional Topographic Map

Seismic Hazards Map

Special Studies Zone Map

Regional Geologic Map #1

Regional Geologic Map #2

Plate 1.2 Historic High Ground Water Map

Figure 3.2 PGA Soft Conditions Map

Figure 3.3 PGA Alluvium Conditions Map

Figure 3.4 Predominant Earthquake Map

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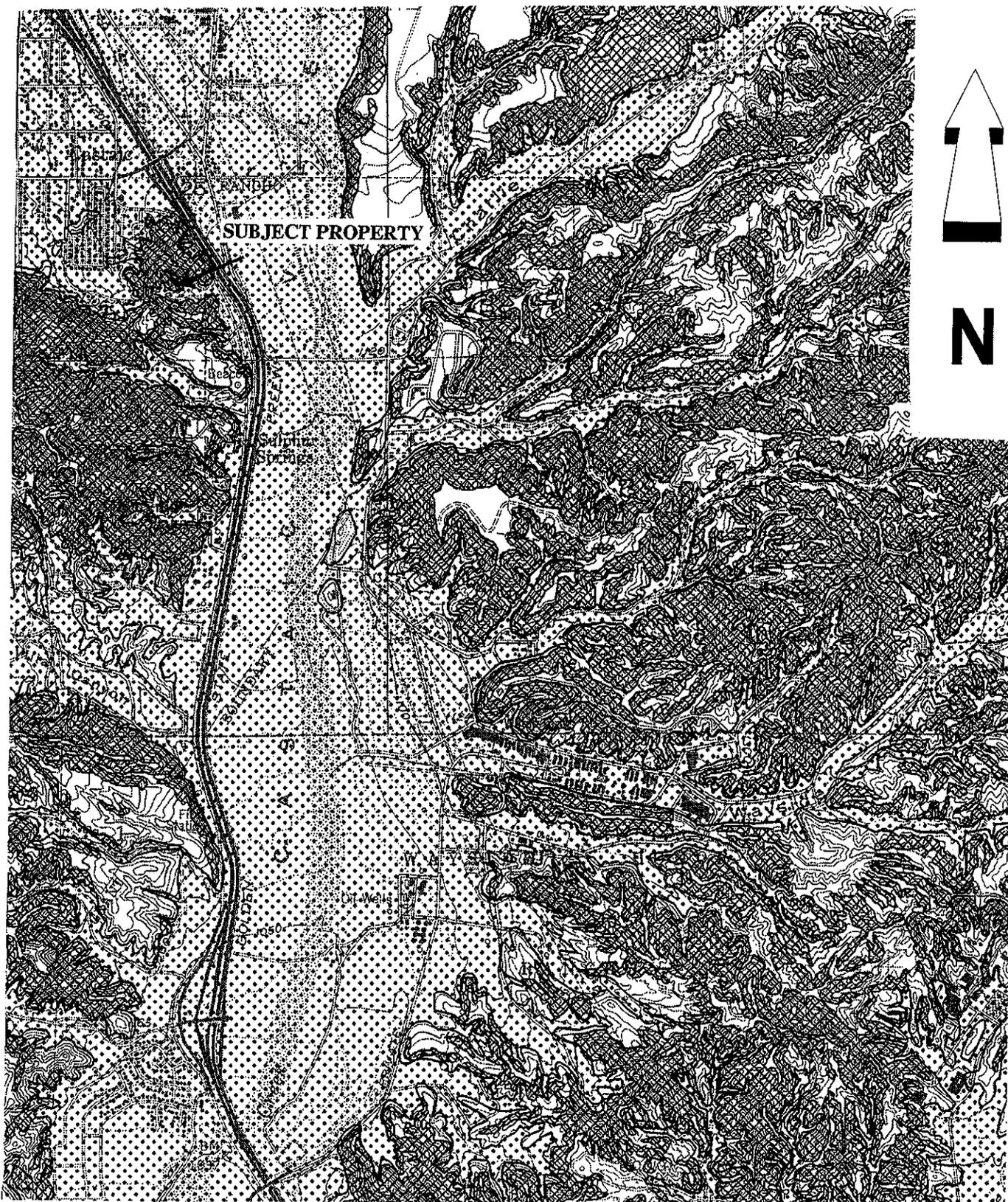
## SEISMIC HAZARD ZONES MAP

JB 20122-B SAFAVI

CONSULTANT: JWB

SCALE: 1"=2000'

REFERENCE: STATE OF CALIFORNIA SEISMIC HAZARD ZONES, NEWHALL QUADRANGLE, FEBRUARY 1, 1998.



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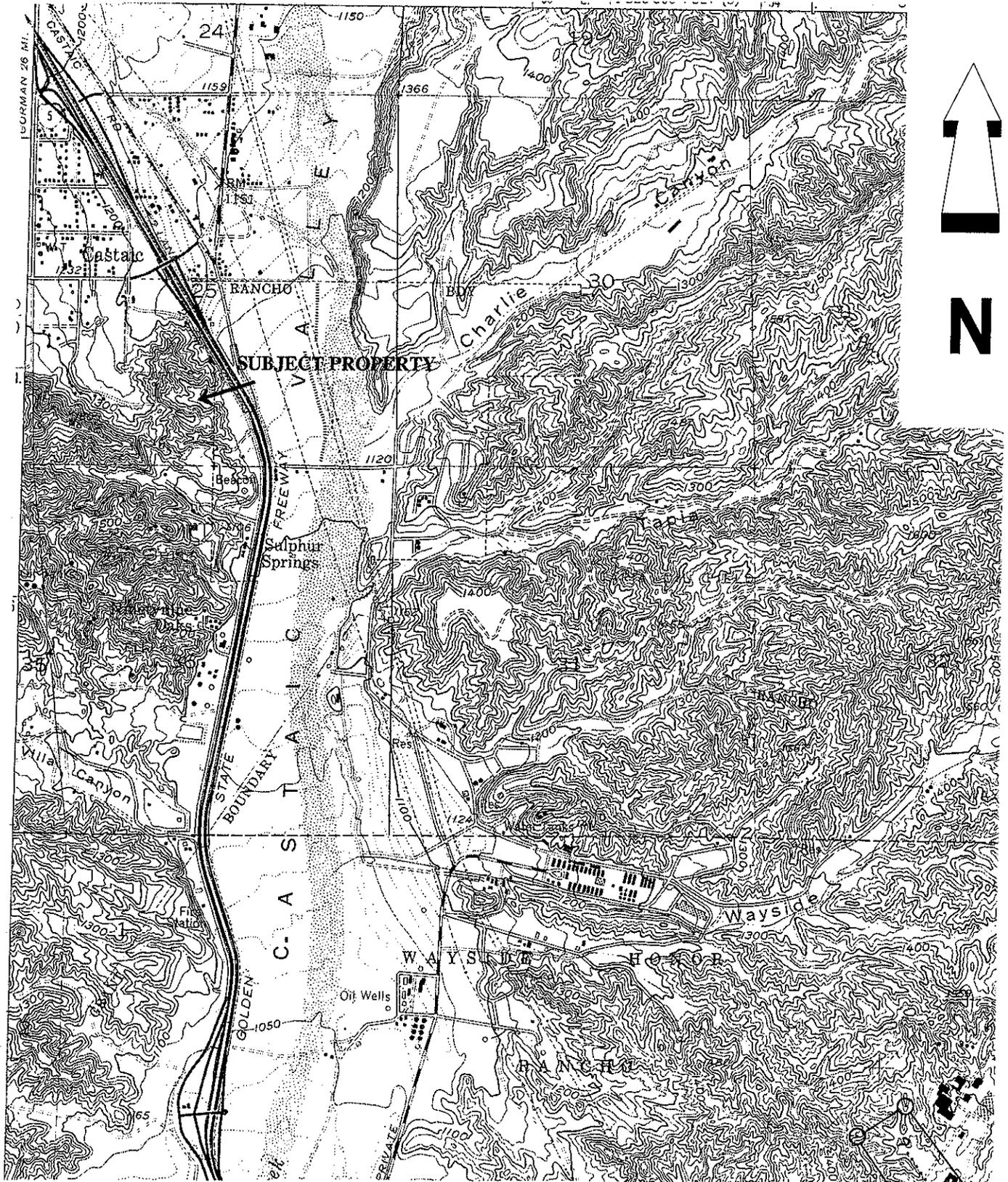
## SPECIAL STUDIES ZONES MAP

JB 20122-B SAFAVI

CONSULTANT: JWB

SCALE: 1"=2000'

REFERENCE: STATE OF CALIFORNIA SPECIAL STUDIES ZONES, NEWHALL QUADRANGLE, MARCH 1, 1988.



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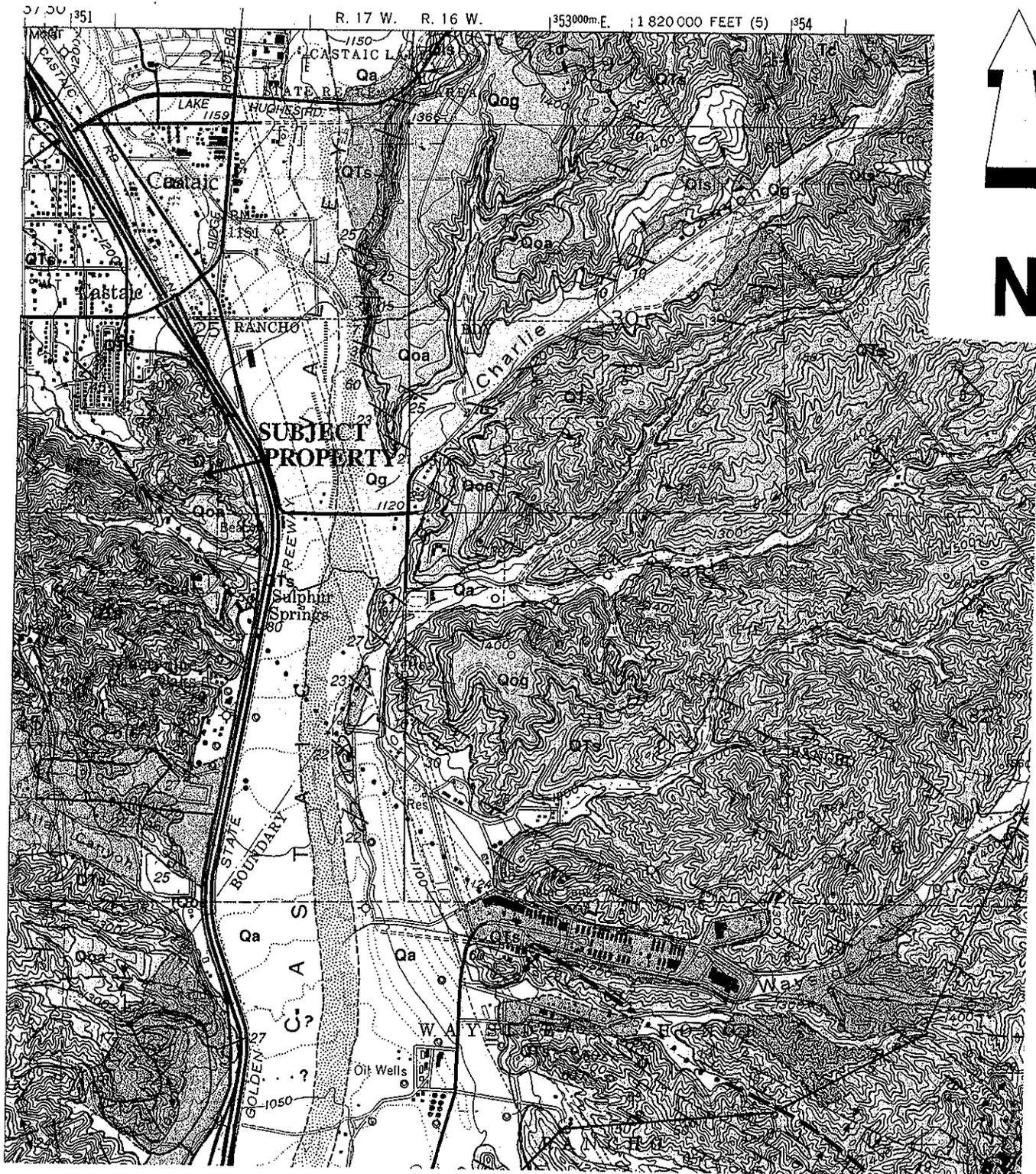
## REGIONAL GEOLOGIC MAP #1

JB 20122-C SAFAVI

CONSULTANT: PK

SCALE: 1"=2000'

REFERENCE : GEOLOGIC MAP OF THE NEWHALL QUADRANGLE, T.W. DIBBLEE, 1996.



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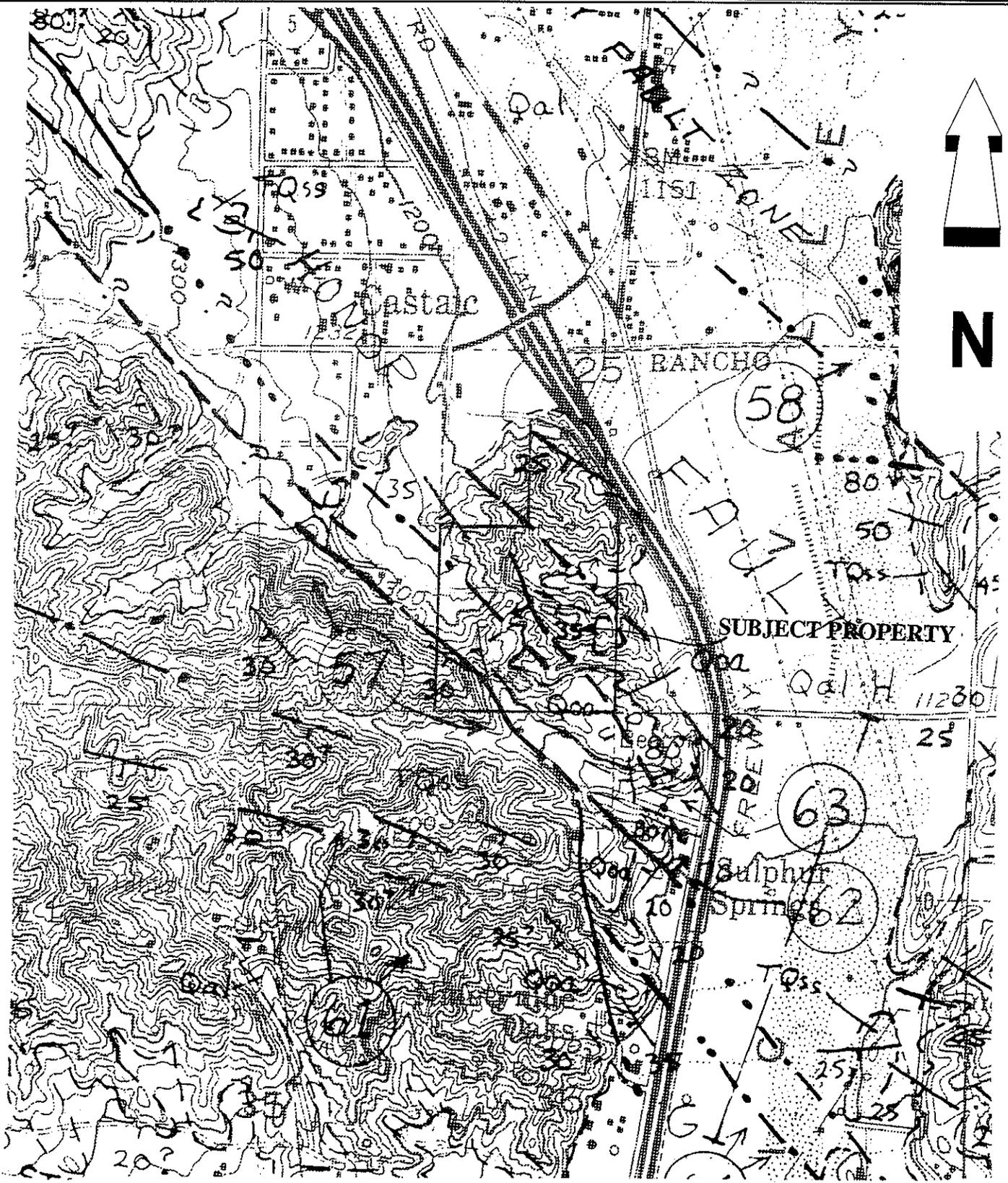
## REGIONAL GEOLOGIC MAP #2

JB 20122-B SAFAVI

CONSULTANT: JWB

SCALE: 1"=1000'

REFERENCE: PRELIMINARY GEOLOGIC MAP OF THE SAN GABRIEL FAULT ZONE, NW OF THE ANGELES CREST HIGHWAY, L.A. AND VENTURA COUNTIES, CALIFORNIA, BY F.H. WEBER, 1978



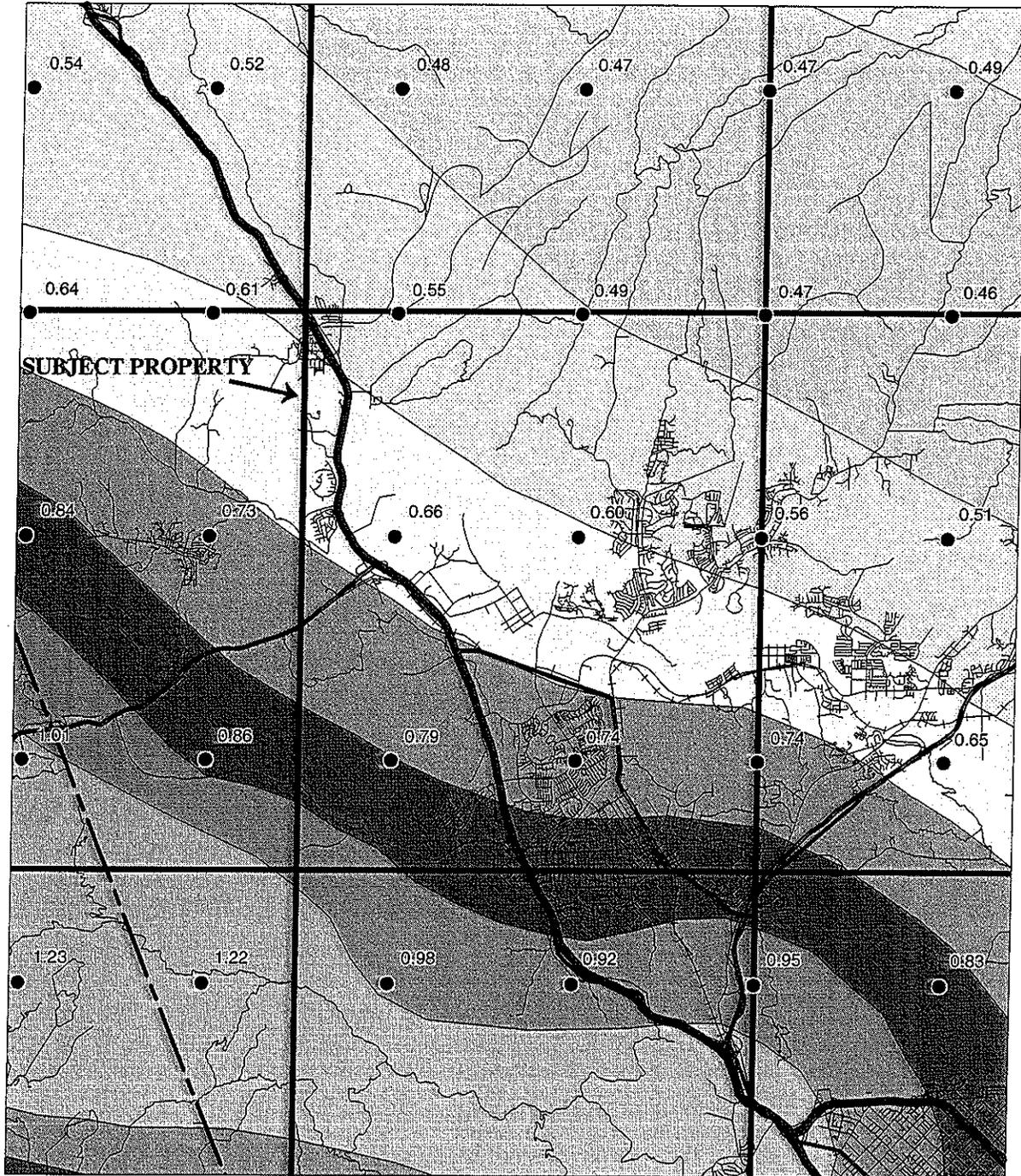


# NEWHALL 7.5 MINUTE QUADRANGLE AND PORTIONS OF ADJACENT QUADRANGLES

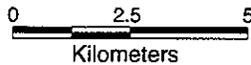
10% EXCEEDANCE IN 50 YEARS PEAK GROUND ACCELERATION (g)

1998

SOFT ROCK CONDITIONS



Base map modified from MapInfo StreetWorks © 1998 MapInfo Corporation



Department of Conservation  
Division of Mines and Geology

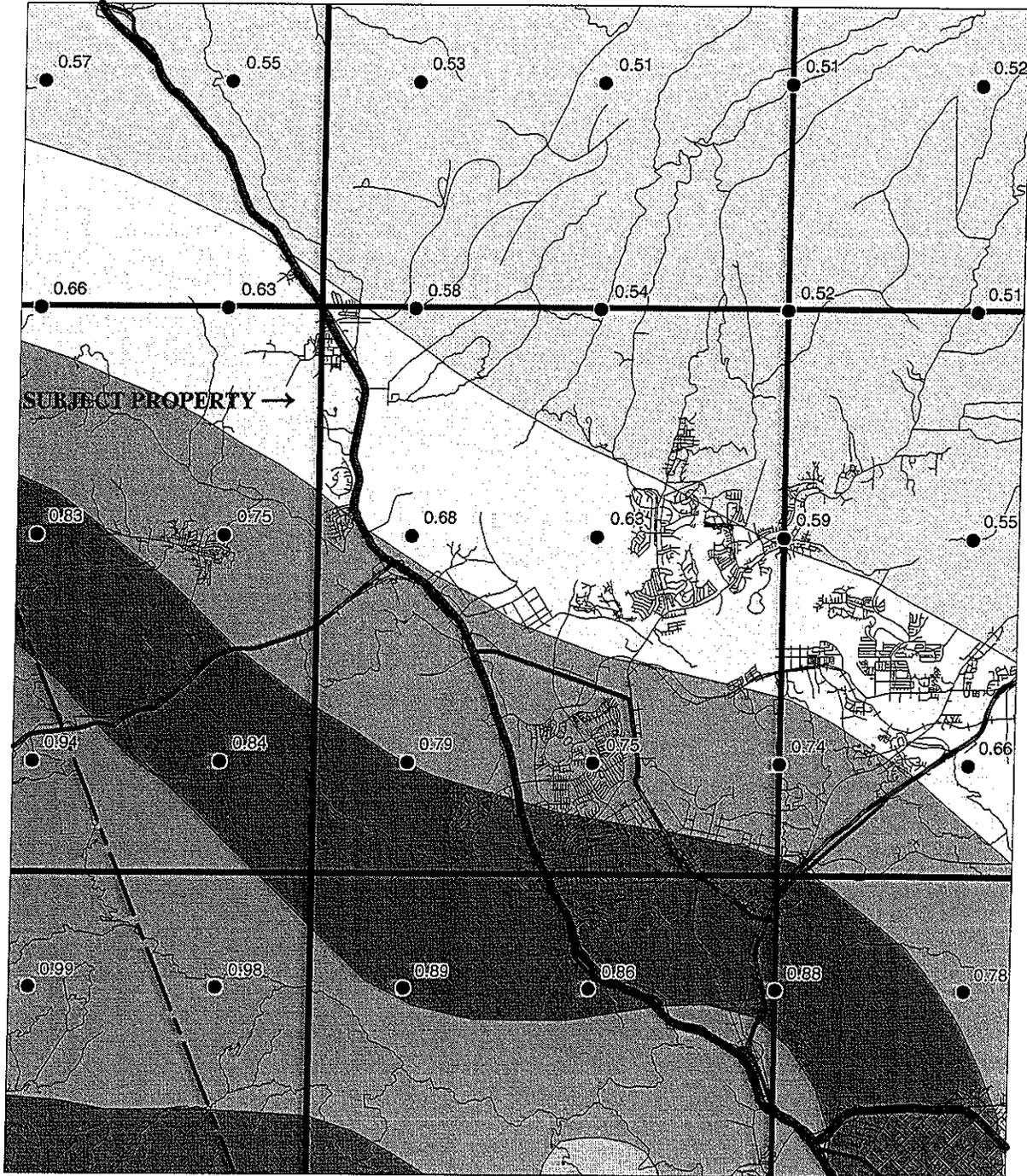


Figure 3.2

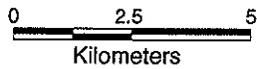
NEWHALL 7.5 MINUTE QUADRANGLE AND PORTIONS OF  
ADJACENT QUADRANGLES

10% EXCEEDANCE IN 50 YEARS PEAK GROUND ACCELERATION (g)  
1998

ALLUVIUM CONDITIONS



Base map modified from MapInfo Street Works ©1998 MapInfo Corporation



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Figure 3.3

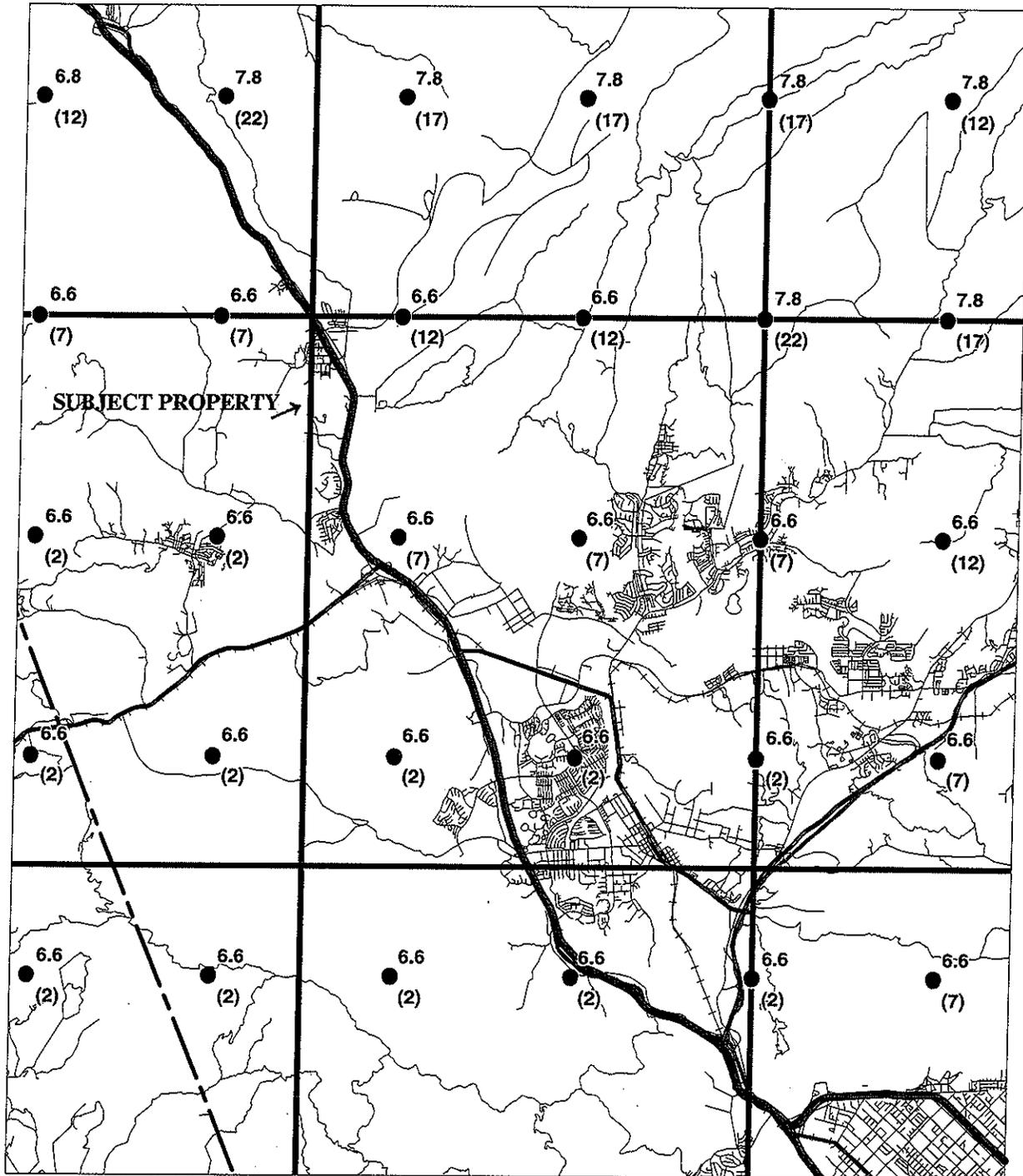
SEISMIC HAZARD EVALUATION OF THE NEWHALL QUADRANGLE  
NEWHALL 7.5 MINUTE QUADRANGLE AND PORTIONS OF  
ADJACENT QUADRANGLES

10% EXCEEDANCE IN 50 YEARS PEAK GROUND ACCELERATION

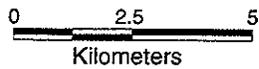
1998

PREDOMINANT EARTHQUAKE

Magnitude (Mw)  
(Distance (km))



Base map modified from MapInfo StreetWorks ©1998 MapInfo Corporation



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Figure 3.4



**APPENDIX III**

**EXPLORATION**

Log of Borings 1-10 by The J. Byer Group (15 Pages)

Log of Boring 4 by Leighton & Associates

Log of Trench Diagrams 1, 5, and 8, by Leighton & Associates (13 Pages)

JB No: 20122-B

### Log of Boring: 1

Client: BAHRAM SAFAVI

Logged By: JWB

Site Location: The Old Road, Castaic

The J. Byer Group, Inc.  
1461 E. Chevy Chase Dr., Ste 200  
Glendale, CA. 91206  
(818) 549-9959

SUBSURFACE PROFILE		SAMPLE						Remarks	
Elevation	Depth	Description	Symbol	USCS	Type	Blow Count	Moisture Content (%)		Dry Density
1235.0	1	FILL: Silty Sand, light brown, damp, medium dense, gravel to 3 inches	[Symbol]						
1234.0	2								
1233.0	3								
1232.0	4	too much gravel to sample							
1231.0	5	ALLUVIUM: Gravelly Sand, brown, moist, medium dense	[Symbol]						
1230.0	6								
1229.0	7								
1228.0	8								
1227.0	9								
1226.0	10								
1225.0	11								
1224.0	12	Clayey Gravel layer, two feet thick, reddish brown, moist, dense							
1223.0	13								
1222.0	14	Silty Sand, brown, moist, dense, some gravel							
1221.0	15								
1220.0	16								
1219.0	17								
1218.0	18								
1217.0	19								
1216.0	20								
1215.0	21								
1214.0	22								
1213.0	23								
1212.0	24	BEDROCK: Clayey Sandstone, reddish brown, damp, friable, moderately hard, massive							
1211.0	25								

Surface: Dirt Lot

Size: 8 inch Diameter

Drill Method: Hollow-Stem Auger Drill Rig

Elevation: 1,236 Feet

Drill Date: May 12, 2005

Sheet: 1 of 2

JB No: 20122-B

### Log of Boring: 1

Client: BAHRAM SAFAVI

Logged By: JWB

Site Location: The Old Road, Castaic

The J. Byer Group, Inc.  
1461 E. Chevy Chase Dr., Ste 200  
Glendale, CA. 91206  
(818) 549-9959

SUBSURFACE PROFILE		SAMPLE						Remarks	
Elevation	Depth	Description	Symbol	USCS	Type	Blow Count	Moisture Content (%)		Dry Density
1210.0	26	End at 24½ Feet; Fill to 5 Feet.	[Symbol]						
1209.0	27								
1208.0	28								
1207.0	29								
1206.0	30								
1205.0	31								
1204.0	32								
1203.0	33								
1202.0	34								
1201.0	35								
1200.0	36								
1199.0	37								
1198.0	38								
1197.0	39								
1196.0	40								
1195.0	41								
1194.0	42								
1193.0	43								
1192.0	44								
1191.0	45								
1190.0	46								
1189.0	47								
1188.0	48								
1187.0	49								
1186.0	50								

Surface: Dirt Lot

Size: 8 inch Diameter

Drill Method: Hollow-Stem Auger Drill Rig

Elevation: 1,236 Feet

Drill Date: May 12, 2005

Sheet: 2 of 2

SUBSURFACE PROFILE		SAMPLE						Remarks		
Elevation	Depth	Description	Symbol	USCS	Type	Blow Count	Moisture Content (%)		Dry Density	% Saturation
1275.0	1	ALLUVIUM: Silty Sand, brown, moist, medium dense, gravel to 3 inches	[Symbol: Sand with gravel]	SW	R	23	6.4	115.5	39.5	
1274.0	2									
1273.0	3									
1272.0	4	Gravel layer								
1271.0	5									
1270.0	6									
1269.0	7									
1268.0	8									
1267.0	9	Gravelly Sand, brown, moist, medium dense, rounded gravel to 3 inches								
1266.0	10									
1265.0	11									
1264.0	12	gravel layer								
1263.0	13									
1262.0	14									
1261.0	15									
1260.0	16									
1259.0	17									
1258.0	18									
1257.0	19									
1256.0	20									
1255.0	21									
1254.0	22									
1253.0	23									
1252.0	24									
1251.0	25									
Surface: Dirt Pad				Size: 8 Inch Diameter						
Drill Method: Hollow-Stem Auger Drill Rig				Elevation: 1,276 Feet						
Drill Date: May 13, 2005				Sheet: 1 of 2						

The J. Byer Group, Inc.  
1461 E. Chevy Chase Dr., Ste 200  
Glendale, CA, 91206  
(818) 549-9959

SUBSURFACE PROFILE		SAMPLE						Remarks		
Elevation	Depth	Description	Symbol	USCS	Type	Blow Count	Moisture Content (%)		Dry Density	% Saturation
1250.0	26		[Symbol: Sand with gravel]	SW	R	50	3.9	128.6	36.1	
1249.0	27	Gravelly Sand, light brown, moist, dense, gravel to 3 inches								
1248.0	28									
1247.0	29									
1246.0	30									
1245.0	31	End of 31 Feet; No Water; Refusal								
1244.0	32									
1243.0	33									
1242.0	34									
1241.0	35									
1240.0	36									
1239.0	37									
1238.0	38									
1237.0	39									
1236.0	40									
1235.0	41									
1234.0	42									
1233.0	43									
1232.0	44									
1231.0	45									
1230.0	46									
1229.0	47									
1228.0	48									
1227.0	49									
1226.0	50									
Surface: Dirt Pad				Size: 8 Inch Diameter						
Drill Method: Hollow-Stem Auger Drill Rig				Elevation: 1,276 Feet						
Drill Date: May 13, 2005				Sheet: 2 of 2						

The J. Byer Group, Inc.  
1461 E. Chevy Chase Dr., Ste 200  
Glendale, CA, 91206  
(818) 549-9959

JB No: 20122-B

### Log of Boring: 3

Client: BAHRAM SAFAVI

Logged By: JWB

Site Location: The Old Road, Castaic

The J. Byer Group, Inc.  
1461 E. Chevy Chase Dr., Ste 200  
Glendale, CA. 91206  
(818) 549-9959

SUBSURFACE PROFILE		SAMPLE						Remarks	
Elevation	Depth	Description	Symbol	USCS	Type	Blow Count	Moisture Content (%)		Dry Density
1259.0	1	ALLUVIUM: Silty Sand, brown, moist, dense	[Symbol: Silty Sand]	SM	R	14	6.9	113.6	39.9
1258.0	2								
1257.0	3								
1256.0	4								
1255.0	5	grades light brown, more gravel							
1254.0	6								
1253.0	7								
1252.0	8								
1251.0	9								
1250.0	10		SM	R	17	5.6	117.8	37.0	
1249.0	11								
1248.0	12								
1247.0	13	Gravelly Sand, brown, moist, dense, gravel to 2 inches	[Symbol: Gravelly Sand]	SW	R	38	5.6	121.1	39.6
1246.0	14								
1245.0	15								
1244.0	16	BEDROCK: Saugus, Clayey Sandstone, reddish brown, damp, friable, moderate hard, massive							
1243.0	17								
1242.0	18								
1241.0	19								
1240.0	20					50	9.4	128.0	85.1
1239.0	21	End at 21 Feet, No water, Refusal.							
1238.0	22								
1237.0	23								
1236.0	24								
1235.0	25								

Surface: Dirt Pad  
Drill Method: Hollow-Stem Auger Drill Rig  
Drill Date: May 13, 2005

Size: 8 Inch Diameter  
Elevation: 1,260 Feet  
Sheet: 1 of 1

JB No: 20122-B

### Log of Boring: 4

Client: BAHRAM SAFAVI

Logged By: JWB

Site Location: The Old Road, Castaic

The J. Byer Group, Inc.  
1461 E. Chevy Chase Dr., Ste 200  
Glendale, CA. 91206  
(818) 549-9959

SUBSURFACE PROFILE		SAMPLE						Remarks	
Elevation	Depth	Description	Symbol	USCS	Type	Blow Count	Moisture Content (%)		Dry Density
1239.0	1	ALLUVIUM: Silty Sand, brown, moist, medium dense, some gravel to 3 inches	[Symbol: Silty Sand]	SM	R	44	3.3	128.3	28.3
1238.0	2								
1237.0	3								
1236.0	4								
1235.0	5								
1234.0	6								
1233.0	7	grades light brown, more gravel							
1232.0	8								
1231.0	9								
1230.0	10					50	7.1	116.2	44.6
1229.0	11	BEDROCK: Saugus Formation, Conglomerate, light brown, damp, moderately hard, friable, massive	[Symbol: Conglomerate]	R					
1228.0	12								
1227.0	13								
1226.0	14								
1225.0	15					50			
1224.0	16	End at 15 1/2 Feet, No Water, Refusal.				4"			
1223.0	17								
1222.0	18								
1221.0	19								
1220.0	20								
1219.0	21								
1218.0	22								
1217.0	23								
1216.0	24								
1215.0	25								

Surface: Dirt Road  
Drill Method: Hollow-Stem Auger Drill Rig  
Drill Date: May 13, 2005

Size: 8 Inch Diameter  
Elevation: 1,240 Feet  
Sheet: 1 of 1

JB No: 20122-8

### Log of Boring: 5

Client: BAHRAM SAFAVI

Logged By: JWB

Site Location: The Old Road, Castaic

The J. Byer Group, Inc.  
1461 E. Chevy Chase Dr., Ste 200  
Glendale, CA. 91206  
(818) 549-9959

SUBSURFACE PROFILE		SAMPLE						Remarks		
Elevation	Depth	Description	Symbol	USCS	Type	Blow Count	Moisture Content (%)		Dry Density	% Saturation
1205.0	1	SOIL: Silty Sand, red brown, damp, medium dense								
1204.0	2									
1203.0	3	ALLUVIAL TERRACE: Clayey Gravel, reddish brown, moist, dense, rounded gravel to 2 inches								
1202.0	4									
1201.0	5			GC	R	50	6.1	128.3	55.5	
1200.0	6									
1199.0	7									
1198.0	8									
1197.0	9									
1196.0	10	Sandy Gravel, light reddish brown, moist, dense, granitic clasts, weathered								
1195.0	11			GW	R	50	5.3	119.9	38.9	
1194.0	12									
1193.0	13									
1192.0	14									
1191.0	15			GW	R	50	9.4	124.9	77.1	
1190.0	16	slight seep at base of terrace								
1189.0	17	BEDROCK: Saugus Formation, Clayey Sandstone, reddish brown, damp, friable, moderately hard, massive								
1188.0	18			R		70	11.2	123.2	87.0	
1187.0	19	End at 18 1/2 Feet. Seep at 16 1/2 Feet.								
1186.0	20									
1185.0	21									
1184.0	22									
1183.0	23									
1182.0	24									
1181.0	25									
Surface: Dirt Road			Size: 8 Inch Diameter							
Drill Method: Hollow-Stem Auger Drill Rig			Elevation: 1,206 Feet							
Drill Date: May 12, 2005			Sheet: 1 of 1							

JB No: 20122-8

### Log of Boring: 6

Client: BAHRAM SAFAVI

Logged By: JWB

Site Location: The Old Road, Castaic

The J. Byer Group, Inc.  
1461 E. Chevy Chase Dr., Ste 200  
Glendale, CA. 91206  
(818) 549-9959

SUBSURFACE PROFILE		SAMPLE						Remarks		
Elevation	Depth	Description	Symbol	USCS	Type	Blow Count	Moisture Content (%)		Dry Density	% Saturation
1275.0	1	ALLUVIUM: Silty Sand, brown, moist, dense, some gravel								
1274.0	2									
1273.0	3									
1272.0	4									
1271.0	5									
1270.0	6	Gravel Layer								
1269.0	7									
1268.0	8									
1267.0	9									
1266.0	10									
1265.0	11									
1264.0	12	Gravelly Sand, brown, moist, dense								
1263.0	13									
1262.0	14									
1261.0	15	Gravel layer								
1260.0	16									
1259.0	17									
1258.0	18									
1257.0	19									
1256.0	20			SW	SPT	9	---	---	---	
1255.0	21									
1254.0	22									
1253.0	23									
1252.0	24									
1251.0	25			SW	SPT	14	---	---	---	
Surface: Dirt Pad			Size: 8 Inch Diameter							
Drill Method: Hollow-Stem Auger Drill Rig			Elevation: 1,276 Feet							
Drill Date: May 12, 2005			Sheet: 1 of 2							

JB No: 20122-B

### Log of Boring: 6

Client: BAHRAM SAFAVI

Logged By: JWB

Site Location: The Old Road, Castaic

The J. Byer Group, Inc.  
1461 E. Chevy Chase Dr., Ste 200  
Glendale, CA. 91206  
(818) 549-9959

SUBSURFACE PROFILE		SAMPLE						Remarks		
Elevation	Depth	Description	Symbol	USCS	Type	Blow Count	Moisture Content (%)		Dry Density	% Saturation
1250.0	26	more gravel, coarse								
1249.0	27									
1248.0	28									
1247.0	29									
1246.0	30									
1245.0	31	<b>BEDROCK:</b> Saugus Formation, Conglomerate, light brown, damp, moderately hard, friable, massive			SPT	40				7% Clay, 9% Silt, 84% Sand
1244.0	32	End at 31 1/2 Feet; No Water; Refusal.								
1243.0	33									
1242.0	34									
1241.0	35									
1240.0	36									
1239.0	37									
1238.0	38									
1237.0	39									
1236.0	40									
1235.0	41									
1234.0	42									
1233.0	43									
1232.0	44									
1231.0	45									
1230.0	46									
1229.0	47									
1228.0	48									
1227.0	49									
1226.0	50									
Surface: Dirt Pad			Size: 8 Inch Diameter							
Drill Method: Hollow-Stem Auger Drill Rig			Elevation: 1,276 Feet							
Drill Date: May 12, 2005			Sheet: 2 of 2							

JB No: 20122-B

### Log of Boring: 7

Client: BAHRAM SAFAVI

Logged By: JWB

Site Location: The Old Road, Castaic

The J. Byer Group, Inc.  
1461 E. Chevy Chase Dr., Ste 200  
Glendale, CA. 91206  
(818) 549-9959

SUBSURFACE PROFILE		SAMPLE						Remarks		
Elevation	Depth	Description	Symbol	USCS	Type	Blow Count	Moisture Content (%)		Dry Density	% Saturation
1178.0	1	<b>ALLUVIUM:</b> Silty Sand, brown, damp, medium dense								
1177.0	2									
1176.0	3									
1175.0	4									
1174.0	5									
1173.0	6	cobble layer		SM	R	36	7.0	112.7	39.7	
1172.0	7	grades light brown								
1171.0	8	<b>BEDROCK:</b> Saugus Formation, Conglomerate, gray and brown, damp, moderately hard, friable								
1170.0	9									
1169.0	10									
1168.0	11					75 6"	3.1	117.8	20.4	
1167.0	12									
1166.0	13									
1165.0	14									
1164.0	15									
1163.0	16	End at 16 Feet; No Water.				100 6"	7.5	113.8	43.6	
1162.0	17									
1161.0	18									
1160.0	19									
1159.0	20									
1158.0	21									
1157.0	22									
1156.0	23									
1155.0	24									
1154.0	25									
Surface: Dirt Road			Size: 8 Inch Diameter							
Drill Method: Hollow-Stem Auger Drill Rig			Elevation: 1,179 Feet							
Drill Date: July 18, 2005			Sheet: 1 of 1							

JB No: 20122-B

### Log of Boring: 8

Client: BAHRAM SAFAVI

Logged By: JWb

Site Location: The Old Road, Castaic

The J. Byer Group, Inc.  
1461 E. Chevy Chase Dr., Ste 200  
Glendale, CA. 91206  
(818) 549-9959

SUBSURFACE PROFILE		SAMPLE						Remarks			
Elevation	Depth	Description	Symbol	USCS	Type	Blew Count	Moisture Content (%)		Dry Density	% Saturation	
1146.0	1	ALLUVIUM: Silty Sand, brown, damp, medium dense, some gravel		SM	R	14	8.1	104.0	38.3		
1145.0	2										
1144.0	3										
1143.0	4										
1142.0	8	Gravelly Sand, light brown, damp, medium dense, less fines		SM	R	14	8.7	100.4	35.5		
1141.0	6										
1140.0	7										
1138.0	8										
1136.0	11	Silty Sand in layers		SW	R	29	3.1	109.9	16.3		
1135.0	12										
1134.0	13										
1133.0	14										
1127.0	20	Sandy Gravel, light brown, damp, dense		SM	R	25	5.2	120.6	37.3		
1126.0	21										
1125.0	22										
1124.0	23										
1122.0	25	sample disturbed, small cobbles		SW	R	50 6"	4.9	107.2	23.7		
Surface: Dirt Road			Size: 8 Inch Diameter								
Drill Method: Hollow-Stem Auger Drill Rig			Elevation: 1,147 Feet								
Drill Date: July 18, 2005			Sheet: 1 of 2								

JB No: 20122-B

### Log of Boring: 8

Client: BAHRAM SAFAVI

Logged By: JWb

Site Location: The Old Road, Castaic

The J. Byer Group, Inc.  
1461 E. Chevy Chase Dr., Ste 200  
Glendale, CA. 91206  
(818) 549-9959

SUBSURFACE PROFILE		SAMPLE						Remarks			
Elevation	Depth	Description	Symbol	USCS	Type	Blew Count	Moisture Content (%)		Dry Density	% Saturation	
1121.0	26			SW	R	50 6"	1.8	114.0	10.9		
1120.0	27										
1119.0	28										
1118.0	29										
1117.0	30	cobbles									
1115.0	32	BEDROCK: Saugus Formation, Sandstone and Conglomerate, light brown, damp, moderately hard, friable, massive									
1114.0	33										
1113.0	34										
1112.0	35										
1111.0	36			R	50+	3.8	118.0	24.8			
1110.0	37										
1109.0	38										
1108.0	39										
1107.0	40					16 50 6"					
1106.0	41										
1105.0	42										
1104.0	43										
1103.0	44										
1102.0	45										
1101.0	46										
1100.0	47										
1099.0	48										
1098.0	49										
1097.0	50										
1097.0	50										
Surface: Dirt Road			Size: 8 Inch Diameter								
Drill Method: Hollow-Stem Auger Drill Rig			Elevation: 1,147 Feet								
Drill Date: July 18, 2005			Sheet: 2 of 2								

JB No: 20122-B  
**Log of Boring: 9**  
 Client: BAHRAM SAFAVI  
 Logged By: JWB  
 Site Location: The Old Road, Castaic

The J. Byer Group, Inc.  
 1461 E. Chevy Chase Dr., Ste 200  
 Glendale, CA, 91206  
 (818) 548-8959

SUBSURFACE PROFILE		SAMPLE						Remarks	
Elevation	Depth	Description	Symbol	USCS	Type	Blow Count	Moisture Content (%)		Dry Density
1158.0	1	ALLUVIUM: Silty Sand, brown, damp, medium dense		SM	R	25	3.5	106.6	17.2
1157.0	2								
1156.0	3								
1155.0	4								
1154.0	5								
1151.0	8	BEDROCK: Scarpus Formation, Conglomerate, light brown, damp, dense, coarse grained, some gravel, friable, massive		R	75 6"	5.0	106.2	23.7	
1150.0	9								
1149.0	10								
1148.0	11								
1147.0	12								
1146.0	13								
1145.0	14								
1144.0	15								
1143.0	16								
1142.0	17								
1141.0	18								
1140.0	19								
1139.0	20	End at 20 Feet, No Water		R	100 3"	4.9	106.6	23.3	
1138.0	21								
1137.0	22								
1136.0	23								
1135.0	24								
1134.0	25								

Surface: Dirt Road  
 Drill Method: Hollow-Stem Auger Drill Rig  
 Drill Date: July 18, 2005  
 Size: 8 Inch Diameter  
 Elevation: 1,159 Feet  
 Sheet: 1 of 1

JB No: 20122-B  
**Log of Boring: 10**  
 Client: BAHRAM SAFAVI  
 Logged By: JWB  
 Site Location: The Old Road, Castaic

The J. Byer Group, Inc.  
 1461 E. Chevy Chase Dr., Ste 200  
 Glendale, CA, 91206  
 (818) 548-8959

SUBSURFACE PROFILE		SAMPLE						Remarks		
Elevation	Depth	Description	Symbol	USCS	Type	Blow Count	Moisture Content (%)		Dry Density	% Saturation
1166.0	1	FILL: Silty Sand, brown and dark brown, moist, medium dense, some gravel								
1165.0	2									
1164.0	3									
1163.0	4	ALLUVIUM: Gravelly Sand, brown, moist, medium dense								
1162.0	5									
1161.0	6									
1160.0	7									
1159.0	8									
1157.0	10	sample disturbed, rock in tip		R	22	3.1	119.1	21.3		
1156.0	11	grades dense, slow drilling								
1155.0	12									
1154.0	13									
1153.0	14	sample disturbed, on rock								
1152.0	16	slow drilling		SW	R	50 11"	5.2	127.7	46.6	6% Clay, 5% Silt, 91% Sand
1151.0	18									
1150.0	17	Gravelly Sand, brown, moist, dense								
1149.0	18									
1148.0	19									
1147.0	20	Alluvium Continuous			R	18	6.0	121.7	44.6	
1146.0	21	slow drilling - water added								
1145.0	22	Gravelly Sand, brown, moist, dense, some silt and clay		SM	SPT	3 3 3				13.5% Clay, 17% Silt, 69.5% Sand
1144.0	23									
1143.0	24									
1142.0	25				R	27	8.2	112.9	46.7	

Surface: Dirt Shoulder  
 Drill Method: Hollow-Stem Auger Drill Rig  
 Drill Date: May 12, 2005  
 Size: 8 Inch Diameter  
 Elevation: 1,167 Feet  
 Sheet: 1 of 2

JB No: 20122-B **Log of Boring: 10**  
 Client: SAHRAM SAFAVI Logged By: JWB  
 Site Location: The Old Road, Castaic

The J. Byer Group, Inc.  
 1461 E. Chevy Chase Dr., Ste 200  
 Glendale, CA, 91206  
 (818) 549-9959

SUBSURFACE PROFILE		SAMPLE						Remarks		
Elevation	Depth	Description	Symbol	USCS	Type	Blow Count	Moisture Content (%)		Dry Density	% Saturation
1141.0	25									
1140.0	27									
1139.0	28	<b>BEDROCK:</b> Seugus Formation, Conglomerate, tan, moist, moderately hard, friable, slow drilling - water added, mostly granitic and metamorphic clasts			SPT	19				
1138.0	29									
1137.0	30				SI	50	7.4	121.3	53.9	
1136.0	31	End at 30 1/2 Feet; No Water; Fill to 3 Feet								
1135.0	32									
1134.0	33									
1133.0	34									
1132.0	35									
1131.0	36									
1130.0	37									
1129.0	38									
1128.0	39									
1127.0	40									
1126.0	41									
1125.0	42									
1124.0	43									
1123.0	44									
1122.0	45									
1121.0	46									
1120.0	47									
1119.0	48									
1118.0	49									
1117.0	50									

Surface: Dirt Shoulder Size: 8 Inch Diameter  
 Drill Method: Hollow-Stem Auger Drill Rig Elevation: 1,167 Feet  
 Drill Date: May 12, 2005 Sheet: 2 of 2

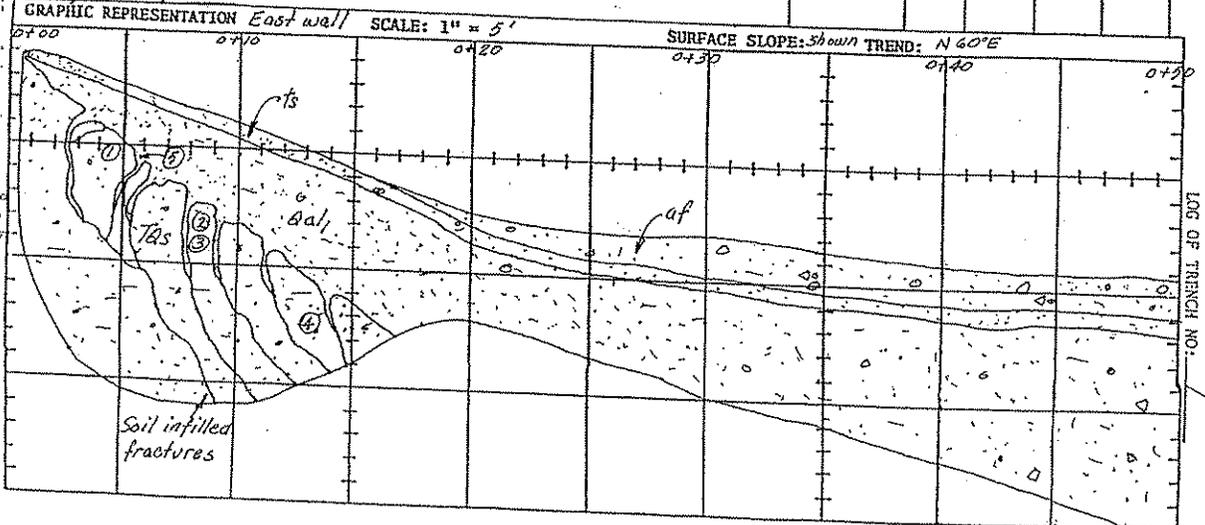
GEOTECHNICAL BORING LOG

Date: 3/3/89 Drill Hole No. B-4 Sheet 1 of 1  
 Project: Transworld / Castaic Job No. 7881423-02  
 Drilling Co. A & R Type of Rig CME-75  
 Hole Diameter 8" Drive Weight 140# Drop 30 in.

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION	
								Logged by	Sampled by
0								Logged by <u>SC/PEM</u> Sampled by <u>SC/PEM</u>	
5		①	1	20 730	116.7	2.5	SM	Artificial Fill: Medium brown, damp, loose - moderately compacted silty fine to coarse sand, trace fine subangular gravel	
10			2	18 121	100.9	5.6	SM	Alluvium: Medium brown, damp, medium dense silty fine - coarse sand @ 9' gravel size increasing to 1"	
15			3	18 121	114.1	3.2		@ 19' Becomes slightly silty, tan	
20			4	19 127	114.5	7.9	SM	Red-brown - medium brown, moist, loose, silty, fine to medium sand, trace coarse sand, trace fine subangular gravel scattered organics (Decomposed roots?)	
25			5	5 831	112.4	11.7		@ 26' much harder drilling	
30			6	22 537			SM	Red-brown, moist very dense, fine to medium silty sand, trace gravel (fine) No recover Total depth 30 feet No ground water encountered	

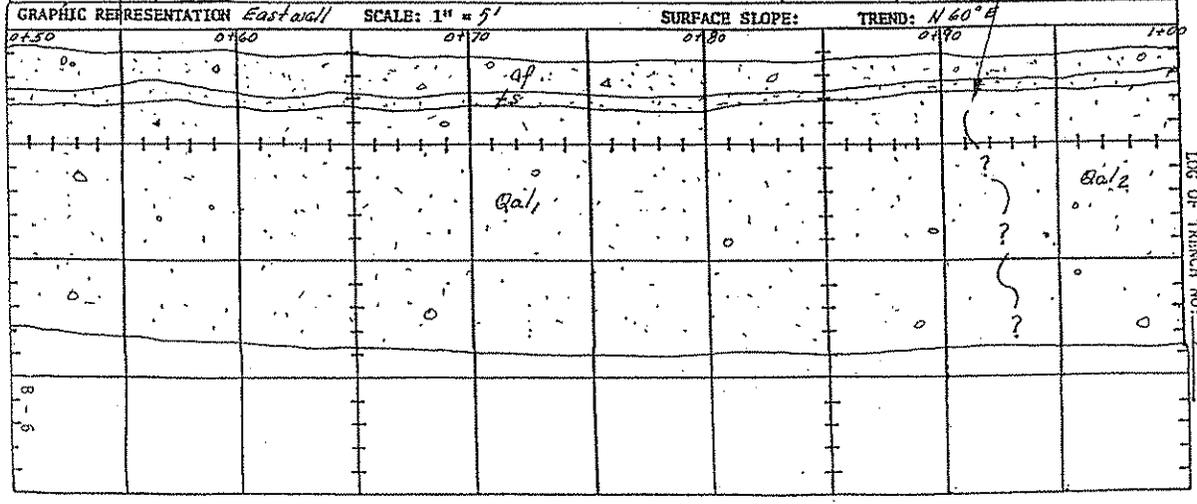
Project Name: Ironsworia Logged By: DLS  
 Project Number: 7881423-01 Elevation: \_\_\_\_\_ TRENCH NO. 1  
 Equipment: Track-hoe Location: See Geotechnical Map

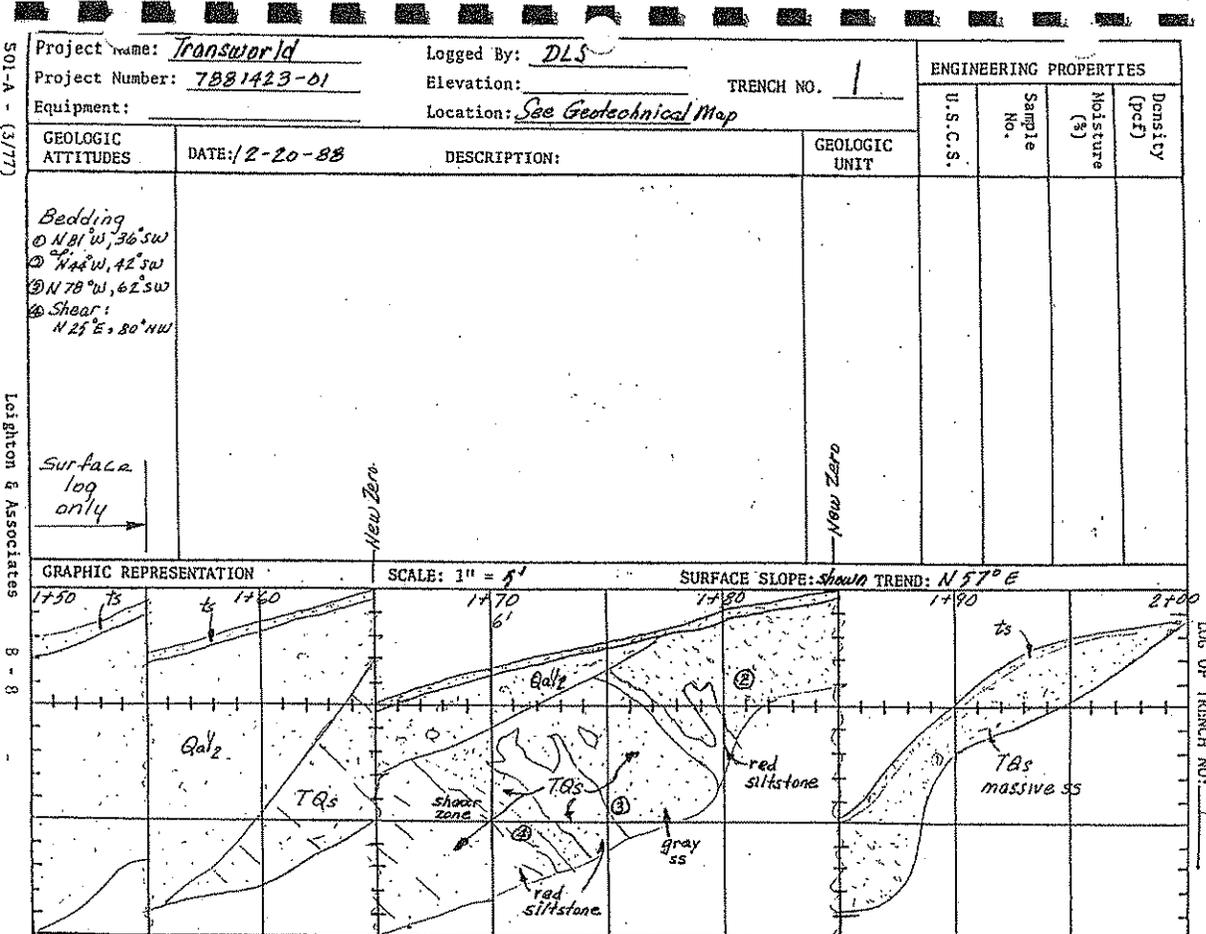
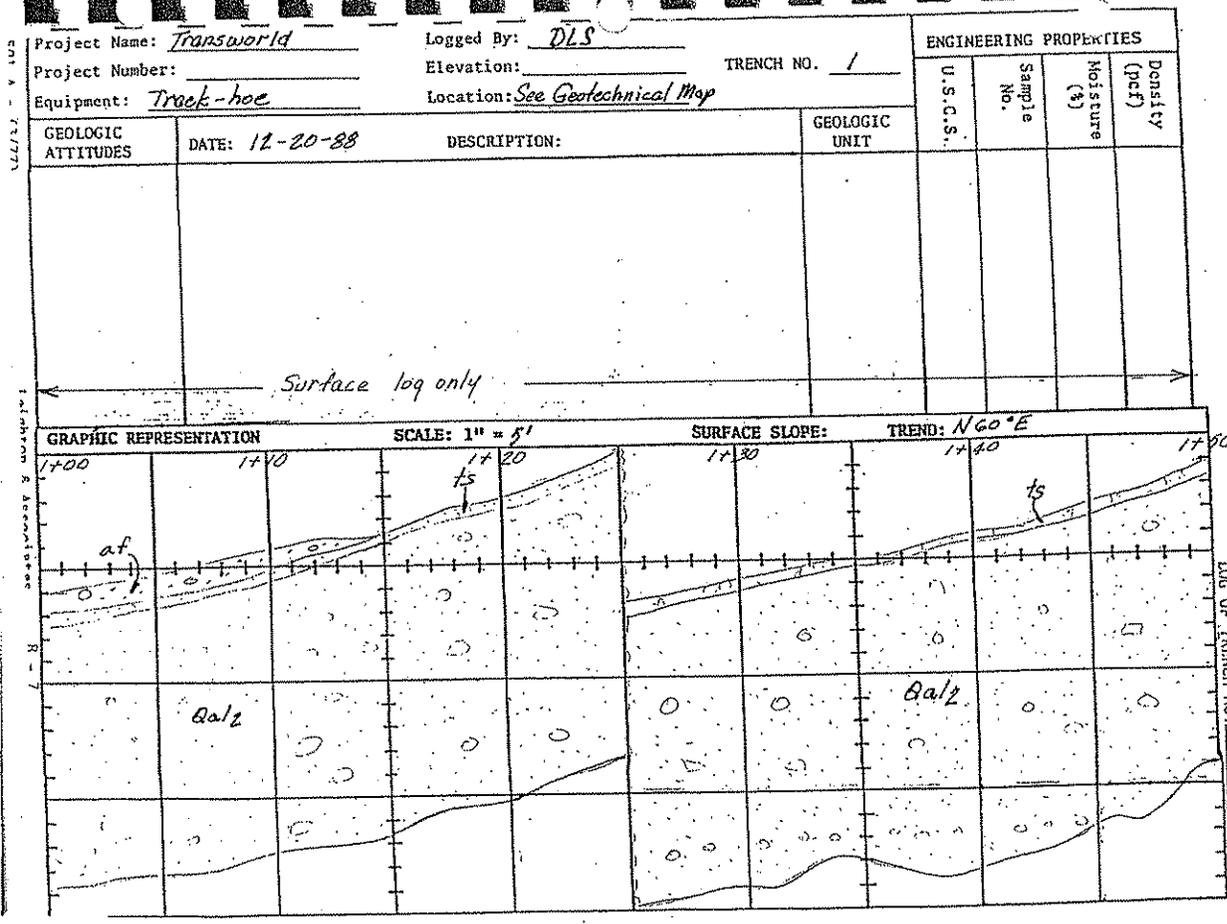
GEOLOGIC ATTITUDES	DATE: <u>12/20/88</u>	DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES		
				U.S.C.S.	Sample No.	Moisture (%)
Bedding: ① N22 W, 48 SW ② N31 W, 55 SW ③ N59 W, 61 SW		<u>Artificial Fill</u> : Moderate brown 5 yr 3/4 silty sand with roots, moist, loose	<u>af</u>			
		<u>Topsoil</u> : Moderate brown 5 yr 3/4 silty sand with roots, moist, loose	<u>ts</u>			
		<u>Alluvium</u> : Light brown 5 yr 5/6 silty fine sand with scattered cobbles moist, loose - moderately dense	<u>al</u>			
Fractures ④ N9 W, 87 SW ⑤ N18 W, 76 SW		<u>Bedrock Saugus Formation</u> : Moderate brown 5 yr 4/4 sandstone massive, locally conglomeratic, soil in-filled fractures moist, moderately hard				



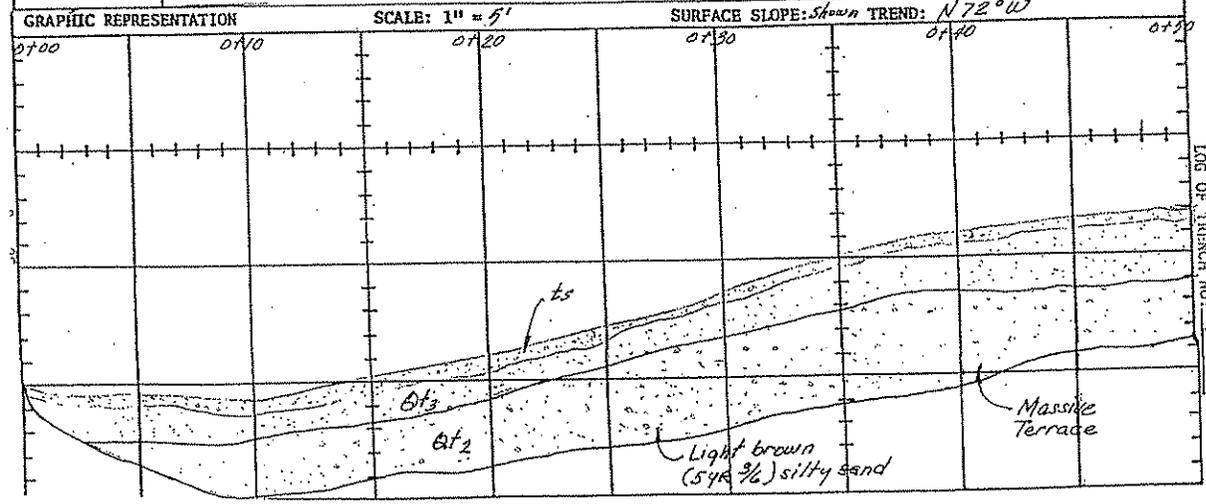
Project Number: 7881423-01 Elevation: \_\_\_\_\_ TRENCH NO. 1  
 Equipment: Track-hoe Location: See Geotechnical Map

GEOLOGIC ATTITUDES	DATE: <u>12/20/88</u>	DESCRIPTION:	GEOLOGIC UNIT	ENGINEERING PROPERTIES		
				U.S.C.S.	Sample No.	Moisture (%)
		<u>al2</u> Moderate yellowish brown 10 yr 5/4 sand with cobble, larger clasts than al1, moist, loose				
		Note * Trench caved heavily not able to shore cohesionless sand in this area.				change in grain size and color in this area
		Surface log only				

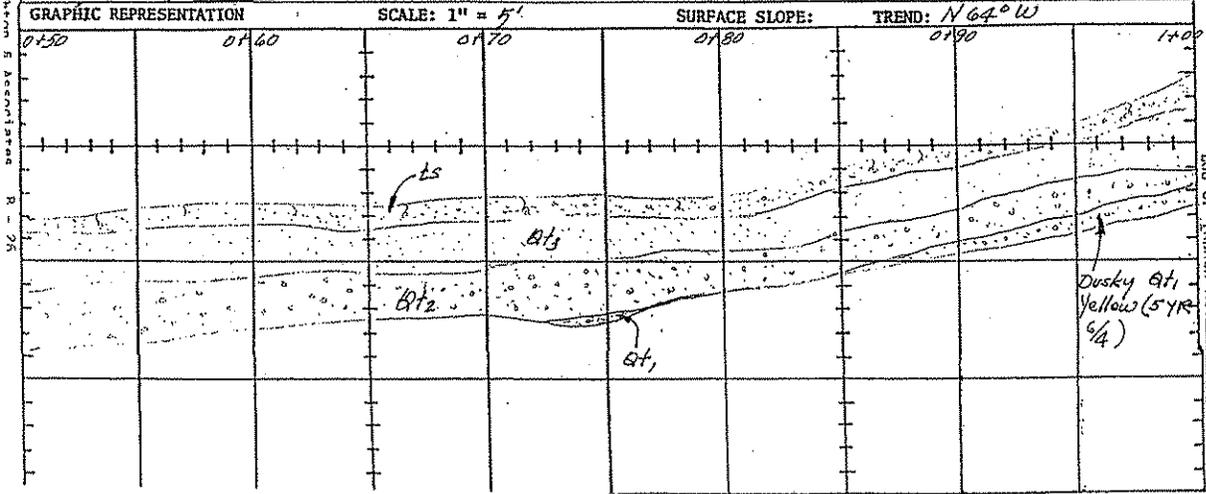




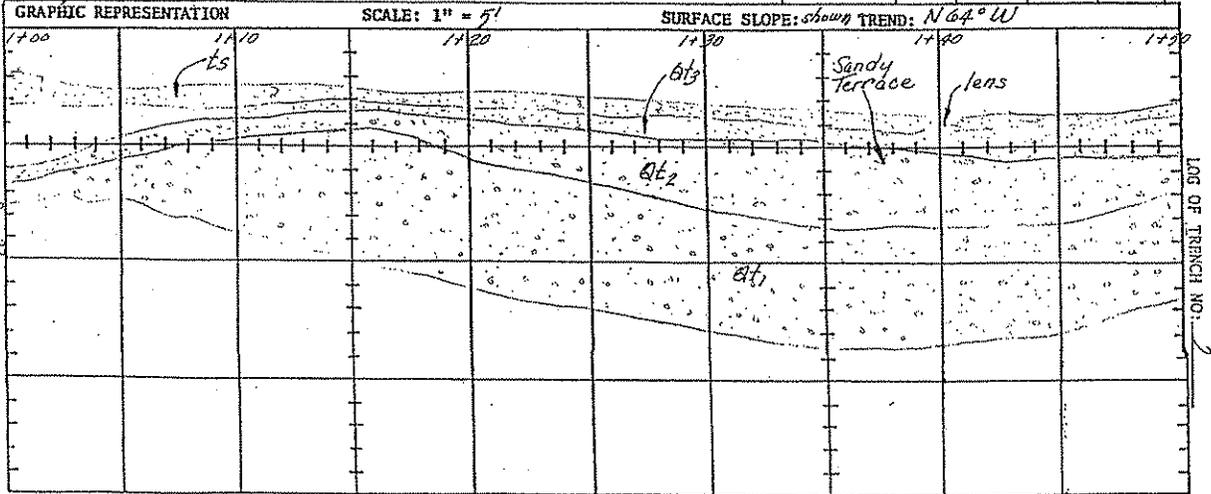
Project Name: <u>Transworld</u>		Logged By: <u>DLS</u>		ENGINEERING PROPERTIES	
Project Number: <u>7801423-01</u>		Elevation: _____		TRENCH NO. <u>5</u>	
Equipment: <u>Track-hoe</u>		Location: <u>See Plate 1</u>		U.S.C.S.	Density (pcf)
GEOLOGIC ATTITUDES	DATE: <u>3-8-89</u>	DESCRIPTION:	GEOLOGIC UNIT	Sample No.	Moisture (%)
	* For description of units See T-3				



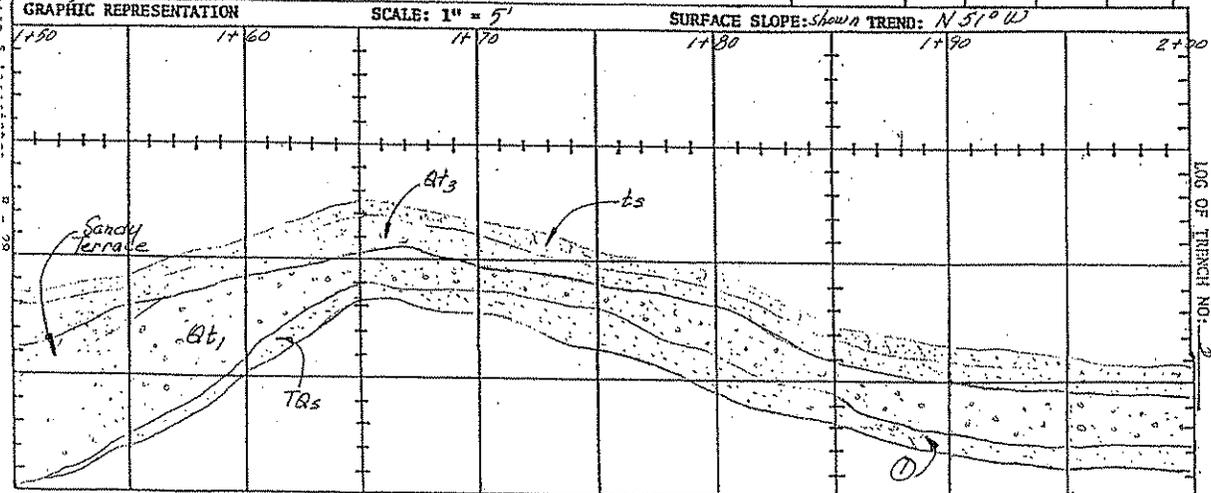
Project Name: <u>Transworld</u>		Logged By: <u>DLS</u>		ENGINEERING PROPERTIES	
Project Number: <u>7801429-01</u>		Elevation: _____		TRENCH NO. <u>5</u>	
Equipment: <u>Track-hoe</u>		Location: <u>See Plate 1</u>		U.S.C.S.	Density (pcf)
GEOLOGIC ATTITUDES	DATE: <u>3-8-89</u>	DESCRIPTION:	GEOLOGIC UNIT	Sample No.	Moisture (%)



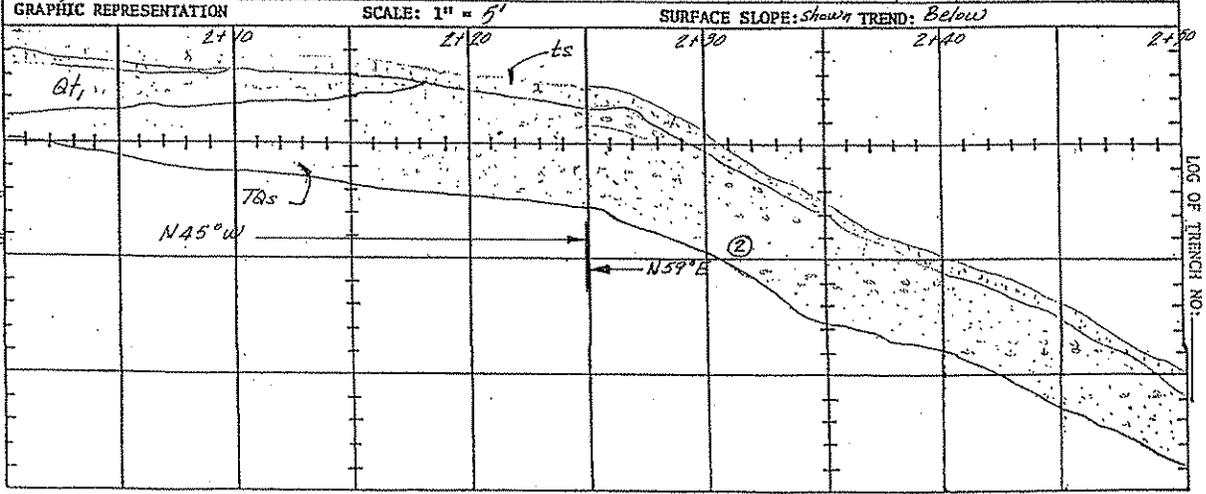
Project Name: <u>Transworld</u>		Logged By: <u>DLS</u>		TRENCH NO. <u>5</u>		ENGINEERING PROPERTIES				
Project Number: <u>7881423-01</u>		Elevation:				U.S.C.S.	Sample No.	Moisture (%)	Density (pcf)	
Equipment: <u>Track hoe</u>		Location: <u>See Plate 1</u>								
GEOLOGIC ATTITUDES	DATE: <u>3-8-89</u>	DESCRIPTION:				GEOLOGIC UNIT				



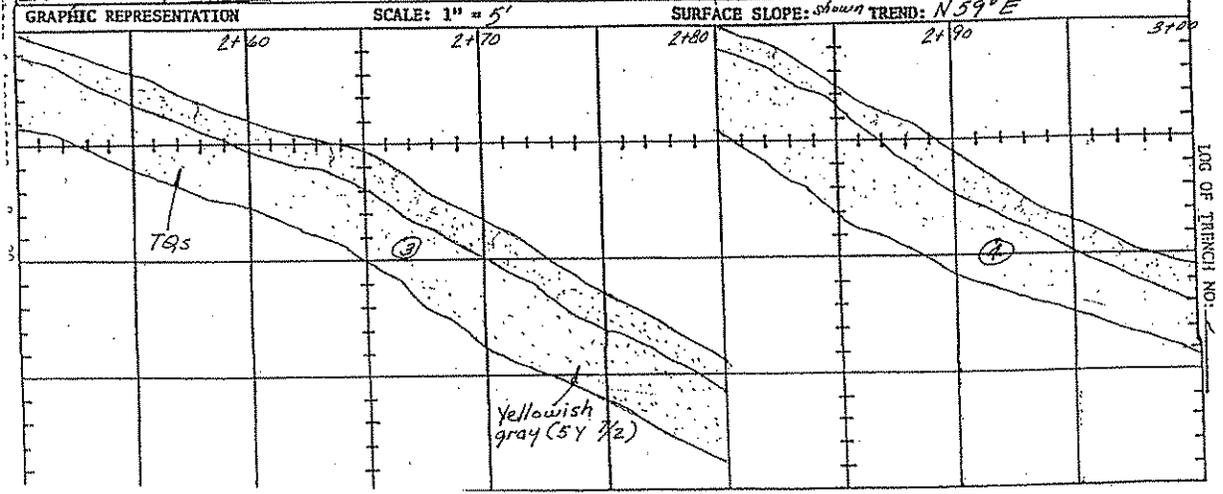
Project Name: <u>Transworld</u>		Logged By: <u>DLS</u>		TRENCH NO. <u>5</u>		ENGINEERING PROPERTIES				
Project Number: <u>7881423-01</u>		Elevation:				U.S.C.S.	Sample No.	Moisture (%)	Density (pcf)	
Equipment: <u>Track hoe</u>		Location: <u>See Plate 1</u>								
GEOLOGIC ATTITUDES	DATE: <u>3-8-89</u>	DESCRIPTION:				GEOLOGIC UNIT				



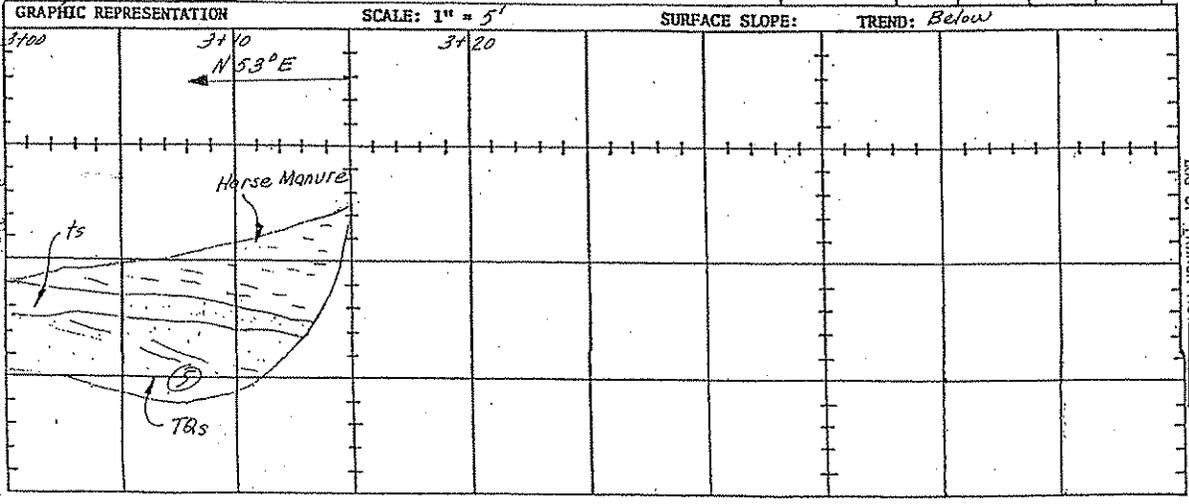
Project Name: <u>Transworld</u>		Logged By: <u>DLS</u>		TRENCH NO. <u>5</u>		ENGINEERING PROPERTIES			
Project Number: <u>7881423-01</u>		Elevation: _____				U.S.C.S.	Sample No.	Moisture (%)	Density (pcf)
Equipment: <u>Track hoe</u>		Location: <u>See Plate 1</u>							
GEOLOGIC ATTITUDES	DATE: <u>3-8-89</u>	DESCRIPTION:				GEOLOGIC UNIT			
Bedding: ① N35°W 54°SW									



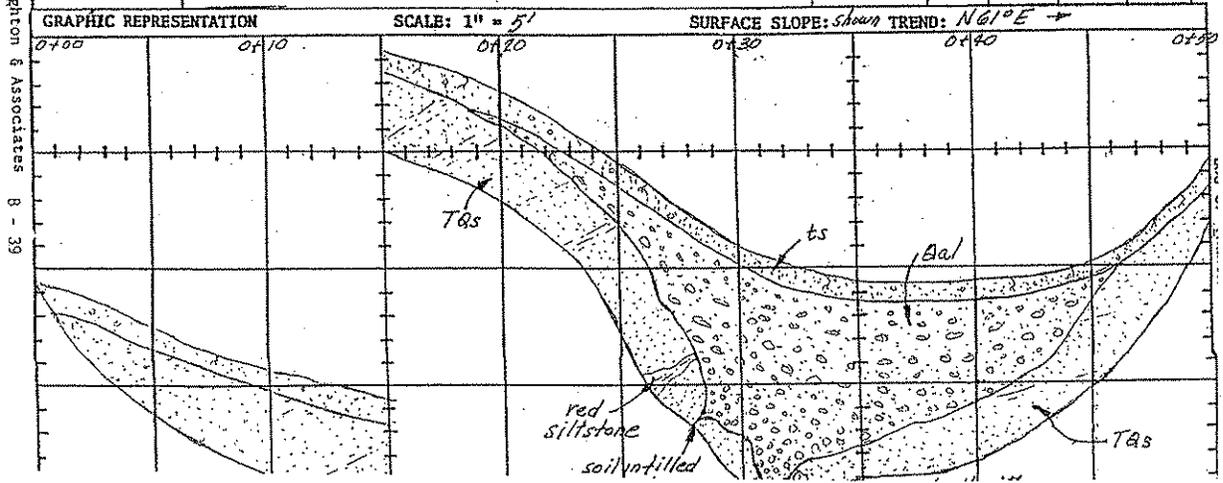
Project Name: <u>Transworld</u>		Logged By: <u>DLS</u>		TRENCH NO. <u>5</u>		ENGINEERING PROPERTIES			
Project Number: <u>7881423-01</u>		Elevation: _____				U.S.C.S.	Sample No.	Moisture (%)	Density (pcf)
Equipment: <u>Track hoe</u>		Location: <u>See Plate 1</u>							
GEOLOGIC ATTITUDES	DATE: <u>3-8-89</u>	DESCRIPTION:				GEOLOGIC UNIT			
Bedding: ③ N31°W 42 SW ④ N29 W 37 SW									



Project Name: <u>Transworld</u>		Logged By: <u>DLS</u>		TRENCH NO. <u>5</u>		ENGINEERING PROPERTIES			
Project Number: <u>7881423-01</u>		Elevation: _____				U.S.C.S.	Sample No.	Moisture (%)	Density (pcf)
Equipment: <u>Track-hoe</u>		Location: <u>See Plate 1</u>							
GEOLOGIC ATTITUDES	DATE: <u>3-8-89</u>	DESCRIPTION:				GEOLOGIC UNIT			
Bedding: ③ N 30W 53 SW									



Project Name: <u>Transworld</u>		Logged By: <u>DLS</u>		TRENCH NO. <u>8</u>		ENGINEERING PROPERTIES			
Project Number: <u>7881423-01</u>		Elevation: _____				U.S.C.S.	Sample No.	Moisture (%)	Density (pcf)
Equipment: <u>Track-hoe</u>		Location: <u>See Plate 1</u>							
GEOLOGIC ATTITUDES	DATE: <u>3-9-89</u>	DESCRIPTION:				GEOLOGIC UNIT			
Fault: ① N 22° W 57° NE ② N 20° W 40° NE									



501-A - (3/77)

Leighton & Associates 8 - 39

Project Name: <u>Transworld</u> Project Number: <u>7881423-01</u> Equipment: <u>Track-hoe</u>		Logged By: <u>DLS</u> Elevation: _____ Location: <u>See Plate 1</u>		TRENCH NO. <u>B</u>	
GEOLOGIC ATTITUDES DATE: <u>3-9-89</u>		DESCRIPTION: _____			
GEOLOGIC UNIT		SURFACE SLOPE: _____			
GRAPHIC REPRESENTATION		TREND: <u>N60°E</u>			
SCALE: 1" = 5'		_____			

S01-A - (3/77)

Laighton & Associates B - 40

## APPENDIX IV

### DETAILS, CALCULATIONS, AND SECTIONS

County of Los Angeles Geologic and Soils Engineering Review Sheet, Dated November 5, 2003

Toe of Slope Drainage Detail

Gross and Seismic Stability Calculations (16 Pages)

Liquefaction Analysis (4 Pages)

Sections A, B, C, D, and E (4 Sheets)

The J. Byer Group, Inc.  
 1461 East Chevy Chase Drive • Suite 200 • Glendale, California 91206 • (818) 549-9959 • Fax (818) 543-3747  
 "Trust the Name You Know"

County of Los Angeles Department of Public Works  
 GEOTECHNICAL AND MATERIALS ENGINEERING DIVISION  
 GEOLOGIC AND SOILS ENGINEERING REVIEW SHEET  
 900 So. Fremont Ave., Alhambra, CA 91803  
 TEL. (626) 458-4925

DISTRIBUTION  
 - Geologist  
 - Soils Engineer  
 1 GMED File  
 1 Subdivision

TENTATIVE TRACT-/ PARCEL MAP 53933 TENTATIVE MAP DATED 10/1/03 (Tentative)  
 SUBDIVIDER Cansheiter, Inc. LOCATION Castaic  
 ENGINEER SR Consultants West, Inc.  
 GEOLOGIST \_\_\_\_\_ REPORT DATE \_\_\_\_\_  
 SOILS ENGINEER \_\_\_\_\_ REPORT DATE \_\_\_\_\_

The Regional Planning Commission, developer, and engineer are advised that:

**PRIOR TO RECOMMENDING APPROVAL OF THE TENTATIVE TRACT OR PARCEL MAP:**

1. An engineering geologic report will be required to evaluate the feasibility of the proposed subdivision.
2. Provide a soils report, with sufficient subsurface exploration data, pertinent test results and analyses, which addresses and evaluates the site and the proposed development. The report must comply with the provisions of "Manual for Preparation of Geotechnical Reports" prepared by County of Los Angeles, Department of Public Works. The Manual is available on the Internet at the following address: <http://dwp.co.la.ca.us/med/manual.pdf>
3. Based on the State of California Seismic Hazard Maps, the subject site is located in an area with a potential for liquefaction and may be subject to secondary effects of seismic shaking. The above requested reports must address the potential for liquefaction and ground failure. The reports must comply with the provisions of the "Manual for Preparation of Geotechnical Reports" prepared by the County of Los Angeles, Department of Public Works, and is available on the Internet at <http://dwp.org/med/Manual.pdf>. Provide this office with two (2) original copies of the reports for review and distribution to the State of California.
4. Provide chemical test results (sulfate, chloride, resistivity, etc.) for the on-site soils to address the presence of chemicals deleterious to construction materials and utility lines. Recommend mitigation as necessary.
5. Show the following on the geotechnical map:
  - a. Existing and proposed grades.
  - b. Approximate limits and depth of removal and recompaction of unsuitable soils, if applicable.
  - c. Location of "Restricted Use Areas", if applicable.
6. The soils engineer must sign, stamp, and indicate the date of registration expiration on the soils report and all addenda. Original manual signature and wet stamp are required.

NOTE: Provide a copy of this review sheet with your resubmittal.

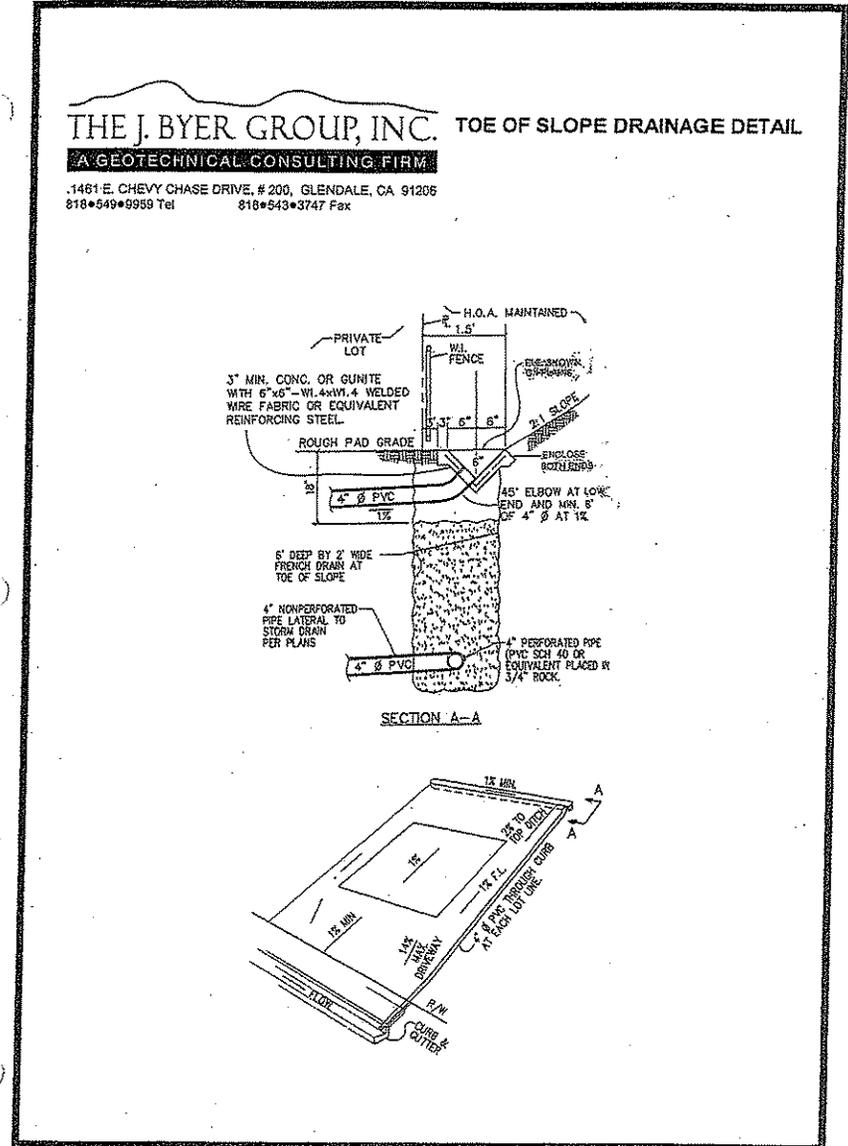
Prepared by



Amir M. Alam  
 Soils Section

*Geir R. Mathisen*  
 Geir R. Mathisen  
 Geology Section

Date 11/5/03



**J. BYER GROUP, INC.**  
**GROSS STABILITY ANALYSIS**  
**SECTION B JB# 20122-B CLIENT: SAFAVI**

PCSTABL6  
 by  
 Purdue University  
 modified by  
 Peter J. Bosscher  
 University of Wisconsin-Madison

--Slope Stability Analysis--  
 Simplified Bishop  
 or Spencer's Method of Slices

**BOUNDARY COORDINATES**

14 Top Boundaries  
 14 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	0.00	70.00	20.00	70.00	1
2	20.00	70.00	48.00	94.00	1
3	48.00	94.00	56.00	94.00	1
4	56.00	94.00	90.00	120.00	1
5	90.00	120.00	98.00	120.00	1
6	98.00	120.00	128.00	148.00	1
7	128.00	148.00	156.00	148.00	1
8	156.00	148.00	192.00	176.00	1
9	192.00	176.00	200.00	176.00	1
10	200.00	176.00	234.00	199.00	1
11	234.00	199.00	242.00	199.00	1
12	242.00	199.00	285.00	230.00	1
13	285.00	230.00	355.00	238.00	1
14	355.00	238.00	400.00	238.00	1

**ISOTROPIC SOIL PARAMETERS**

1 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	140.0	140.0	437.0	36.0	0.00	0.0	0

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

300 Trial Surfaces Have Been Generated.

30 Surfaces Initiate From Each Of 30 Points Equally Spaced Along The Ground Surface Between X = 0.00 ft. and X = 20.00 ft.

Each Surface Terminates Between X = 285.00 ft. and X = 375.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = 0.00 ft.

25.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

\* \* Safety Factors Are Calculated By The Modified Bishop Method \* \*

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	44.89	72.30
3	69.61	76.09
4	94.04	81.36
5	118.12	88.09
6	141.75	96.25
7	164.85	105.83
8	187.32	116.77
9	209.10	129.04
10	230.10	142.61
11	250.25	157.41
12	269.47	173.39
13	287.70	190.51
14	304.86	208.68
15	320.90	227.86
16	325.94	234.68

Circle Center At X = -5.7 ; Y = 484.7 and Radius, 415.5

\*\*\* 1.686 \*\*\*

Failure Surface Specified By 19 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	43.85	77.51
3	67.41	85.85
4	90.67	95.04
5	113.58	105.04
6	136.12	115.85
7	158.26	127.45
8	179.98	139.83
9	201.24	152.98

10	222.03	166.88
11	242.30	181.50
12	262.05	196.84
13	281.23	212.87
14	299.84	229.57
15	302.34	231.98

Circle Center At X = -179.2 ; Y = 744.5 and Radius, 703.3

\*\*\* 1.690 \*\*\*

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	44.17	76.39
3	68.12	83.55
4	91.83	91.48
5	115.28	100.16
6	138.43	109.59
7	161.27	119.76
8	183.77	130.66
9	205.91	142.27
10	227.66	154.59
11	249.01	167.60
12	269.93	181.29
13	290.40	195.64
14	310.40	210.64
15	329.90	226.28
16	341.84	236.50

Circle Center At X = -167.0 ; Y = 826.2 and Radius, 778.9

\*\*\* 1.691 \*\*\*

Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	44.62	74.35
3	69.05	79.66
4	93.25	85.92
5	117.19	93.13
6	140.82	101.28
7	164.12	110.35
8	187.04	120.33
9	209.56	131.20
10	231.62	142.95
11	253.21	155.55
12	274.29	169.00
13	294.82	183.26
14	314.78	198.32
15	334.13	214.15
16	352.84	230.73
17	360.42	238.00

Circle Center At X = -78.2 ; Y = 698.4 and Radius, 636.0

\*\*\* 1.727 \*\*\*

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	45.00	70.34
3	69.91	72.45
4	94.61	76.32
5	118.97	81.93
6	142.87	89.26
7	166.20	98.25
8	188.83	108.88
9	210.65	121.09
10	231.53	134.80
11	251.42	149.97
12	270.17	166.50
13	287.70	184.33
14	303.93	203.34
15	318.77	223.47
16	325.86	234.67

Circle Center At X = 27.7 ; Y = 422.6 and Radius, 352.7

\*\*\* 1.730 \*\*\*

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	43.44	78.70
3	66.69	87.89
4	89.74	97.56
5	112.59	107.70
6	135.23	118.32
7	157.64	129.40
8	179.81	140.95
9	201.74	152.95
10	223.42	165.40
11	244.83	178.30
12	265.98	191.64
13	286.84	205.42
14	307.41	219.62
15	327.68	234.26
16	328.65	234.99

Circle Center At X = -388.1 ; Y = 1204.7 and Radius, 1205.9

\*\*\* 1.730 \*\*\*

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	43.60	78.24
3	67.04	86.94
4	90.30	96.10
5	113.38	105.70
6	136.27	115.76
7	158.96	126.26
8	181.44	137.20
9	203.70	148.58
10	225.74	160.38
11	247.54	172.62
12	269.10	185.28

13	290.41	199.35
14	311.46	211.84
15	332.24	225.74
16	348.81	237.29

Circle Center At X = -390.9 ; Y = 1284.9 and Radius, 1282.4

\*\*\* 1.743 \*\*\*

Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	43.75	77.82
3	67.42	86.13
4	90.72	94.93
5	113.94	104.21
6	136.96	113.97
7	159.77	124.20
8	182.36	134.90
9	204.73	146.07
10	226.86	157.70
11	248.74	169.78
12	270.38	182.31
13	291.74	195.29
14	312.84	208.71
15	333.65	222.56
16	354.17	236.84
17	355.77	238.00

Circle Center At X = -346.2 ; Y = 1221.5 and Radius, 1208.3

\*\*\* 1.746 \*\*\*

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	43.54	78.42
3	66.79	87.61
4	89.73	97.55
5	112.33	108.23
6	134.58	119.64
7	156.44	131.77
8	177.89	144.61
9	198.91	158.14
10	219.49	172.34
11	239.58	187.21
12	259.19	202.72
13	278.28	218.87
14	291.42	230.73

Circle Center At X = -226.8 ; Y = 796.7 and Radius, 767.5

\*\*\* 1.763 \*\*\*

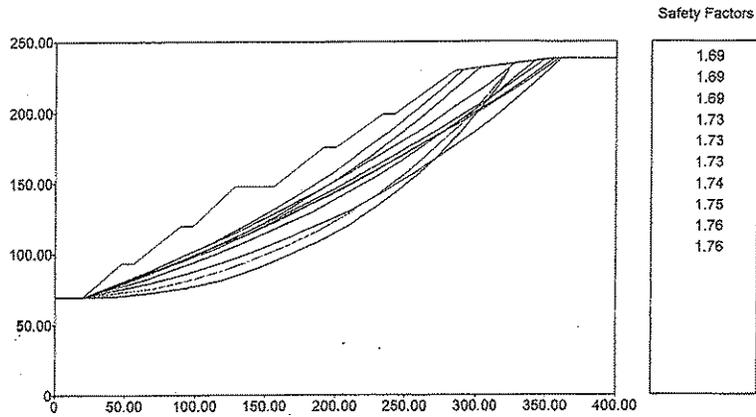
Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
-----------	-------------	-------------

1	20.00	70.00
2	43.66	78.09
3	67.16	86.61
4	90.50	95.56
5	113.67	104.94
6	136.67	114.75
7	159.49	124.97
8	182.11	135.61
9	204.53	146.66
10	226.75	158.13
11	248.75	170.00
12	270.53	182.27
13	292.09	194.94
14	313.40	208.00
15	334.47	221.45
16	355.30	235.29
17	359.22	238.00

Circle Center At X = -408.8 ; Y = 1362.7 and Radius, 1362.0

\*\*\* 1.763 \*\*\*



**J. BYER GROUP, INC.**  
**SEISMIC STABILITY ANALYSIS**  
**SECTION B JB# 20122-B CLIENT: SAFAVI**

PCSTABL6  
 by  
 Purdue University  
 modified by  
 Peter J. Bosscher  
 University of Wisconsin-Madison

--Slope Stability Analysis--  
 Simplified Bishop  
 or Spencer's Method of Slices

**BOUNDARY COORDINATES**

14 Top Boundaries  
 14 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below End
1	0.00	70.00	20.00	70.00	1
2	20.00	70.00	48.00	94.00	1
3	48.00	94.00	56.00	94.00	1
4	56.00	94.00	90.00	120.00	1
5	90.00	120.00	98.00	120.00	1
6	98.00	120.00	128.00	148.00	1
7	128.00	148.00	156.00	148.00	1
8	156.00	148.00	192.00	176.00	1
9	192.00	176.00	200.00	176.00	1
10	200.00	176.00	234.00	199.00	1
11	234.00	199.00	242.00	199.00	1
12	242.00	199.00	285.00	230.00	1
13	285.00	230.00	355.00	238.00	1
14	355.00	238.00	400.00	238.00	1

**ISOTROPIC SOIL PARAMETERS**

1 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	140.0	140.0	437.0	36.0	0.00	0.0	0

A Horizontal Earthquake Loading Coefficient  
 OF 0.150 Has Been Assigned

A Vertical Earthquake Loading Coefficient  
Of 0.000 Has Been Assigned

Cavitation Pressure = 0.0 psf

A Critical Failure Surface Searching Method, Using A Random  
Technique For Generating Circular Surfaces, Has Been Specified.

800 Trial Surfaces Have Been Generated.

40 Surfaces Initiate From Each Of 20 Points Equally Spaced  
Along The Ground Surface Between X = 0.00 ft.  
and X = 20.00 ft.

Each Surface Terminates Between X = 285.00 ft.  
and X = 350.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation  
At Which A Surface Extends Is Y = 0.00 ft.

25.00 ft. Line Segments Define Each Trial Failure Surface.

Following Are Displayed The Ten Most Critical Of The Trial  
Failure Surfaces Examined. They Are Ordered - Most Critical  
First.

\* \* Safety Factors Are Calculated By The Modified Bishop Method \* \*

Failure Surface Specified By 15 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	44.36	75.64
3	68.46	82.28
4	92.26	89.91
5	115.73	98.52
6	138.83	108.10
7	161.50	118.63
8	183.72	130.08
9	205.45	142.45
10	226.65	155.70
11	247.28	169.82
12	267.31	184.79
13	286.70	200.57
14	305.42	217.14
15	323.35	234.38

Circle Center At X = -103.9 ; Y = 660.7 and Radius, 603.5

\*\*\* 1.222 \*\*\*

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
--------------	----------------	----------------

1	20.00	70.00
2	44.55	74.73
3	68.87	80.52
4	92.92	87.35
5	116.65	95.21
6	140.02	104.09
7	162.99	113.96
8	185.51	124.82
9	207.53	136.65
10	229.03	149.41
11	249.96	163.08
12	270.28	177.65
13	289.95	193.08
14	308.93	209.35
15	327.20	226.41
16	345.50	235.89

Circle Center At X = -77.3 ; Y = 641.0 and Radius, 579.2

\*\*\* 1.230 \*\*\*

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	44.83	72.89
3	69.46	77.22
4	93.79	82.96
5	117.78	90.10
6	141.25	98.62
7	164.22	108.48
8	186.59	119.65
9	208.27	132.10
10	229.19	145.79
11	249.29	160.66
12	268.49	176.67
13	286.73	193.76
14	303.95	211.88
15	320.10	230.97
16	322.60	234.30

Circle Center At X = -17.5 ; Y = 500.2 and Radius, 431.8

\*\*\* 1.236 \*\*\*

Failure Surface Specified By 15 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	44.91	72.08
3	69.62	75.92
4	93.99	81.50
5	117.90	88.79
6	141.24	97.76
7	163.88	108.35
8	185.72	120.52
9	206.64	134.21
10	226.54	149.34
11	245.32	165.85
12	262.88	183.64
13	279.14	202.63
14	294.02	222.72
15	299.72	231.68

Circle Center At X = 3.1 ; Y = 422.6 and Radius, 353.0

\*\*\* 1.250 \*\*\*

Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	44.83	72.89
3	69.49	77.03
4	93.91	82.39
5	118.02	88.97
6	141.78	96.76
7	165.12	105.73
8	187.97	115.85
9	210.29	127.11
10	232.02	139.48
11	253.10	152.92
12	273.48	167.40
13	293.13	182.89
14	311.93	199.34
15	329.91	216.74
16	346.99	234.97
17	348.97	237.31

Circle Center At X = -25.2 ; Y = 566.1 and Radius, 498.1

\*\*\* 1.255 \*\*\*

Failure Surface Specified By 14 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	44.03	76.88
3	67.75	84.79
4	91.10	93.72
5	114.05	103.63
6	136.55	114.53
7	158.57	126.38
8	180.05	139.17
9	200.96	152.87
10	221.27	167.45
11	240.92	182.89
12	259.90	199.17
13	278.16	216.24
14	292.50	230.86

Circle Center At X = -128.1 ; Y = 632.4 and Radius, 581.5

\*\*\* 1.258 \*\*\*

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	45.00	70.46
3	69.89	72.75
4	94.55	76.88

5	118.83	82.81
6	142.62	90.51
7	165.77	99.95
8	188.16	111.06
9	209.68	123.79
10	230.20	138.07
11	249.61	153.83
12	267.80	170.97
13	284.69	189.41
14	300.17	209.84
15	314.16	229.76
16	316.35	233.58

Circle Center At X = 26.3 ; Y = 409.1 and Radius, 339.2

\*\*\* 1.276 \*\*\*

Failure Surface Specified By 16 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	20.00	70.00
2	43.14	79.47
3	66.16	89.21
4	89.07	99.22
5	111.86	109.51
6	134.52	120.06
7	157.06	130.87
8	179.47	141.95
9	201.75	153.29
10	223.89	164.90
11	245.90	176.76
12	267.76	188.89
13	289.48	201.27
14	311.05	213.90
15	332.48	226.79
16	349.63	237.39

Circle Center At X = -772.5 ; Y = 2039.1 and Radius, 2122.6

\*\*\* 1.312 \*\*\*

Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	4.21	70.00
2	29.11	67.80
3	54.11	67.57
4	79.05	69.31
5	103.78	73.01
6	128.13	78.65
7	151.97	86.20
8	175.13	95.59
9	197.49	106.79
10	218.89	118.71
11	239.20	134.28
12	258.31	150.41
13	276.08	167.99
14	292.41	186.92
15	307.20	207.07
16	320.36	228.33
17	323.48	234.40

Circle Center At X = 44.5 ; Y = 384.3 and Radius, 316.9

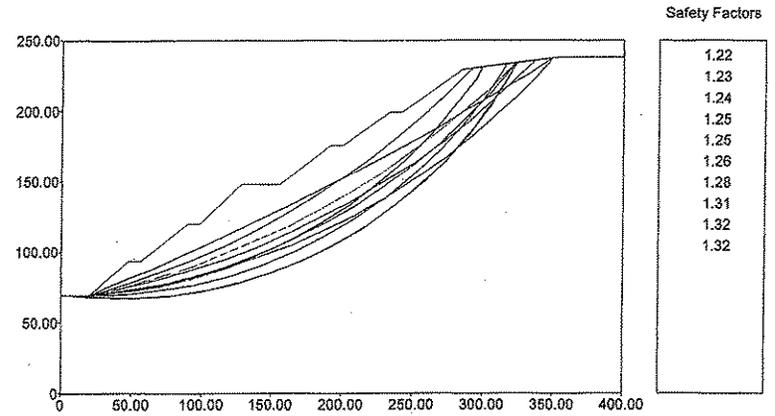
\*\*\* 1.323 \*\*\*

Failure Surface Specified By 17 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	0.00	70.00
2	24.89	67.55
3	45.89	67.06
4	74.83	68.53
5	99.60	71.95
6	124.02	77.29
7	147.95	84.54
8	171.23	93.94
9	193.73	104.53
10	215.31	117.15
11	235.84	131.43
12	255.18	147.26
13	273.22	164.57
14	289.86	183.23
15	304.98	203.14
16	318.49	224.18
17	324.01	234.46

Circle Center At X = 43.6 ; Y = 385.9 and Radius, 318.9

\*\*\* 1.324 \*\*\*



 <b>THE J. BYER GROUP, INC.</b> A GEOTECHNICAL CONSULTING FIRM	<b>STABILITY - TAYLOR'S METHOD</b>	
	JB: <u>20122-B</u> CONSULT: <u>JWB</u> CLIENT: <u>SAFAVI</u>	CALCULATION SHEET # _____

CALCULATE THE MAXIMUM HEIGHT TO WHICH UNIFORM SLOPES ARE GROSSLY STABLE USING TAYLOR'S METHOD FOR THE STABILITY OF EARTHEN EMBANKMENTS (*FUNDAMENTALS OF SOIL MECHANICS*).

CALCULATION PARAMETERS			
EARTH MATERIAL:	FUTURE COMPACTED FILL	SAFETY FACTOR:	1.5
SHEAR DIAGRAM:	3	SLOPE ANGLE:	27 degrees
COHESION:	268 psf	Cd Base (C/fs):	178.7 psf
PHI ANGLE:	34 degrees	PhiD = atan(tan(phi)fs) =	24.2 degrees
DENSITY (w):	135 pcf		

INTERPOLATE STABILITY NUMBER (sn) FROM TAYLOR'S CHARTS:

		TAYLOR'S CHART							
		SLOPE ANGLES							
		Degrees	20	30	40	50	60	70	80
PhiD	5	0.090	0.110	0.130	0.145	0.160	0.185	0.210	
	10	0.045	0.075	0.100	0.120	0.140	0.160	0.188	
	15	0.020	0.045	0.070	0.095	0.115	0.140	0.168	
	20	0.000	0.025	0.050	0.075	0.098	0.120	0.160	
	25	0.000	0.010	0.033	0.055	0.080	0.105	0.130	

FROM CHART      sn =      0.009

SAFE SLOPE HEIGHT =  $\frac{Cd}{w \times (sn)}$       152.9 feet

**CONCLUSIONS:**  
 THE CALCULATION INDICATES THAT THE PROPOSED 2:1 COMPACTED FILL SLOPES WILL BE STABLE UP TO 152.9 FEET.

 <b>THE J. BYER GROUP, INC.</b> A GEOTECHNICAL CONSULTING FIRM	<b>STABILITY - TAYLOR'S METHOD</b>	
	JB: <u>20122-B</u> CONSULT: <u>JWB</u> CLIENT: <u>SAFAVI</u>	CALCULATION SHEET # _____

CALCULATE THE MAXIMUM HEIGHT TO WHICH UNIFORM SLOPES ARE GROSSLY STABLE USING TAYLOR'S METHOD FOR THE STABILITY OF EARTHEN EMBANKMENTS (*FUNDAMENTALS OF SOIL MECHANICS*).

CALCULATION PARAMETERS			
EARTH MATERIAL:	Bedrock (conglomerate)	SAFETY FACTOR:	1.5
SHEAR DIAGRAM:	1	SLOPE ANGLE:	45 degrees
COHESION:	873 psf	Cd Base (C/fs):	582.0 psf
PHI ANGLE:	34 degrees	PhiD = atan(tan(phi)fs) =	24.2 degrees
DENSITY (w):	134 pcf		

INTERPOLATE STABILITY NUMBER (sn) FROM TAYLOR'S CHARTS:

		TAYLOR'S CHART							
		SLOPE ANGLES							
		Degrees	20	30	40	50	60	70	80
PhiD	5	0.090	0.110	0.130	0.145	0.160	0.185	0.210	
	10	0.045	0.075	0.100	0.120	0.140	0.160	0.188	
	15	0.020	0.045	0.070	0.095	0.115	0.140	0.168	
	20	0.000	0.025	0.050	0.075	0.098	0.120	0.160	
	25	0.000	0.010	0.033	0.055	0.080	0.105	0.130	

FROM CHART      sn =      0.047

SAFE SLOPE HEIGHT =  $\frac{Cd}{w \times (sn)}$       92.6 feet

**CONCLUSIONS:**  
 THE CALCULATION INDICATES THAT THE NATURAL BEDROCK 1:1 SLOPE SHOWN ON SECTION E IS GROSSLY STABLE UP TO 92.6 FEET.

## INTERPRETATION OF ELECTRONIC PIEZOCONE (CPT) DATA LIQUEFACTION ANALYSIS

CPT Company: Kehoe Engineering and Testing  
Date of Soundings: July 18, 2005

CPT1

a' for calculating  $Q_t$ : 0.85  
 Maximum Horizontal Acceleration (g): 0.61  
 Depth to Ground Water for Liquefaction Analysis (feet): 10  
 Perched Water Zone (feet): 0  
 Magnitude Scaling Factor: 1.5  
 Design Magnitude Earthquake: 6.6  
 Elevation of Groundsurface (feet): 1138.0

NOTE: '---' or 'ERR' denotes missing field or non-defined result

NOTE: '\*\*\*\*' denotes soil layer above historic high groundwater level

NOTE: '---f' According to the "Chinese Criteria" soils, with greater than 15% clay, are considered too cohesive to liquefy.

Depth (feet)	Q <sub>tn</sub> (TSF)	R <sub>fn</sub> (f)	OS (TSF)	ROS (TSF)	I <sub>c</sub> SPT	Soil Behavior Type (SPT)	SPT (N <sub>1</sub> ) <sub>60</sub>			Stress Resist.			P.S.
							(blow/ft)	Q <sub>(c1m)</sub>	K <sub>c</sub>	Q <sub>(c1mce)</sub>	CSR	CRR*MSP	
1.0	29.624	1.15	0.056	0.056	1.876	Sand	10	50.36	1.167	58.781	0.396	0.148	***
2.0	38.870	1.07	0.112	0.112	1.879	Sand	13	66.08	1.170	77.289	0.395	0.184	***
3.0	14.274	4.20	0.168	0.168	2.531	Sandy Silt	6	24.26	2.928	71.036	0.394	0.170	***
4.0	16.489	1.39	0.224	0.224	2.361	Sandy Silt	7	28.03	2.160	60.548	0.393	0.151	***
5.0	16.725	1.45	0.280	0.280	2.407	Sandy Silt	7	28.44	2.340	66.544	0.392	0.161	***
6.0	12.866	1.24	0.336	0.336	2.496	Sandy Silt	6	21.87	2.751	60.162	0.391	0.150	***
7.0	11.115	1.42	0.392	0.392	2.524	Sandy Silt	5	18.89	2.893	54.659	0.390	0.143	***
8.0	16.572	0.92	0.446	0.446	2.389	Sandy Silt	7	28.17	2.267	63.868	0.389	0.156	***
9.0	14.377	1.51	0.501	0.501	2.575	Sandy Silt	6	24.14	3.176	76.646	0.388	0.183	***
10.0	12.975	3.41	0.555	0.555	2.736	Clayey Silt	6	22.04	4.267	94.058	0.387	0.236	0.61
11.0	19.700	0.93	0.610	0.579	2.385	Sandy Silt	7	28.53	2.251	64.225	0.407	0.157	0.39

NOTE: '---' or 'ERR' denotes missing field or non-defined result

NOTE: '\*\*\*\*' denotes soil layer above historic high groundwater level

NOTE: '---f' According to the "Chinese Criteria" soils, with greater than 15% clay, are considered too cohesive to liquefy.

Depth (feet)	Q <sub>tn</sub> (TSF)	R <sub>fn</sub> (f)	OS (TSF)	ROS (TSF)	I <sub>c</sub> SPT	Soil Behavior Type (SPT)	SPT (N <sub>1</sub> ) <sub>60</sub>			Stress Resist.			P.S.
							(blow/ft)	Q <sub>(c1m)</sub>	K <sub>c</sub>	Q <sub>(c1mce)</sub>	CSR	CRR*MSP	
12.0	27.377	1.15	0.664	0.602	2.328	Sandy Silt	9	37.19	2.043	75.989	0.425	0.181	0.43
13.0	38.786	1.51	0.721	0.627	2.287	Silty Sand	12	49.56	1.908	94.548	0.442	0.238	0.54
14.0	51.704	0.92	0.777	0.653	2.072	Silty Sand	13	62.44	1.407	87.823	0.457	0.214	0.47
15.0	71.109	0.84	0.834	0.678	1.949	Sand	17	81.47	1.239	100.939	0.471	0.263	0.56
16.0	80.253	1.60	0.890	0.703	2.098	Silty Sand	19	87.54	1.450	126.972	0.483	0.406	0.84
17.0	37.590	1.20	0.947	0.729	2.288	Silty Sand	9	39.15	1.912	74.863	0.495	0.179	0.36
18.0	99.024	1.47	1.010	0.761	2.025	Sand	21	100.27	1.335	133.832	0.504	0.464	0.90
19.0	104.349	0.80	1.074	0.793	1.848	Sand	21	107.23	1.143	122.614	0.513	0.377	0.74
20.0	74.029	1.41	1.137	0.825	2.128	Silty Sand	17	77.47	1.508	116.824	0.521	0.342	0.66
21.0	144.151	0.77	1.201	0.858	1.745	Sand	29	151.94	1.068	162.302	0.528	0.716	1.36
22.0	78.914	1.15	1.264	0.890	2.068	Silty Sand	18	84.73	1.399	118.553	0.534	0.352	0.66
23.0	49.273	1.21	1.320	0.915	2.253	Silty Sand	12	53.88	1.807	97.390	0.542	0.249	0.46
24.0	98.060	1.16	1.376	0.940	2.011	Sand	22	107.29	1.315	141.113	0.548	0.512	0.93
25.0	92.172	1.10	1.432	0.964	2.025	Sand	21	101.92	1.333	135.904	0.555	0.470	0.85
26.0	84.775	1.43	1.488	0.989	2.132	Silty Sand	21	94.73	1.515	143.552	0.560	0.533	0.95
27.0	59.646	1.24	1.544	1.014	2.219	Silty Sand	15	67.60	1.714	115.851	0.566	0.337	0.60
28.0	75.348	0.98	1.600	1.039	2.083	Silty Sand	18	85.86	1.425	122.361	0.571	0.376	0.66
29.0	73.396	0.99	1.656	1.064	2.102	Silty Sand	18	84.39	1.458	123.006	0.576	0.380	0.66
30.0	35.478	1.21	1.714	1.090	2.418	Sandy Silt	10	41.73	2.388	39.643	0.580	0.258	0.45
31.0	89.631	1.34	1.772	1.117	2.125	Silty Sand	23	104.57	1.801	156.983	0.580	0.660	1.14
32.0	123.846	0.97	1.830	1.144	1.933	Sand	29	145.21	1.221	177.343	0.580	0.898	1.55

## INTERPRETATION OF ELECTRONIC PIEZOCONE (CPT) DATA LIQUEFACTION ANALYSIS

CPT Company: Kehoe Engineering and Testing  
Date of Soundings: July 18, 2005

CPT2

a' for calculating Qt:	0.85
Maximum Horizontal Acceleration (g)	0.61
Depth to Ground Water for Liquefaction Analysis (feet)	10
Perched Water Zone (feet)	0
Magnitude Scaling Factor	1.5
Design Magnitude Earthquake	6.6
Elevation of Groundsurface (feet)	1250.0

NOTE: '---' or 'ERR' denotes missing field or non-defined result

NOTE: '\*\*\*\*' denotes soil layer above historic high groundwater level

NOTE: '---f' According to the "Chinese Criteria" soils, with greater than 15% clay, are considered too cohesive to liquefy.

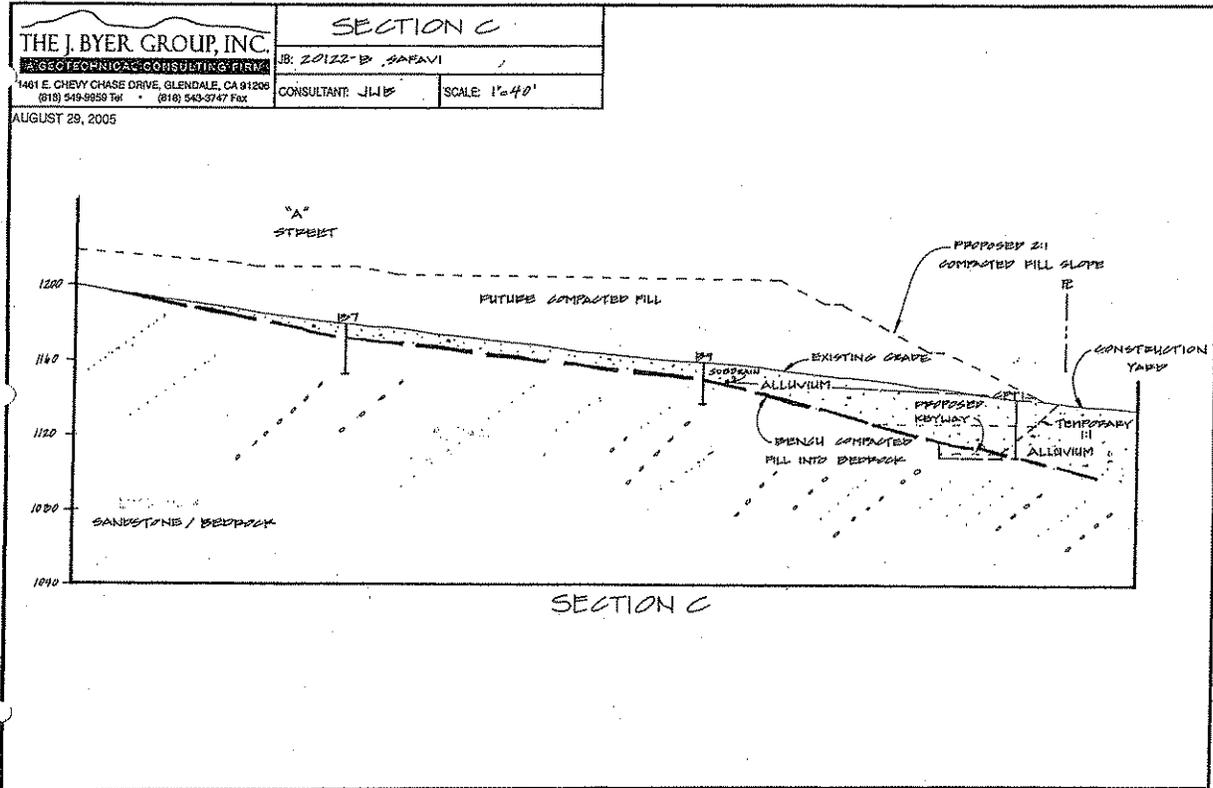
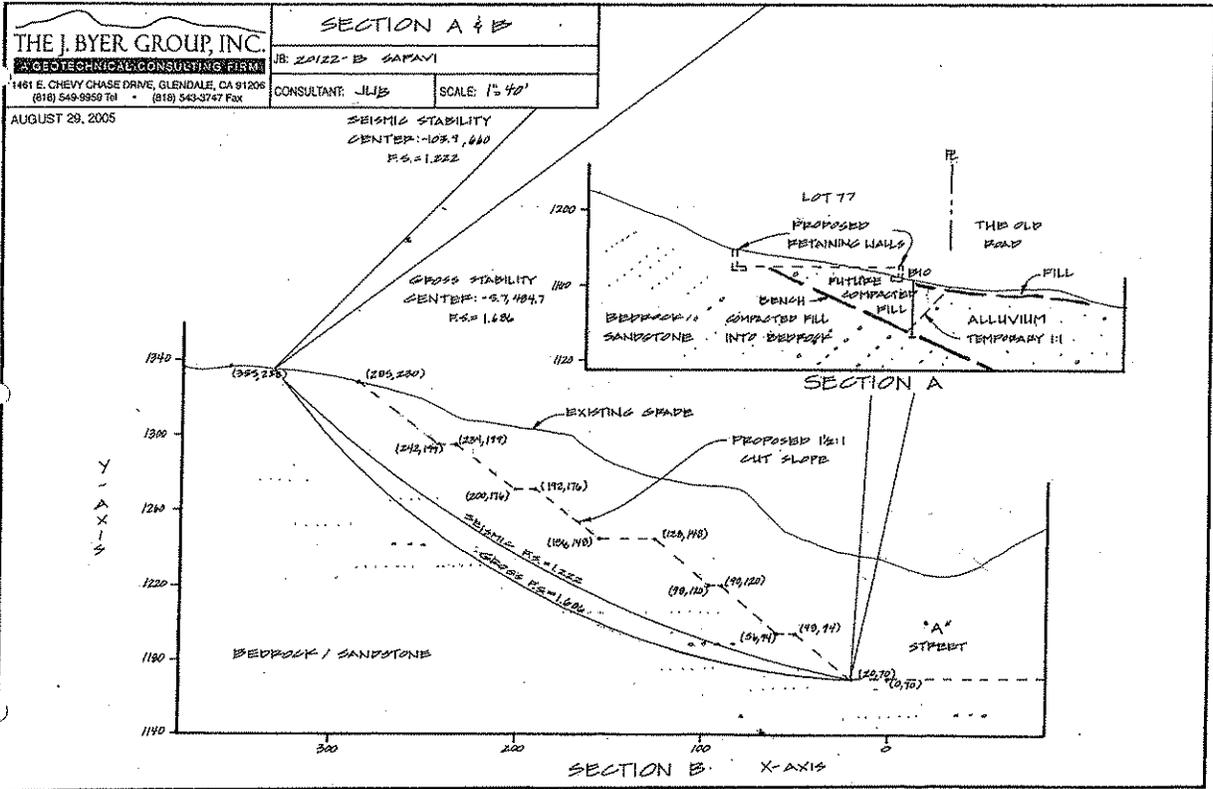
Depth (feet)	Q <sub>tn</sub> (TSF)	R <sub>fn</sub> (%)	OS (TSF)	EOS (TSF)	I <sub>c</sub> SBR	Soil Behavior Type (SPT)	SPT (N <sub>1</sub> ) <sub>60</sub>			Q <sub>(cm<sup>2</sup>)</sub>	Stress CSR	Resist. CR <sub>R</sub> *MSF	F.S.
							(blow/ft)	Q <sub>(cm)</sub>	K <sub>c</sub>				
1.0	27.152	0.83	0.065	0.065	1.837	Sand	9	46.16	1.135	52.375	0.396	0.140	***
2.0	34.013	1.25	0.130	0.130	1.992	Sand	12	57.82	1.290	74.583	0.395	0.178	***
3.0	32.705	1.44	0.195	0.195	2.113	Silty Sand	12	55.60	1.478	82.183	0.394	0.197	***
4.0	35.572	1.10	0.260	0.260	2.059	Silty Sand	13	60.48	1.386	83.795	0.393	0.202	***
5.0	74.213	1.66	0.325	0.325	1.978	Sand	26	126.16	1.272	160.516	0.392	0.697	***
6.0	62.137	1.58	0.390	0.390	2.045	Sand	22	105.63	1.363	144.006	0.391	0.537	***
7.0	44.447	2.46	0.455	0.455	2.307	Sandy Silt	18	75.56	1.971	148.902	0.390	0.581	***
8.0	66.888	1.65	0.520	0.520	2.080	Silty Sand	23	109.24	1.420	155.141	0.389	0.641	***
9.0	62.315	1.20	0.585	0.585	2.029	Sand	20	93.17	1.339	124.778	0.388	0.391	***
10.0	55.534	1.35	0.647	0.647	2.117	Silty Sand	17	75.99	1.486	114.429	0.387	0.329	0.85
11.0	71.935	1.31	0.709	0.678	2.039	Sand	20	93.11	1.354	126.054	0.404	0.399	0.99

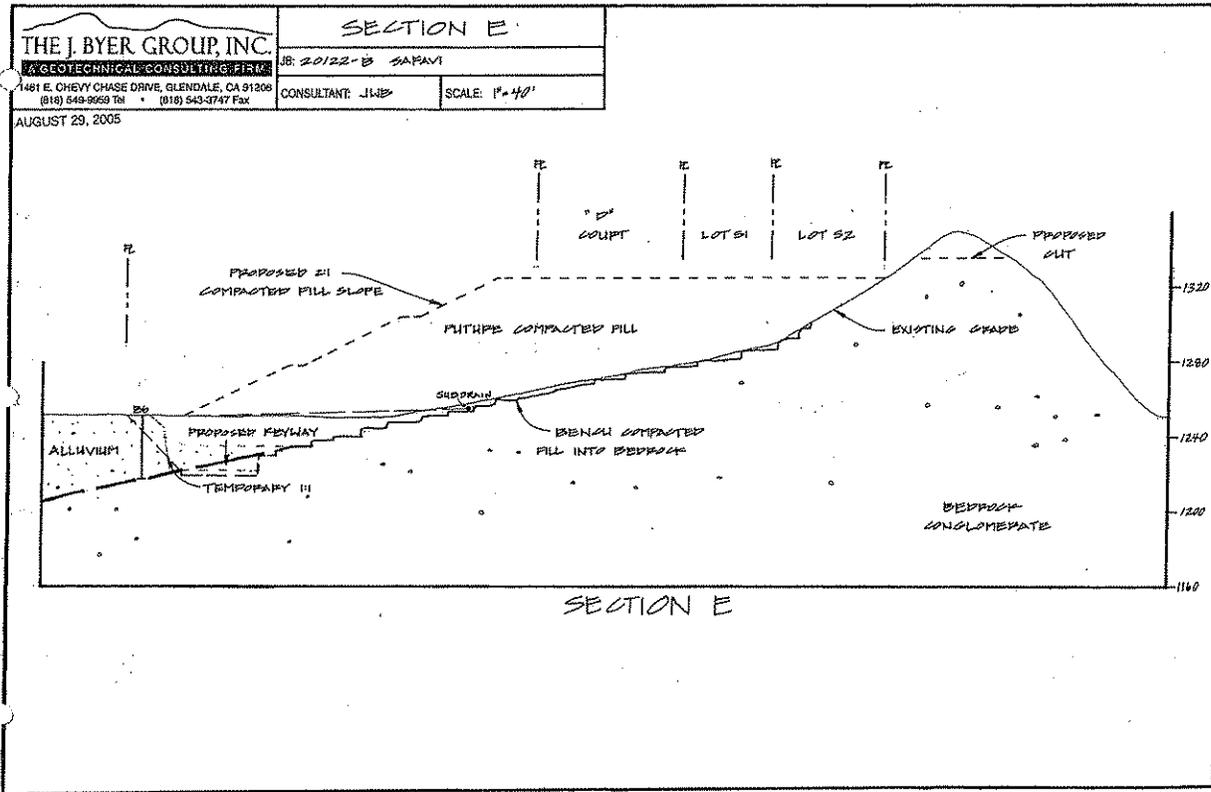
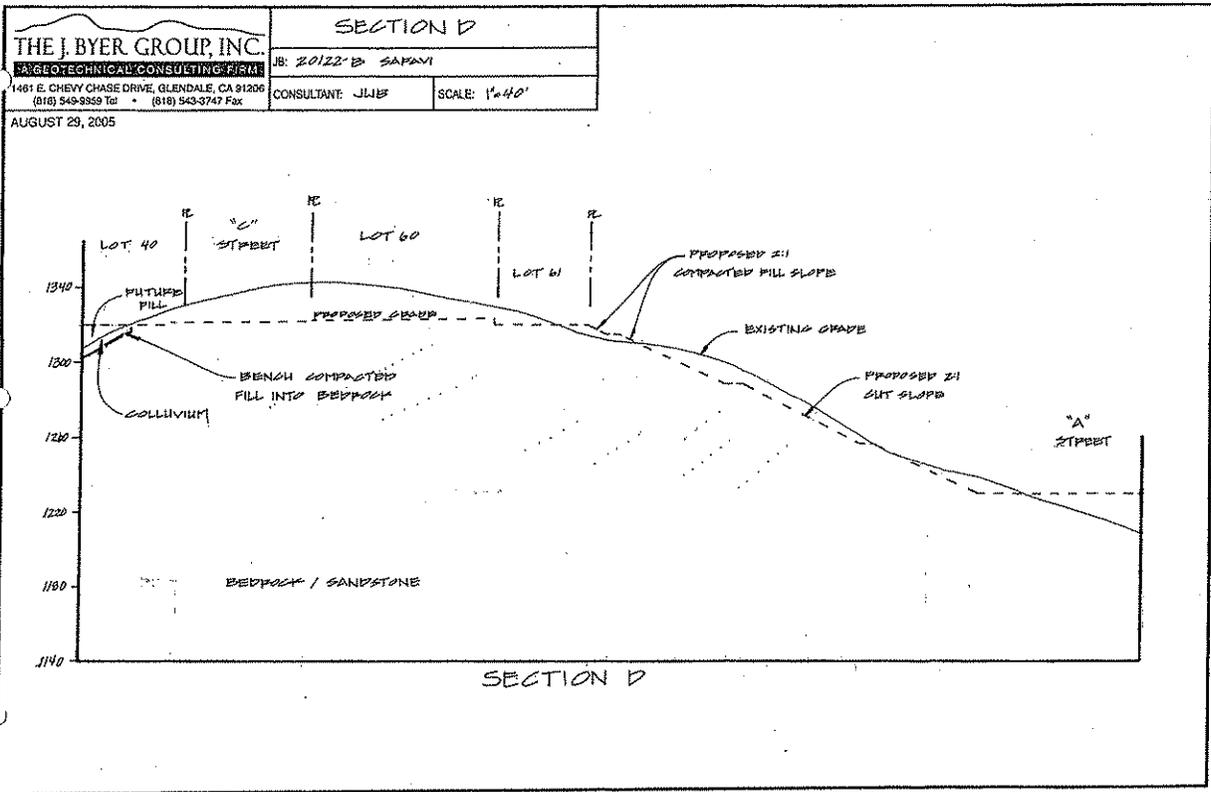
NOTE: '---' or 'ERR' denotes missing field or non-defined result

NOTE: '\*\*\*\*' denotes soil layer above historic high groundwater level

NOTE: '---f' According to the "Chinese Criteria" soils, with greater than 15% clay, are considered too cohesive to liquefy.

Depth (feet)	Q <sub>tn</sub> (TSF)	R <sub>fn</sub> (%)	OS (TSF)	EOS (TSF)	I <sub>c</sub> SBR	Soil Behavior Type (SPT)	SPT (N <sub>1</sub> ) <sub>60</sub>			Q <sub>(cm<sup>2</sup>)</sub>	Stress CSR	Resist. CR <sub>R</sub> *MSF	F.S.
							(blow/ft)	Q <sub>(cm)</sub>	K <sub>c</sub>				
12.0	67.128	1.24	0.771	0.709	2.059	Silty Sand	17	81.59	1.385	113.025	0.419	0.321	0.77
13.0	128.811	1.11	0.833	0.739	1.828	Sand	29	147.74	1.128	166.619	0.433	0.765	1.77
14.0	166.621	1.67	0.895	0.770	1.892	Sand	36	181.09	1.181	213.862	0.446	1.485	3.33
15.0	128.562	1.70	0.957	0.801	1.983	Sand	27	132.88	1.278	169.795	0.457	0.803	1.76
16.0	78.137	1.78	1.019	0.832	2.159	Silty Sand	18	79.51	1.571	124.928	0.468	0.392	0.84
17.0	81.533	1.22	1.081	0.863	2.047	Sand	18	84.16	1.367	115.018	0.477	0.332	0.70
18.0	92.053	1.23	1.143	0.893	2.018	Sand	20	96.21	1.324	127.397	0.486	0.408	0.84
19.0	129.316	1.12	1.205	0.924	1.889	Sand	27	136.54	1.179	160.948	0.494	0.702	1.42
20.0	110.019	1.98	1.267	0.955	2.120	Silty Sand	26	117.78	1.491	175.671	0.502	0.876	1.75
21.0	146.548	1.56	1.329	0.986	1.966	Sand	33	158.42	1.258	199.234	0.508	1.223	2.41
22.0	186.008	0.39	1.391	1.017	1.507	Sand	39	220.55	1.000	220.553	0.515	1.617	3.14





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*Leighton and Associates, Inc, Geotechnical Report*



# **LEIGHTON AND ASSOCIATES, INC.**

**Geotechnical and Environmental Engineering Consultants**

**PRELIMINARY GEOTECHNICAL EVALUATION  
40 ACRE SITE  
CASTAIC AREA  
COUNTY OF LOS ANGELES, CALIFORNIA**

**Project No. 2911145-01**

**January 31, 1992**

**Prepared for:**

**Can Shelter, Inc.  
P.O. Box 34898  
Los Angeles, California 90034**



# LEIGHTON AND ASSOCIATES, INC.

Geotechnical and Environmental Engineering Consultants

January 31, 1992

Project No. 2911145-01

To: Can Shelter, Inc.  
P.O. Box 34898  
Los Angeles, California 90034

Attention: Mr. Bahram Safavi

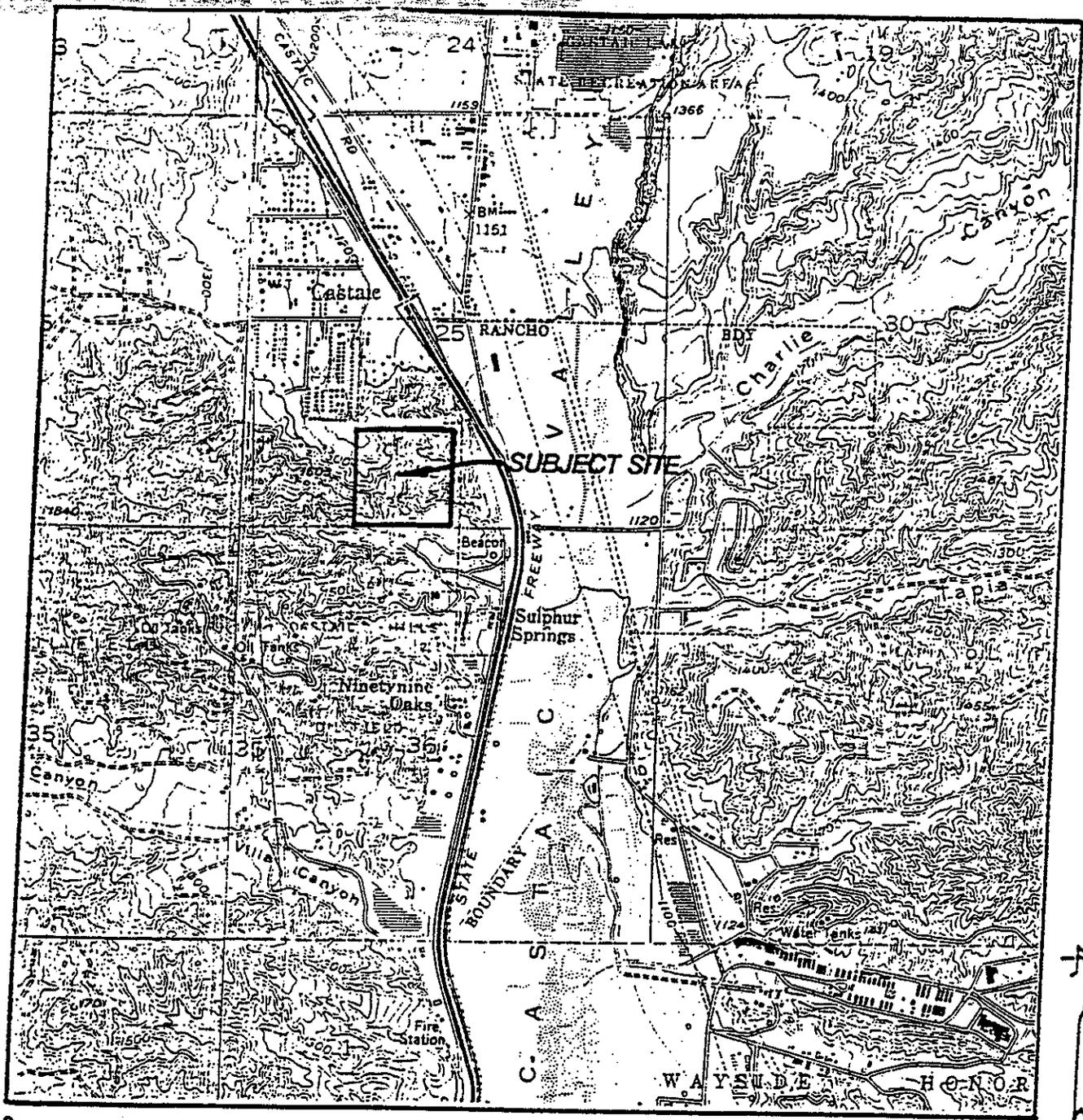
Subject: Preliminary Geotechnical Evaluation, 40 Acre Site, Castaic Area, County of Los Angeles, California

## Introduction

At your request, we have prepared this preliminary geotechnical evaluation for 40 acres site in Castaic, northern Los Angeles County, California. Our evaluation is based on the 100-scale plan we received from you. Based on our experience in the area, we suggest a two phase geotechnical study at the tentative tract stage. The purpose of the first phase (Geotechnical Evaluation - Phase I) is to identify possible geologic hazards or constraints that may affect the site and to work with the design engineer to develop the most efficient grading plan that takes into account geologic hazards that may be unmitigable. This report is prepared to identify such geologic hazards and present preliminary conclusions and recommendations relative to potential residential development.

## Accompanying Maps, Illustrations, and Appendices

Figure 1 - Site Location Map - Page 2  
Table 1 - Seismic Design Parameters - Page 7  
Plate 1 - Geologic Map - In Pocket  
References - Appendix A



### SITE LOCATION MAP

Base Map: USGS 7.5 MINUTE NEWHALL AND VAL VERDE QUADRANGLES

40 ACRE SITE

CASTAIC AREA

COUNTY OF LOS ANGELES, CALIFORNIA

Project No. 2911145-01

Date 1/92



1040 889  
Figure No. 1

### Scope of Work (Phase I)

The scope of our work included the following:

- Review of available geotechnical literature, maps and reports related to the subject site, including several in-house geotechnical reports for nearby, or adjacent properties.
- Review of available aerial photographs.
- Geologic mapping to determine the geologic conditions exposed at the surface of the site.
- Preparation of this report summarizing our findings, conclusions and recommendations.

### Site Description

The subject site is located in the Castaic Hills just west of the Old Road in the County of Los Angeles, California (see Location Map, Figure 1). The property is bounded on the north by a condominium development. The remaining boundaries are to undeveloped natural terrain. The topography of the site is mostly rugged, with moderate to steep slopes. An open northwest draining valley is located at the northwest portion of the site. Two prominent east-flowing drainage are located in the northeastern and southeastern part of the site. Elevations range from approximately 1,475 feet to 1,150 feet above sea level. The vegetation of the site is moderately spars and consists of native chaparral. Access to the site is from unpaved roads from the adjoining properties.



TABLE 1  
SEISMIC DESIGN PARAMETERS

Potential Causative Fault	Approx. Fault to Site Distance (kilometers)	Maximum Credible Earthquake (Richter Magnitude)	Peak/ Ground Acceleration
San Andreas (Carrizo)	20	8.0	.30g
San Andreas (Mojave)	20	7.5	.22g
San Andreas (San Bernardino Mtns)	94	7.5	.03g
San Andreas (Coachella Valley)	193	7.5	.01g
Palos Verdes	67	7.0	.03g
Whittier	72	7.3	.04g
Santa Monica	48	6.7	.04g
Malibu Coast	52	6.9	.04g
Newport Inglewood	54	6.8	.04g
Oakridge	34	6.9	.07g
Santa Susana	20	6.9	.14g
San Fernando	24	6.5	.08g
Sierra Madre - A	27	6.4	.07g
Sierra Madre - B	31	6.5	.06g
Sierra Madre - C	46	6.5	.04g
Santa Ynez (east)	35	7.3	.10g
Pine Mountain	26	7.1	.12g
Big Pine	56	7.2	.05g
San Gabriel - A	9	7.0	.33g
San Gabriel - B	9	6.7	.28g
Arroyo-Panida	54	7.0	.05g
San Cayetano	33	7.8	.09g
White Wolf	72	7.8	.04g

Notations such as "San Andreas/Mojave-San Bernardino" refers to a simultaneous event on the Mojave and San Bernardino segments of the San Andreas Fault. Peak ground accelerations were found by averaging values obtained through calculations based on Campbell (1988), Joyner & Boore (1981), and Idriss (1987). References for the calculations used here are listed in Appendix A.

\* This segment controls the onsite design parameters in terms of both magnitude and probability.



## Geologic Conditions

### **Regional Geologic Setting**

The subject site is generally situated in the western transverse range province along the northwestern margin of the Santa Clarita Valley, within the Ridge Basin. The Ridge Basin represents a tectonic depression formed along the San Andreas fault system during Miocene and early Pliocene time, that has been infilled with thousands of feet of sediments. This strata has been moderately folded, fractured, and faulted during and following deposition.

The San Gabriel fault, which traverses through the southwesterly portion of the site, forms the westerly margin of the Ridge and Soledad Basins in the Castaic/Santa Clarita area. The fault is approximately 80 miles long and extends from near Bear Mountain in northern Ventura County on the northwest to San Antonio Canyon in San Bernardino County on the southeast.

The site is located at the northeast edge of the Castaic Hills oil field. This oil field is related to the San Gabriel fault which has formed a structural oil trap. No evidence of existing or former oil wells were observed on the site.

### **Site Geologic Conditions**

The geologic units exposed on the site include bedrock of the Plio-Pleistocene-age Saugus Formation, terrace deposits, alluvium, slope wash deposits, and artificial fill. The locations of these units are shown on the Geologic Map (Plate 1) and are described below, in order of oldest to youngest.

**Saugus Formation (TQs):** The Plio-Pleistocene-age Saugus Formation is exposed over most of the site. It consists of interbedded sandstone, conglomerate, and mudstone (clayey siltstone and silty claystone). The sandstone and conglomerate are moderately jointed, coarse-grained, well-indurated, and commonly form cliffs several tens of feet high. The mudstone, which is the least common rock-type, is moderately weathered and indurated, and is characterized by reddish brown colors.

**Terrace Deposits (Qt):** Terrace deposits are located on top flat ridges at the southern portion of the site. They consist of coarse sands and gravels which are medium brown, dense, and massive. The gravels of the deposit consist well rounded pebbles and cobbles. The thickness of the terrace deposits, based on the geologic mapping and data from Leighton and Associate (1989), is estimated to be approximately 10 feet.

**Alluvium (Qal):** Alluvial deposits are present in the canyons of the subject site. The largest area of alluvium is located in the northwest portion of the site. The alluvium consists in general of unconsolidated silty sand with gravel. On the adjacent site to the south, the upper nine feet of alluvium was found to be susceptible to hydroconsolidation (collapse) when saturated under loading.



**Slope Wash Deposits (Qsw):** Slope wash deposits are present on much of the hillside portions of the subject site. The slope wash material generally consists of unconsolidated silty sand with gravel that is loose to moderately dense. The slope wash deposits shown on the Geologic Map, Plate 1, are estimated to be at least three feet thick.

**Artificial Fill (Af):** Artificial fill is present primarily at the southern end of the site where an old building pad is located. This fill is reported to consist of silty sand with roots and trash poorly compacted (Leighton and Associates, 1989).

### Geologic Structure

The bedrock structure on the subject site consists of a southwest dipping homocline. Bedding attitudes consist of strikes ranging from N30W to N55W, and dips from 30 to 40 degrees to the southwest.

Several branches of the San Gabriel fault have been mapped on the site (Leighton and Associates, 1989, Treiman, 1986, Weber, 1982). These fault branches were observed during this study as poorly to moderately defined aerial photo lineaments, elongated valleys and aligned topographic saddles. The general trend of these faults is northwest strike with approximately vertical dip. The seismic activity of the faults is discussed below.

### Groundwater

Groundwater levels on the site were not determined during this study. Groundwater likely exists at the alluvium/bedrock contact. It may be relatively shallow in the more narrow canyons of the subject site, as evidenced by local phreatophytes. Groundwater levels on the site would vary depending on season and rainfall amounts. No flowing springs were observed on the site.

**Geologic Hazards:** Geologic hazards which may affect the proposed development include seismic hazards, slope instability, and erosion. These potential hazards are discussed below.

**Seismic Hazards:** The subject site lies within the seismically active southern California region. Earthquake-related hazards typically include the following, listed in order of damage-causing potential:

- Ground rupture, resulting from fault movement being physically expressed at the earth's surface.
- High intensity ground shaking resulting from earthquake-generated subsurface and surface vibrations.
- Liquefaction, or other ground settlement, flow, or slip, resulting from seismic activity in or near areas of susceptible earth materials.



### Ground Rupture

The San Gabriel fault traverses through the southwest portion of the subject site. This portion of the San Gabriel fault is not presently included in an Alquist-Priolo Special Studies Zone, however the fault is "zoned" approximately 2.5 miles southeast of the site (Hart, 1990). A study by William Cotton and Associates (1988) in the Rye Canyon area approximately four miles southeast of the site, determined that the fault was active, with the last seismic event prior to 1,300 years ago. Leighton and Associate (1989) found evidence of Quaternary displacement on the fault on the property adjacent to the south of the subject site. The potential for primary (from actual tectonic movement along a fault) ground rupture on the subject site does exist along this trace of the San Gabriel fault.

### High Intensity Ground Shaking

Vibrational energy generated by nearby earthquakes can produce ground motions capable of damaging or destroying unprepared structures. Brick and masonry structures, particularly when unreinforced, are less tolerant of vibration and horizontal displacements than steel or wood structures. Critical facilities (e.g. hospitals, fire stations, water and gas utilities, and schools) are commonly treated as more sensitive. Design of onsite structures should conform to the latest Uniform Building Code, and may utilize the seismic data provided in Table 1, page 7.

### Liquefaction

Earthquake-generated ground shaking may cause certain earth materials to liquefy, resulting in a loss of bearing capacity. Conditions necessary for liquefaction to occur are loose, granular, saturated (due to high ground water) fine sand and/or silt subjected to intense ground shaking.

The potential for liquefaction in the bedrock areas of the site is nil. There may be local areas of potential liquefaction in the alluvium of the site. The loose alluvial deposits may be removed and replaced with compacted fill to reduce the potential for liquefaction.

### Slope Stability

No major landslides, that effect bedrock, were observed on the site. In general, south to west facing slopes have potential for adversely oriented bedrock. Because of the southwest dip of the bedrock, northeast-facing slopes are commonly very steep (cliffs) where massive sandstone units are exposed. In these areas, the potential for topples and/or rockfall failure exists.

Scattered debris flow scarps were observed in the slope wash deposits of the site. The potential for debris flow occurrence on the site is high beneath slopes containing slope wash deposits.



### Settlement

Settlement of the ground surface can occur in alluvial areas due to compression or hydroconsolidation (collapse). On the adjacent site to the south, the upper nine feet of alluvium was found to be susceptible to hydroconsolidation (collapse) when saturated under loading.

Another potential settlement hazard is differential settlement. This occurs when one type of earth material settles more, or faster, than an adjacent material and damages an overlying structure. This is likely to occur on cut/fill transition lots, especially when fill is placed along a steep bedrock contact.

### Erosion

No evidence of severe erosion was observed on the bedrock or alluvial areas of the site. The slope wash deposits, related to the debris flow potential discussed above, appears to be moderately to highly susceptible to erosion.



## Conclusions and Recommendations

### Conclusions

Development of the subject site is feasible from a geotechnical standpoint, as long as the geologic constraints on the site are taken into account in the design and recommendations of the geotechnical consultant are followed. Specific conclusions are summarized below:

1. Geology favorable or neutral for the proposed cut slopes shown on the preliminary plan. In general, north to east facing cut slope should have favorable oriented bedrock.
2. No landslides were identified on the site during this study. Evidence of debris flow occurrence on the site was observed. The northeast portion of the site has the highest debris flow potential, as the surrounding slopes contain significant slope wash deposits.
3. The potential for fault ground rupture exists along the trace of the San Gabriel fault. Further study, which includes subsurface exploration, is required to define location, especially for the eastern branch.
4. Other seismic hazards on the site include seismic shaking and possibly liquefaction. Groundwater levels on the site need to be determined in order to properly assess the liquefaction potential.
5. Alluvial areas of the site may be susceptible to hydroconsolidation. Further exploration of the site will need to be conducted to determine all the engineering characteristics on the onsite materials.
6. The potential for significant differential settlement between bedrock and fill exists in areas of very steep bedrock slopes, such as in the middle portion of the site. Mitigation measures for this may include laying back this slope as fill is placed.

### Recommendations

Based on the data collected, the following recommendations are provided relative to the geologic hazards on the subject site:

1. Two preliminary zones of fault hazard "Structural Setback Area" have been delineated on the Geologic Map, Plate 1. As presently mapped, the width of the zone in the southern part of the site, where the location is more accurately known, is 100 feet (50 feet from the fault). Towards the northwest, the zones widen because of the increase of uncertainty of location. These zones should be refined by further subsurface investigation. Approximate location of the proposed exploration trenches are also shown on the Geologic Map, Plate 1.



2. Structures should be designed in accordance with the minimum building code standards for Seismic Zone 4 as described in the Los Angeles County Building Code.
3. Areas of potential debris flow (see Geologic Map, Plate 1) should be protected by construction of appropriate mitigative devices, such as detention basins, debris fences and deflection walls. Potential source areas for debris flows may also be removed by grading.
4. The proposed structural areas overlying the alluvial deposits should be investigated to determine the depth of compressible/collapsible soil.

Leighton and Associates, Inc. appreciates the opportunity to work with you on this project. Should you have any questions concerning this report, please do not hesitate to contact us at (818) 587-9470.

Respectfully submitted,

LEIGHTON AND ASSOCIATES, INC.

*Daniel C. Schneiderei*

Daniel C. Schneiderei, EG 1621  
Project Geologist

*Ross Khiabani*

Ross Khiabani, RCE 37156  
Director of Engineering

DGS/RK/bw

Distribution: (3) Addressee

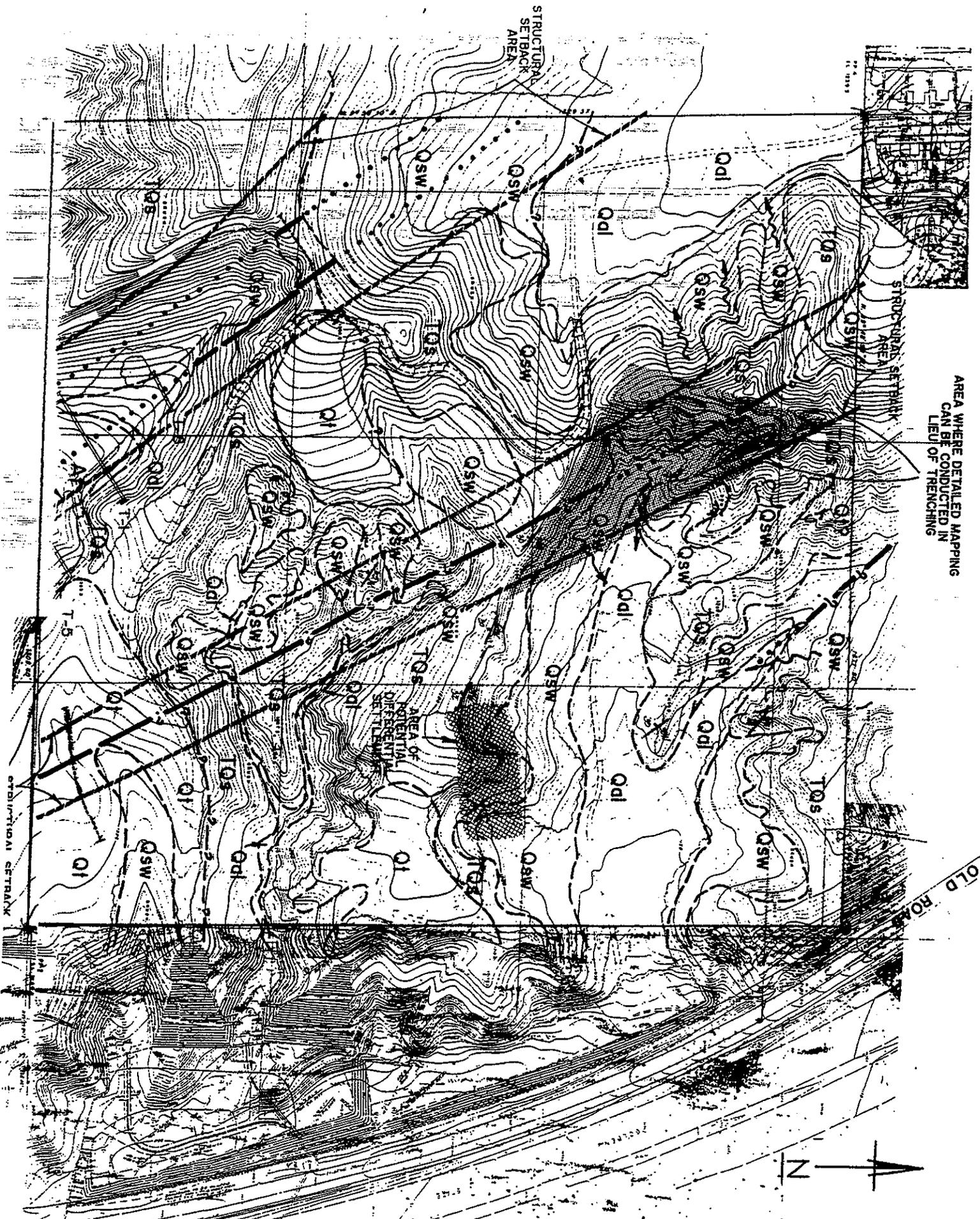


GEOLOGIC MAP

LEIGHTON AND ASSOC., INC 1/92

SCALE  
1" = 200'

40 Acre Site  
CASTLE Area



AREA WHERE DETAILED MAPPING  
CAN BE CONDUCTED IN  
LIEU OF TRENCHING



OLD ROAD

STRUCTURAL SETBACK

STRUCTURAL  
SETBACK  
AREA

STRUCTURAL SETBACK  
AREA

AREA OF  
POTENTIAL  
DIFFERENTIAL  
SETTLEMENT

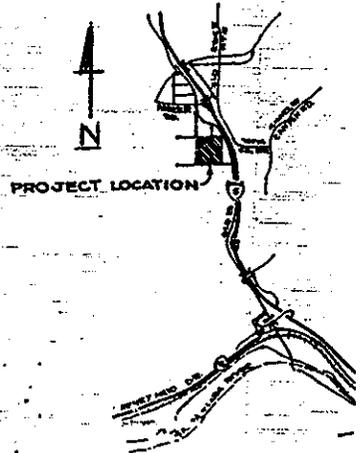
**LEGEND**

**UNITS**

- Af** ARTIFICIAL FILL
- Qsw** SLOPEWASH DEPOSITS
- Qal** ALLUVIUM
- Qt** TERRACE DEPOSITS
- TQs** MINT CANYON FORMATION BEDROCK

**SYMBOLS**

- BEDDING ATTITUDE
- APPROXIMATE LOCATION OF GEOLOGIC CONTACT (DOTTED WHERE UNCERTAIN)
- APPROXIMATE LOCATION OF FAULT (DOTTED WHERE BURIED, QUESTIONED WHERE UNCERTAIN)
- SURFICIAL FAILURE SCARP IN SLOPEWASH DEPOSITS
- LOCATION OF FAULT TRENCH BY LEIGHTON & ASSOCIATES, 1989
- PROPOSED FUTURE EXPLORATORY TRENCH
- DEBRIS FLOW POTENTIAL



**VICINITY MAP**  
NOT TO SCALE

(owner)  
BAHRAM SAFAVI  
P.O. Box 34898  
Los Angeles, CA  
(213) 207-3073

LATE 1

<b>GEOLOGIC MAP</b>	
40 ACRE SITE	
CASTAIC AREA LOS ANGELES COUNTY, CALIFORNIA	
Proj: 2011146-01	Scale: 1" = 400'
Engineer/Geologic: RK/DGS	Date: 1/83
<b>LEIGHTON AND ASSOCIATES, INC.</b>	

## APPENDIX A

### REFERENCES

- Campbell, K. W., 1989, Preliminary Report on Empirical Studies of Vertical Strong Ground Motion for the Diablo Canyon Site, California, Prepared for the U.S. Geological Survey, Reported to the U.S. Nuclear Regulatory Commission, dated January 1989.
- \_\_\_\_\_, 1988, Preliminary Report on Empirical Studies of Vertical Strong Ground Motion for the Diablo Canyon Site, California, Prepared for the U.S. Geological Survey, Reported to the U.S. Nuclear Regulatory Commission, dated October 1988.
- Hart, E. W., 1990(revised), Fault-rupture hazard zones in California: California Division of Mines and Geology Special Publication 42.
- Idriss, I. M., Earthquake Ground Motions, Lecture Notes, Course of Strong Ground Motion, Earthquake Engineering Research Institute, Pasadena, California, April 10-11, 1987.
- Jennings, C. W., 1975, Fault Map of California, California Geologic Data Map Series, Map No. 1: California Division of Mines and Geology.
- Joyner, W. B., and Fumal, T. E., 1985, Predictive Mapping of Earthquake Ground Motion, in Ziony, J. L., ed., Evaluating Earthquake Hazards in the Los Angeles Region - An Earth-Science Perspective: U.S. Geological Survey Professional Paper 1360, p. 203-220.
- Joyner, W. B., and Boore, D. M., 1981, Peak Horizontal Acceleration and Velocity from strong-motion records, including records from the 1979 Imperial Valley, California Earthquake: Seismology Society of America Bulletin, Vol. 71, p. 2011-2038.
- Leighton and Associates, 1989, Preliminary Geotechnical Investigation and Fault-Rupture Hazard Study, Proposed Condominium, Tract 46798, Castaic, County of Los Angeles, California, Project No. 7881423-02, dated April 10, 1989.
- Seed, H. B., Idriss, I. M., and Kiefer, F. W., 1969, Characteristics of rock Motions During Earthquakes: Journal of Soil Mechanics and Foundation Division, ASCE 95, Vol. 95, No. SM5, Paper 6783, p. 1199-1218.
- The Working Group On California Earthquake Probabilities, 1988, Probabilities of Large Earthquakes Occurring in California on the San Andreas Fault: U.S. Geological Survey Open-File Report 88-398.
- Treiman, J. A., 1986, Landslide hazards in the west ½ of the Newhall Quadrangle, Los Angeles County, California: Landslide Hazard Identification Map #2, California Division of Mines and Geology.
- Trifunac, M. D., and Brady, A. G., 1975, A Study on the Duration of Strong Earthquake Ground Motion: Seismology Society of America Bulletin, Vol. 65, p. 581-645.

Weber, F. H., 1982, Geology and geomorphology along the San Gabriel fault zone, Los Angeles and Ventura Counties, California: California Division of Mines and Geology Open File Report 82-2.

Wesnousky, S. G., 1986, Earthquakes, Quaternary Faults, and Seismic Hazard in California: Journal of Geophysical Research, Vol. 91, p. 12,587-12,631.

William Cotton and Associates, 1988, Late Pleistocene and Holocene Paleoseismicity of the San Gabriel fault, Saugus/Castaic area, Los Angeles County, California: Final Technical Report, U.S. Geological Survey Contract No. 14-08-0001-G1196.

Ziony, J. L. and Yerkes, R. F., 1985, Evaluation Earthquake and Surface-Faulting Potential, in Ziony, J. L., ed., Evaluating Earthquake Hazards in the Los Angeles Region - An Earth-Science Perspective: U.S. Geological Survey Professional Paper 1360, p. 43-92.

#### Aerial Photographs Reviewed

Source: I. K. Curtis Services Inc.

Date Flown: January 20, 1986

Scale: 1:36,000

Flight #: 87-578

Frame #'s: 324 and 325

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*Hydrology Study* □ *SUSMP Report*

# Drainage Concept/Hydrology Study/SUSMP

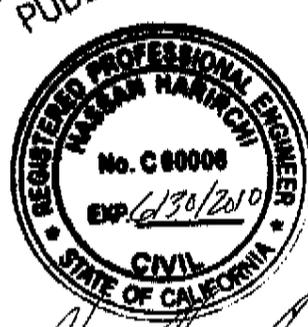
For  
Tract No. 53933  
Castaic, California  
Los Angeles County



DRAINAGE CONCEPT / SUSMP /  
HYDROLOGY STUDY  
APPROVED FOR AREA AND Q  
Prepared for:  
Bahram Salav  
P.O. Box 4498  
Los Angeles, California 90032  
Prepared by:  
SR Consultants West, Inc.  
25325 Ave Carbon Rd, Suite 100  
Santa Clarita, CA 91355  
Phone: (661) 257-6570  
RCE NO. 668328 DATE: 10/02/08  
DATE: 10/02/08

APPROVED BY: [Signature]  
CHECKED BY: [Signature]  
September 2008

LAND DEVELOPMENT DIVISION  
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS



[Signature]  
9/29/08

**SR CONSULTANTS WEST, INC.**  
PLANNING • ENGINEERING SURVEYORS



COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS  
LAND DEVELOPMENT DIVISION  
ENGINEERING AND SURVEY BRANCH  
STORM DRAIN AND HYDROLOGY SECTION

TO: SR Consultants West, Inc.

DATE 10/02/2008

Attention Hassan Harirchi

REVIEW OF DRAINAGE CONCEPT / HYDROLOGY STUDY / SUSMP

TR NO. 53933  
SUBMITTAL DATE 9/29/2008

We have reviewed your Drainage Concept / Hydrology Study / SUSMP.

- The drainage concept / hydrology study / SUSMP has been approved for Area and Q only.

<sup>AZ</sup>  
APPROVED BY Lizbeth Cordova  
LIZBETH CORDOVA, P.E.  
(626) 458-4921

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## Exhibit B

The Proposed Road & Drainage Plan for The Old Road Widening

## Exhibit C

Geologic and Geotechnical Memorandum for proposed drainage at the west boundary

## Exhibit D

State of California Department of Transportation (encroachment/connection permits)

## Appendix A

Hec-Ras

Water Surface and Exit Velocity Calculation at the Tract Boundary for Pre Developed Condition

## Appendix B

Hec-Ras

Water Surface and Exit Velocity Calculation at the Tract Boundary for Post Developed Condition

## **INTRODUCTION**

Tentative Tract No.53933 (Lake View Estates) is a proposed 70 single-family residential and 3 commercial lots, together with 4 open space lots, one park lot and one detention basin lot (Lot 79) to be deeded as a fee title to Los Angeles County Flood Control Department – LACFCD- (for a total of 79 lots) located in the Castaic area of Los Angeles County. The project is located west of The Old Road and surrounded by a condominium development (Tract 34365) to the north, Lake Hills Mobile Home Park to the northwest, open space to the west and south, and a builder materials yard business to the east. The project is situated on the high ground with no offsite tributary areas. This project has been prepared to address the drainage issues associated with single-family and commercial lots and to formulate a guide for the design of the storm drain system within the area of overall project boundary.

## **HYDROLOGICAL CHARACTERISTICS**

A study of hydrological characteristics includes: the use of topography and compiled information regarding existing and proposed drainage flow paths, soil types, rainfall intensity and land uses. Topography and existing drainage flow patterns are based upon information obtained from topographic maps at a scale of 1"=80', which was flown-in recently.

## **METHODOLOGY**

The new methodology (MORA) described in the Los Angeles County Department of Public Works Flood Control District Hydrology Manual, was used to compute storm water runoff rates from the project site. The time of concentration calculation is based on the new addendum established by LACDPW modified hydrology method. The new methodology replaces the rainfall zone by fifty (50) year Rainfall Isohyetal maps. The fifty (50) year, twenty-four (24) hours rainfall depth for the proposed project is 5.8". The 5.8" depth is used in (MORA) to calculate fifty-year runoff. The Rainfall multiplication frequency factors are used to convert the rainfall depth for 50 year (5.8") to 25, 10, 5 and 2 year frequency depth which affects the site.

## **EXISTING CONDITION**

The property is presently undeveloped with a perimeter consisting of steep to moderately steep slopes on the west & northwest portions of the site. The central and east portion of the site consists of flatter land with slope less than 25 percent. Based on the Topography of the site, existing drainage patterns across the site, fall into 5 watershed areas.

## **AREA 1**

Area 1 consists of sub area 1A, 2A, 3A, 4A, 5A, 8B, 9B, 10B, 11B, 12B & 15A, as shown on the enclosed existing hydrology map. All these areas drain to a low point on the west side of The Old Road. The drainage area that is encompassed by these sub-areas is 39.5 acres. The calculated existing Storm Flows under 2, 5, 10, 25 & 50 year frequencies are as follows:

Q2= 9.7 cfs

Q5= 25.4 cfs

Q10= 37.5 cfs

Q25= 52.8 cfs

Q50= 66.0 cfs

Q50b= 69.2cfs

Q50bb= 99.7 cfs

At the low point there is an existing 7'Wx3'H reinforced concrete Storm Drain Box, per Cal Trans contract # 07-034904, crossing under The Old Road & Interstate 5 and outlet onto the natural channel east of I-5. The natural channel drains south for approximately 600 feet and then east where it joins the Castaic Wash (Castaic Creek).

This existing natural channel is located within the Los Angeles County Castaic Sports Complex parcel (Dept. of Parks & Recreation), which is located in the Castaic Dam inundation area.

There is an existing builder materials yard business as mentioned earlier, located just upstream of R.C. Box & downstream of sub-areas 1A & 3A. This builder yard is constructed on the flow path of the contributory area to the existing R.C. Box.

There is no outlet from the builder yard. The Storm Flow from sub-areas 1A & 3A sheet flows, over the builder yard, draining east, to the low point with the existing 7'Wx3'H R.C. Box west of The Old Road as shown on pre-developed Hydrology map.

Sub area 15A, which is located on the east side of The Old Road, drains to a low point, which then collected by existing grate basins and conveyed to the existing 7' W x 3'H R.C. Box.

## **AREA 2**

Area 2 consists of sub-areas 1C & 2C. This sub area is 2.3 AC. Sub-area 2C (1.3 acres) has been previously graded. Area 2 drains to The Old Road and outlets through a 5' curb opening to an existing concrete rectangle channel, per Cal Trans Contract # 07-034904. The existing channel transitions to an existing double 8'x 6' R.C. Box crossing under I-5 and discharges onto the same natural channel as mentioned earlier on in Area 1.

The double R.C. Box Outlet is approximately 1000 feet upstream of Area 1 box outlet.

### **AREA 3**

Area 3 consists of sub-area 3C. Sub area 3C is 4.1 acres and is undeveloped open space. The generated storm flows by sub-area 3C, collected by an existing 30" CMP pipe drains east under The Old Road and joins an existing double 8' x 6' R.C. Box per Cal Trans contract # 07-034904 (mentioned earlier under Areas 1 & 2). The runoff value for 2, 5, 10, 25 and 50 year are shown on pre-developed hydrology map.

### **AREA 4**

Area 4 consists of sub-area 1E. This sub-area is 12.0 acres and it includes the northwest corner of project. Sub-area 1-E is adjacent to Tract 34365, open space and the Lake Hills Mobile Home Park. The storm flow from this sub-area drains northwesterly to the west-side open space parcel, and then to a low point, located just south of the Mobile Home Park boundary. The storm flow from sub-area 1E, which includes the offsite area flow west of proposed Tract 53933, is collected by an existing 42" CMP pipe. The existing 42" CMP changes to 33" RCP pipe at the boundary of the condominium site, Tract 34365. Then continuing through the condominium project (P.D. 1850), transitioning again to a 36" RCP, and joining a 42" RCP on the south side of The Old Road. The 42" RCP then joins an existing 8' x 3' RC Box under The Old Road, which then discharges into an open space north of The Old Road. The storm flow in the open space drains north-east through the natural channel to an existing concrete rectangular channel per Cal Trans contract # 07-034904. This concrete channel transitions to a double 8' x 6' RC Box, the box crosses under the I-5 and discharges into the same natural channel which Area 1 drains into. Therefore, Areas 1,2,3,4 and adjacent Tract 34365 to north and the east-side builder material yard all drain into this same natural channel. This natural channel is located within Los Angeles County Castaic Sports Complex grounds (Department of Parks and Recreation). The Sports Complex and the adjoining areas are adjacent to, and drain into, the Castaic Wash (Castaic Creek), which will remain undeveloped as part of the Castaic Dam Inundation Area.

### **AREA 5**

Area 5 consists of sub-area 1D. This sub-area is 3.8 acres which drains south and merges with the flow from the undeveloped area and continues east to an existing 7' x 5' RC Box located under The Old Road. This box crosses under The Old Road and the I-5 and discharges into a natural channel located east of the I5. This channel drains into the Castaic Wash (Castaic Creek). The final hydrology for adjacent Tract 46798, located to the south of the project, is approved and is expected to be constructed in the near future. There will be a debris basin constructed where sub-area 1D discharges the storm flow into Tract 46798.

## **PROPOSED CONDITION**

The proposed storm drain alignment and catch basin location are shown on the post-developed hydrology map. Three onsite public storm drain lines A, A-1 and C are proposed. As mentioned earlier in the existing condition report for Tract 53933, there are two outlet drainage points from the project site. The first is the existing thirty inch (30") CMP pipe located on The Old Road, 170 feet north of A Street (project's access road), which drains into a double 8' x 6' R.C. Box, and the second outlet drainage point is the existing 7' x 3' R.C. Box located on The Old Road, 1,500 feet south of A street. These two storm drain boxes drain into the same natural channel located east of I-5.

These two existing outlets not only drain the proposed tract but also all the existing neighboring projects in the north and east. The main purpose of this hydrology design is to balance the storm drain flow within the proposed project boundary without having any adverse impact on the adjacent projects. When Tract 53933 is constructed, it will result in a higher storm runoff for 2, 5, 10 and 25 year storm frequencies, due to the larger post-development impervious area. However, while the post-development storm flow volume for 50 year (Q50) and 50-year burn (Q50b) are higher than their respective pre-development flow, the post-development 50-year burn & bulk (Q50bb) flow is lower than pre-development Q50bb flow due to 1.47 bulking factor.

### **Line A:**

The storm flow in sub-areas 1A & 2A (total 4.5 acres), which are part of Area 4 (sub-area 1E) of the existing condition, was originally draining in the northern area (through the open space to the west and then) towards the existing Tract 34365.

Sub area 1A is design with mini-desilting basin for each downstream residential lot (48-52), to prevent the debris flow reaching the street.

In order to avoid an increase in storm flow, storm flow will be diverted via a storm drain pipe. The diverted storm flow from sub-areas 1A & 2A will merge with rest of the storm flow (sub-areas 3A to 11A) and will be conveyed downstream to a proposed detention basin which is located on the southwest corner of The Old Road and A Street within the commercial lot (lot 73) sub-area 11A.

### **Line A-1:**

In the open space area, which is sub-areas 12A, 13A and 14A, the bulk flow inlet is designed to collect and convey the burned and bulked flow. The burned and bulked flow will be conveyed downstream by a storm drain pipe line A-1. Line A-1 will be routed by going east then south on The Old Road and joining the outflow pipe from the proposed detention basin. This storm drain pipe (Line A-1) will continue south on The Old Road, just before joining the existing 7' x 3' R.C. Box, it pick up the storm flow from sub-area 19B through 31B via inlet as shown on the post developed hydrology map. This proposed storm drain line will be constructed per tract 53933. Tract 53933 provides the interim inlet and stubs for catch basin lateral up to the existing R/W line to be compatible with the ultimate condition Road and Drainage Improvements for The Old Road, as shown on the post developed hydrology map. The hydraulic analysis for the existing 7' x 3' R.C. Box, under The Old Road was performed, and the results shows that the

caring capacity for the existing box is more than that of the existing and proposed runoff generates.

### **Line C:**

Per Tract 53933, the existing 30" CMP pipe, which is located on The Old Road, north of A Street, will be replaced by Line C storm drain. Line C will collect the storm flow from sub area 1C to 4C. Sub-areas 2C & 3C are open spaces. The burned and bulked flow generated in the open space will be collected by two different types of drainage inlet, bulk flow inlet (sub area 2C) per proposed L.A. County drainage plan, and mini-desilting inlet (sub area 3C) per this plan. Both inlets drain into line C and will be conveyed down stream to the existing double 8' x 6' RC Box. Sub-area 1C is a 1:1 graded slope with full improvement of The Old Road. Storm flow from sub-area 1C will be collected by two proposed catch basins and drain to the storm drain. In conclusion all the storm flow from the onsite and the adjacent tract will end up into two existing systems: 1) double 8'x6' RC Box ; 2) 7' x 3' RC Box . Both boxes will drain into the same natural channel east of I-5.

### **Nuisance Water**

For all manufactured slopes in the proposed development, such as sub-areas 19B, 25B, 27B, 2D and 2E, a drip irrigation system or approved equivalent will be utilized for the slope's landscaping. Any possible nuisance water from these slopes will be controlled by riprap or splash pads proposed at the toe of the slopes as shown on the post-development hydrology map.

### **Interim Peak Flow Policy**

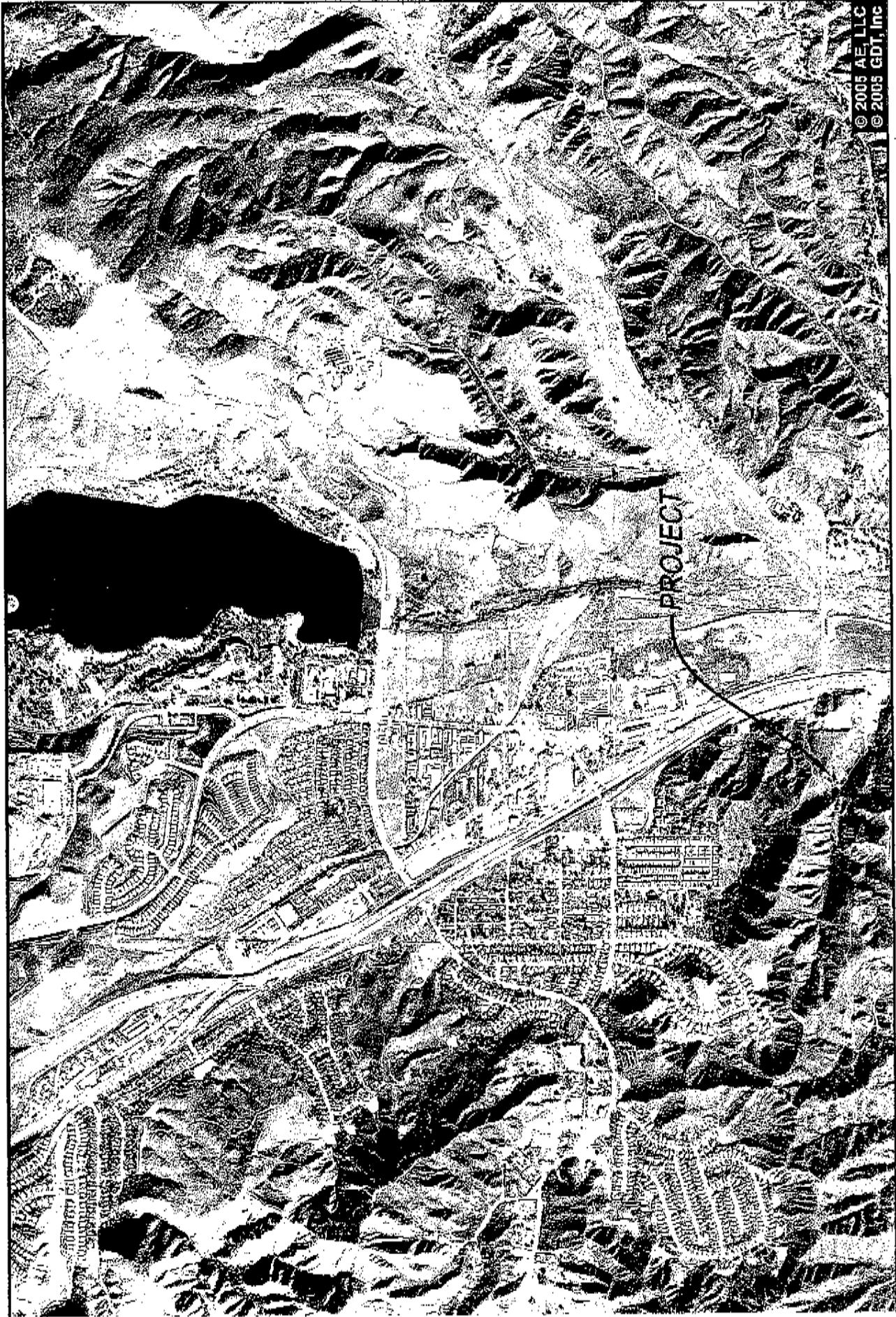
The Interim Peak Flow Policy was adopted by the Regional Water Quality Control Board February 1, 2005. The application for the proposed project is dated October 1, 2003. Therefore, the Interim Peak Flow Policy does not apply to the proposed development as the date of the project's application precedes the date of the Policy.

### **SUSMP**

The treatment BMP's designed for this project meet the flow based treatment control BMP design standard of filtering the flow of runoff produced from a 0.75 inch storm event, prior to its discharge to the public storm water conveyance system.

A copy of the hydrology calculations is included in this report.

The combination of CDS units and Catch Basin Insert are proposed for Tract 53933. The locations of these devices are shown on the post developed hydrology map.



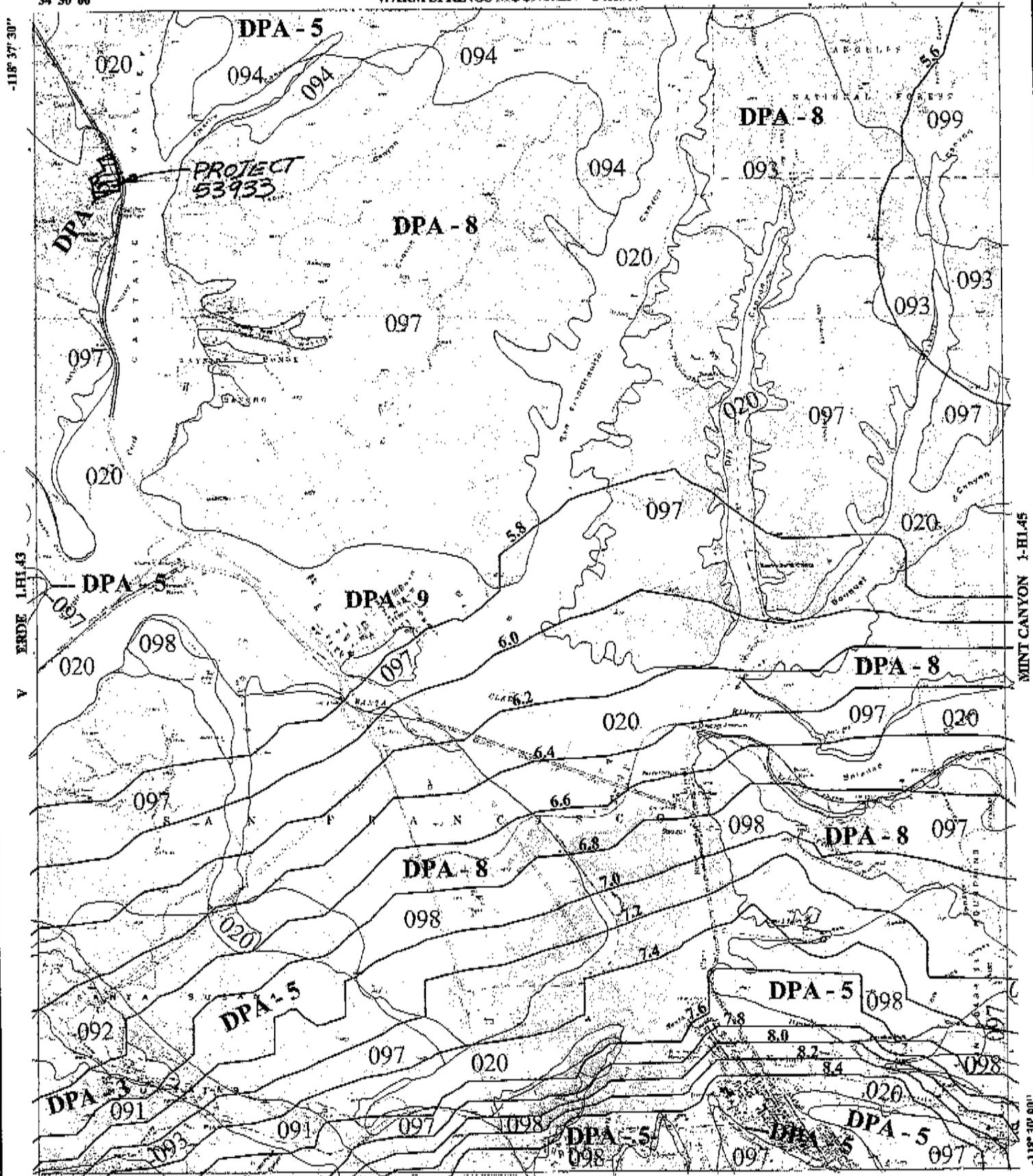
© 2005 AE, LLC  
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VICINITY AERIAL PHOTO FOR TRACT NO. 53933

34° 30' 00"

WARM SPRINGS MOUNTAIN 1-HI.53

-118° 37' 30"

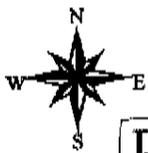


MINT CANYON 1-HI.45

-118° 30' 00"

OAT MOUNTAIN 1-HI.35

34° 22' 30"



016

SOIL CLASSIFICATION AREA

7.2

INCHES OF RAINFALL

DPA - 6

DEBRIS POTENTIAL AREA

1 0 1 2 Miles

25-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.878  
10-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.714

**NEW HALL**  
**50-YEAR 24-HOUR ISOHYET**

1-HI.44



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## **Appendix C**

*Noise Calculations*

# ROADWAY TRAFFIC NOISE

Project: Lake View Estates Mixed Use Project EIR Project No. 04-55970  
 Date: 16-Aug-05

Roadway: Interstate 5

Vehicle Noise Emission Levels\*: TNM

## RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 220 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	77.7 dBA	334	720	1552	3344	7205
Existing + Project	77.7 dBA	335	723	1557	3354	7225
Future with Ambient Growth	78.3 dBA	366	788	1698	3659	7883
Future with Ambient Growth and Project	78.3 dBA	367	790	1702	3668	7902
Future with Ambient Growth and Cumulative Projects	78.7 dBA	389	838	1806	3891	8383
Future with Ambient, Cumulative, and Project Growth	78.7 dBA	390	840	1810	3900	8402
Change in Noise Levels						
Due to Project	0.0 dBA					
Due to Ambient Growth	0.6 dBA					
Due to Ambient and Cumulative	1.0 dBA					
Due to All Future Growth	1.0 dBA					

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 220 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	78.3 dBA	363	783	1687	3635	7831
Existing + Project	78.3 dBA	365	785	1692	3646	7855
Future with Ambient Growth	78.9 dBA	398	857	1846	3977	8568
Future with Ambient Growth and Project	78.9 dBA	399	859	1851	3987	8591
Future with Ambient Growth and Cumulative Projects	79.3 dBA	423	911	1963	4229	9112
Future with Ambient, Cumulative, and Project Growth	79.3 dBA	424	913	1968	4239	9134
Change in Noise Levels						
Due to Project	0.0 dBA					
Due to Ambient Growth	0.6 dBA					
Due to Ambient and Cumulative	1.0 dBA					
Due to All Future Growth	1.0 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: Lake View Estates Mixed Use Project EIR Project No. 04-55970  
 Date: 16-Aug-05

Roadway: Interstate 5

## PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM  
 Distance to Receptor: 220 feet  
 Site Condition (Hard or Soft): Soft  
 Upgrade longer than 1 mile: 0 %  
 Existing Total Traffic Volume (ADT): 272,435 vehicles  
 Ambient Growth Factor: 4.6%  
 Future Year : 2008  
 Total Project Volume (ADT): 1,698 vehicles  
 Total Cumulative Growth Volume (ADT): 30,140 vehicles  
 Source of Traffic Data: ATE Traffic Study

### Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	92.6%	99.0%	92.6%
Medium Truck	1.9%	0.5%	1.9%
Heavy Truck	5.5%	0.5%	5.5%

Source: 2003 Caltrans Truck Traffic

### 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	50	65	65
Medium Truck	50	65	65
Heavy Truck	50	65	65

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	50	65	65
Medium Truck	50	65	65
Heavy Truck	50	65	65

Source: Assumed average speed

**Table 4.9-5 Comparison of Pre-Project and Post-Project Traffic Noise On Affected Roadways**

Roadway	Projected Noise Level <sup>a</sup> (dBA CNEL)			Change In Noise Level (dBA CNEL)	
	Existing (1)	Existing + Project (2)	Cumulative +Ambient + Project (2008) (3)	Due to Project Traffic (2-1)	Due to Cumulative Traffic Growth (3-1)
Interstate 5	78.3	78.3	79.3	0.0	1.0
The Old Road	65.0	66.0	69.7	1.0	4.4*
Noise at the boundary of lot 77	78.5	78.5	79.8		

*Notes: <sup>a</sup>Estimate of noise generated by traffic from roadway centerline at the closest property boundary. Refer to Appendix C for the spread-sheets that generated these estimates. Noise levels presented do not account for attenuation provided by existing barriers or future barriers; therefore, actual noise levels at sensitive receptor locations influenced by study area roadways may in many cases be lower than presented herein.*

*\*Delineates a significant impact.*

660 feet  
Old Rd

69.8  
48.9

# ROADWAY TRAFFIC NOISE

Project: Lake View Estates Mixed Use Project EIR Project No. 04-55970  
 Date: 12-Aug-05

Roadway: The Old Road

Vehicle Noise Emission Levels\*: TNM

## RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 60 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	64.5 dBA	#N/A	17	55	119	257
Existing + Project	65.5 dBA	#N/A	21	65	140	301
Future with Ambient Growth	65.1 dBA	#N/A	19	61	131	281
Future with Ambient Growth and Project	66.0 dBA	#N/A	24	70	150	324
Future with Ambient Growth and Cumulative Projects	68.8 dBA	#N/A	50	108	233	502
Future with Ambient, Cumulative, and Project Growth	69.2 dBA	#N/A	53	115	248	534
Change in Noise Levels						
Due to Project	1.0 dBA					
Due to Ambient Growth	0.6 dBA					
Due to Ambient and Cumulative	4.4 dBA					
Due to All Future Growth	4.8 dBA					

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 60 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	65.0 dBA	#N/A	19	60	129	277
Existing + Project	66.0 dBA	#N/A	24	70	151	325
Future with Ambient Growth	65.5 dBA	#N/A	22	65	141	303
Future with Ambient Growth and Project	66.5 dBA	#N/A	27	75	162	349
Future with Ambient Growth and Cumulative Projects	69.3 dBA	16	54	117	252	542
Future with Ambient, Cumulative, and Project Growth	69.7 dBA	18	58	124	268	577
Change in Noise Levels						
Due to Project	1.0 dBA					
Due to Ambient Growth	0.6 dBA					
Due to Ambient and Cumulative	4.4 dBA					
Due to All Future Growth	4.8 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: Lake View Estates Mixed Use Project EIR Project No. 04-55970  
 Date: 12-Aug-05

Roadway: The Old Road

## PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM  
 Distance to Receptor: 60 feet  
 Site Condition (Hard or Soft): Soft  
 Upgrade longer than 1 mile: 0 %  
 Existing Total Traffic Volume (ADT): 5,200 vehicles  
 Ambient Growth Factor: 4.6%  
 Future Year : 2008  
 Total Project Volume (ADT): 1,613 vehicles  
 Total Cumulative Growth Volume (ADT): 9,000 vehicles  
 Source of Traffic Data: ATE Traffic Study

### Daily Vehicle Mix

	<i>Existing</i>	<i>Project</i>	<i>Future</i>
Automobile	96.1%	97.5%	97.0%
Medium Truck	1.9%	2.0%	1.9%
Heavy Truck	2.0%	0.5%	1.1%

Source: 2003 Caltrans Truck Traffic

### 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

Contour

TO DETERMINE NOISE CONTOURS FOR A GIVEN NOISE LEVEL				
ATTENUATION RATE:	4.5 dBA/DOUBLING OF DISTANCE			
(Choice: 3, 4.5, or 6)	Note: Within 0-10 feet from			
NOISE LEVEL:	69.2 dBA	the source, there is		
REFERENCE DISTANCE:	60 FEET	virtually no attenuation.		
NOISE CONTOUR	DISTANCE FROM SOURCE		SPECIFIC DISTANCE	NOISE LEVEL
75	25 feet		50	70.4
70	53 feet		100	65.9
65	114 feet		150	63.2
60	246 feet		200	61.4
55	531 feet		400	56.8
50	1143 feet		660	53.6
75	25 feet			
74	29 feet			
73	33 feet			
72	39 feet			
71	46 feet			
70	53 feet			
69	62 feet			
68	72 feet			
67	84 feet			
66	98 feet			
65	114 feet			
64	133 feet			
63	155 feet			
62	181 feet			
61	211 feet			
60	246 feet			

# **Appendix D**

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*Air Quality Calculations*

Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: L:\ESP\LA Co\04-55970 Castaic Mixed Use (Lake View Estates) EIR\Other\AQ\FEIR\LVE 05.28.09.urb924

Project Name: Lake View Estates Global Climate Change

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2010 TOTALS (lbs/day unmitigated)	11.42	96.24	45.97	644.58	4.66	649.24	134.62	4.28	138.90	10,176.59
2010 TOTALS (lbs/day mitigated)	11.42	96.24	45.97	65.90	4.66	70.56	13.77	4.28	18.05	10,176.59
2011 TOTALS (lbs/day unmitigated)	24.42	98.67	67.49	0.15	4.59	4.74	0.05	4.21	4.27	13,341.45
2011 TOTALS (lbs/day mitigated)	19.60	98.67	67.49	0.15	4.59	4.74	0.05	4.21	4.27	13,341.45
2012 TOTALS (lbs/day unmitigated)	23.71	91.88	63.93	0.15	4.21	4.36	0.05	3.87	3.92	13,340.96
2012 TOTALS (lbs/day mitigated)	15.57	91.88	63.93	0.15	4.21	4.36	0.05	3.87	3.92	13,340.96

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	5.18	1.69	7.10	0.02	0.02	2,026.27

5/28/2009 11:36:24 AM

TOTALS (lbs/day, mitigated)	5.16	1.37	6.92	0.02	0.02	1,623.14
Percent Reduction	0.39	18.93	2.54	0.00	0.00	19.90

## OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	10.49	14.40	132.13	1.40	0.89	15,355.08

## SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	15.67	16.09	139.23	1.42	0.91	17,381.35

Both Area and Operational Mitigation must be turned on to get a combined mitigated total.

## Construction Unmitigated Detail Report:

## CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 5/31/2010-12/3/2010 Active Days: 135	11.42	96.24	45.97	644.58	4.66	649.24	134.62	4.28	138.90	10,176.59
Mass Grading 05/31/2010- 12/03/2010	11.42	96.24	45.97	644.58	4.66	649.24	134.62	4.28	138.90	10,176.59
Mass Grading Dust	0.00	0.00	0.00	644.56	0.00	644.56	134.61	0.00	134.61	0.00
Mass Grading Off Road Diesel	11.32	96.05	42.71	0.00	4.65	4.65	0.00	4.27	4.27	9,803.56
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.10	0.19	3.26	0.02	0.01	0.03	0.01	0.01	0.01	373.03

5/28/2009 11:36:24 AM

	ROG	Nox	CO	PM <sub>10</sub> Dust	PM <sub>10</sub> Ex	PM <sub>10</sub>	PM <sub>2.5</sub> Dust	PM <sub>2.5</sub> Ex	PM <sub>2.5</sub>	CO <sub>2</sub>
Time Slice 12/6/2010-12/24/2010 Active Days: 15	2.09	17.75	9.30	0.01	0.88	0.89	0.00	0.81	0.81	1,838.98
Trenching 12/06/2010-12/24/2010	2.09	17.75	9.30	0.01	0.88	0.89	0.00	0.81	0.81	1,838.98
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.09	0.01	0.00	0.01	0.00	0.00	0.00	124.34
Time Slice 12/27/2010-12/31/2010 Active Days: 5	5.11	23.26	13.78	0.05	1.64	1.69	0.02	1.51	1.52	2,483.65
Asphalt 12/27/2010-01/07/2011	5.11	23.26	13.78	0.05	1.64	1.69	0.02	1.51	1.52	2,483.65
Paving Off-Gas	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.48	14.87	8.27	0.00	1.28	1.28	0.00	1.18	1.18	1,131.92
Paving On Road Diesel	0.67	8.27	3.33	0.04	0.35	0.39	0.01	0.32	0.33	1,103.05
Paving Worker Trips	0.07	0.13	2.17	0.01	0.01	0.02	0.00	0.01	0.01	248.69
Time Slice 1/3/2011-1/7/2011 Active Days: 5	4.92	21.75	13.21	0.05	1.55	1.60	0.02	1.43	1.44	2,483.60
Asphalt 12/27/2010-01/07/2011	4.92	21.75	13.21	0.05	1.55	1.60	0.02	1.43	1.44	2,483.60
Paving Off-Gas	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.17	8.17	0.00	1.24	1.24	0.00	1.14	1.14	1,131.92
Paving On Road Diesel	0.61	7.46	3.01	0.04	0.31	0.35	0.01	0.29	0.30	1,103.05
Paving Worker Trips	0.06	0.12	2.03	0.01	0.01	0.02	0.00	0.01	0.01	248.63
Time Slice 1/10/2011-6/24/2011 Active Days: 120	12.58	98.66	67.19	0.15	4.59	4.73	0.05	4.21	4.27	13,305.05
Building 01/10/2011-03/16/2012	12.58	98.66	67.19	0.15	4.59	4.73	0.05	4.21	4.27	13,305.05
Building Off Road Diesel	11.66	95.01	42.87	0.00	4.41	4.41	0.00	4.06	4.06	10,087.72
Building Vendor Trips	0.22	2.34	1.92	0.02	0.10	0.12	0.01	0.09	0.10	472.50
Building Worker Trips	0.70	1.31	22.39	0.13	0.07	0.20	0.05	0.06	0.11	2,744.83

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	RO6	NOx	CO	PM <sub>10</sub> PMT	PM <sub>10</sub> EX	PM <sub>10</sub>	PM <sub>2.5</sub> PMT	PM <sub>2.5</sub> EX	PM <sub>2.5</sub>	CO <sub>2</sub>
Time Slice 6/27/2011-12/30/2011 Active Days: 135	24.42	98.67	67.49	0.15	4.59	4.74	0.05	4.21	4.27	13,341.45
Building 01/10/2011-03/16/2012	12.58	98.66	67.19	0.15	4.59	4.73	0.05	4.21	4.27	13,305.05
Building Off Road Diesel	11.66	95.01	42.87	0.00	4.41	4.41	0.00	4.06	4.06	10,087.72
Building Vendor Trips	0.22	2.34	1.92	0.02	0.10	0.12	0.01	0.09	0.10	472.50
Building Worker Trips	0.70	1.31	22.39	0.13	0.07	0.20	0.05	0.06	0.11	2,744.83
Coating 06/27/2011-04/06/2012	11.84	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	36.40
Architectural Coating	11.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	36.40
Time Slice 1/2/2012-3/16/2012 Active Days: 55	23.71	91.88	63.93	0.15	4.21	4.36	0.05	3.87	3.92	13,340.96
Building 01/10/2011-03/16/2012	11.87	91.87	63.65	0.15	4.21	4.36	0.05	3.87	3.92	13,304.57
Building Off Road Diesel	11.03	88.57	41.00	0.00	4.05	4.05	0.00	3.73	3.73	10,087.72
Building Vendor Trips	0.20	2.09	1.78	0.02	0.09	0.10	0.01	0.08	0.09	472.50
Building Worker Trips	0.64	1.20	20.87	0.13	0.07	0.20	0.05	0.06	0.11	2,744.34
Coating 06/27/2011-04/06/2012	11.84	0.02	0.28	0.00	0.00	0.00	0.00	0.00	0.00	36.39
Architectural Coating	11.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.28	0.00	0.00	0.00	0.00	0.00	0.00	36.39
Time Slice 3/19/2012-4/6/2012 Active Days: 15	11.84	0.02	0.28	0.00	0.00	0.00	0.00	0.00	0.00	36.39
Coating 06/27/2011-04/06/2012	11.84	0.02	0.28	0.00	0.00	0.00	0.00	0.00	0.00	36.39
Architectural Coating	11.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.28	0.00	0.00	0.00	0.00	0.00	0.00	36.39

Phase Assumptions

Phase: Mass Grading 5/31/2010 - 12/3/2010 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 29

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Maximum Daily Acreage Disturbed: 7.25

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 4848 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

- 1 Crawler Tractors (147 hp) operating at a 0.64 load factor for 8 hours per day
- 1 Crushing/Processing Equip (142 hp) operating at a 0.78 load factor for 8 hours per day
- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
- 2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
- 1 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day
- 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
- 1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

2,484 HP

Phase: Trenching 12/6/2010 - 12/24/2010 - Default Trenching Description

Off-Road Equipment:

- 2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 12/27/2010 - 1/7/2011 - Default Paving Description

Acres to be Paved: 7.25

Off-Road Equipment:

- 4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
- 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
- 2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
- 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Building Construction 1/10/2011 - 3/16/2012 - Default Building Construction Description

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Off-Road Equipment:

- 2 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
- 1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 2 Off Highway Tractors (267 hp) operating at a 0.65 load factor for 8 hours per day
- 2 Off Highway Trucks (479 hp) operating at a 0.57 load factor for 8 hours per day
- 1 Other Equipment (190 hp) operating at a 0.62 load factor for 8 hours per day
- 1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day
- 1 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 8 hours per day
- 1 Rough Terrain Forklifts (93 hp) operating at a 0.6 load factor for 8 hours per day
- 1 Rubber Tired Loaders (164 hp) operating at a 0.54 load factor for 8 hours per day
- 2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

2,860 HP

Phase: Architectural Coating 6/27/2011 - 4/6/2012 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

ROG      NOx      CO      PM10 Dust      PM10 Exhaust      PM10      PM2.5 Dust      PM2.5 Exhaust      PM2.5      CO2

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	ROG	NOx	CO	PM <sub>10</sub> DUST	PM <sub>10</sub> EX	PM <sub>10</sub>	PM <sub>2.5</sub> DUST	PM <sub>2.5</sub> EX	PM <sub>2.5</sub>	CO <sub>2</sub>
Time Slice 5/31/2010-12/3/2010 Active Days: 135	11.42	96.24	45.97	65.90	4.66	70.56	13.77	4.28	18.05	10,176.59
Mass Grading 05/31/2010- 12/03/2010	11.42	96.24	45.97	65.90	4.66	70.56	13.77	4.28	18.05	10,176.59
Mass Grading Dust	0.00	0.00	0.00	65.88	0.00	65.88	13.76	0.00	13.76	0.00
Mass Grading Off Road Diesel	11.32	96.05	42.71	0.00	4.65	4.65	0.00	4.27	4.27	9,803.56
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.10	0.19	3.26	0.02	0.01	0.03	0.01	0.01	0.01	373.03
Time Slice 12/6/2010-12/24/2010 Active Days: 15	2.09	17.75	9.30	0.01	0.88	0.89	0.00	0.81	0.81	1,838.98
Trenching 12/06/2010-12/24/2010	2.09	17.75	9.30	0.01	0.88	0.89	0.00	0.81	0.81	1,838.98
Trenching Off Road Diesel	2.06	17.69	8.22	0.00	0.88	0.88	0.00	0.81	0.81	1,714.64
Trenching Worker Trips	0.03	0.06	1.09	0.01	0.00	0.01	0.00	0.00	0.00	124.34
Time Slice 12/27/2010-12/31/2010 Active Days: 5	5.11	23.26	13.78	0.05	1.64	1.69	0.02	1.51	1.52	2,483.65
Asphalt 12/27/2010-01/07/2011	5.11	23.26	13.78	0.05	1.64	1.69	0.02	1.51	1.52	2,483.65
Paving Off-Gas	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.48	14.87	8.27	0.00	1.28	1.28	0.00	1.18	1.18	1,131.92
Paving On Road Diesel	0.67	8.27	3.33	0.04	0.35	0.39	0.01	0.32	0.33	1,103.05
Paving Worker Trips	0.07	0.13	2.17	0.01	0.01	0.02	0.00	0.01	0.01	248.69
Time Slice 1/3/2011-1/7/2011 Active Days: 5	4.92	21.75	13.21	0.05	1.55	1.60	0.02	1.43	1.44	2,483.60
Asphalt 12/27/2010-01/07/2011	4.92	21.75	13.21	0.05	1.55	1.60	0.02	1.43	1.44	2,483.60
Paving Off-Gas	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.17	8.17	0.00	1.24	1.24	0.00	1.14	1.14	1,131.92
Paving On Road Diesel	0.61	7.46	3.01	0.04	0.31	0.35	0.01	0.29	0.30	1,103.05
Paving Worker Trips	0.06	0.12	2.03	0.01	0.01	0.02	0.00	0.01	0.01	248.63



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Time Slice 3/19/2012-4/6/2012	3.70	0.02	0.28	0.00	0.00	0.00	0.00	0.00	0.00	36.39
Active Days: 15										
Coating 06/27/2011-04/06/2012	3.70	0.02	0.28	0.00	0.00	0.00	0.00	0.00	0.00	36.39
Architectural Coating	3.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.28	0.00	0.00	0.00	0.00	0.00	0.00	36.39

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 5/31/2010 - 12/3/2010 - Default Mass Site Grading/Excavation Description

For Soil Stabilizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by: (AQ-1(a))

PM10: 84% PM25: 84%

For Soil Stabilizing Measures, the Water exposed surfaces 3x daily watering mitigation reduces emissions by: (AQ-1(a) 1st bullet)

PM10: 61% PM25: 61%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by: (AQ-1(a) 2nd bullet)

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by: (AQ-1(a) added new bullet, bullet No.3)

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 6/27/2011 - 4/6/2012 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.12	1.61	0.88	0.00	0.00	2,015.64
Hearth - No Summer Emissions						
Landscape	0.81	0.08	6.22	0.02	0.02	10.63
Consumer Products	3.59					
Architectural Coatings	0.66					
TOTALS (lbs/day, unmitigated)	5.18	1.69	7.10	0.02	0.02	2,026.27

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.10	1.29	0.70	0.00	0.00	1,612.51
Hearth - No Summer Emissions						
Landscape	0.81	0.08	6.22	0.02	0.02	10.63
Consumer Products	3.59					
Architectural Coatings	0.66					
TOTALS (lbs/day, mitigated)	5.16	1.37	6.92	0.02	0.02	1,623.14

Area Source Mitigation Measures Selected

<u>Mitigation Description</u>	<u>Percent Reduction</u>
Residential Increase Energy Efficiency Beyond Title 24	20.00
Commercial Increase Energy Efficiency Beyond Title 24	20.00

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

<u>Source</u>	ROG	NOX	CO	PM10	PM25	CO2
Single family housing	4.56	6.13	56.58	0.59	0.38	6,521.09
City park	0.07	0.06	0.51	0.01	0.00	60.84
Office park	5.86	8.21	75.04	0.80	0.51	8,773.15
TOTALS (lbs/day, unmitigated)	10.49	14.40	132.13	1.40	0.89	15,355.08

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	15.18	8.92	dwelling units	70.00	624.40	6,308.19
City park		1.59	acres	4.11	6.53	59.35
Office park		11.42	1000 sq ft	70.00	799.40	8,515.21
					1,430.33	14,882.75

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.4	0.6	99.2	0.2
Light Truck < 3750 lbs	6.8	1.5	97.0	1.5
Light Truck 3751-5750 lbs	22.9	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.1	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.5	0.0	86.7	13.3
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.3	60.9	39.1	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.8	0.0	87.5	12.5

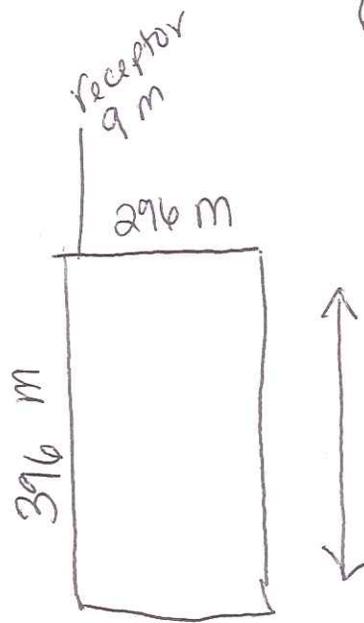
Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
% of Trips - Commercial (by land use)						
City park				5.0	2.5	92.5
Office park				48.0	24.0	28.0

Operational Changes to Defaults



$$\frac{65.90 \text{ lbs}}{\text{day}} \times \frac{453.5924 \text{ g}}{1 \text{ lb}} \times \frac{1 \text{ day}}{8 \text{ hrs}} \times \frac{1 \text{ hr}}{60 \text{ min}} \times \frac{1 \text{ min}}{60 \text{ sec}} = \frac{1.0379075 \text{ g}}{\text{s}}$$

$$= \frac{1.0379075 \text{ g}}{\text{s}}$$


---


$$117,216 \text{ m}^2$$

$$= 8.8 \times 10^{-6} \text{ g/s/m}^2$$

$$8.85465721 \times 10^{-6}$$

05/28/09  
13:32:21

\*\*\* SCREEN3 MODEL RUN \*\*\*  
\*\*\* VERSION DATED 96043 \*\*\*

Lake View Estates 05.28.09

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = AREA  
EMISSION RATE (G/(S-M\*\*2)) = .885466E-05  
SOURCE HEIGHT (M) = 1.0000  
LENGTH OF LARGER SIDE (M) = 396.0000  
LENGTH OF SMALLER SIDE (M) = 296.0000  
RECEPTOR HEIGHT (M) = 1.6000  
URBAN/RURAL OPTION = URBAN

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.  
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

ANGLE RELATIVE TO LONG AXIS = .0000

BUOY. FLUX = .000 M\*\*4/S\*\*3; MOM. FLUX = .000 M\*\*4/S\*\*2.

\*\*\* STABILITY CLASS 4 ONLY \*\*\*

\*\*\*\*\*  
\*\*\* SCREEN AUTOMATED DISTANCES \*\*\*  
\*\*\*\*\*

\*\*\* TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES \*\*\*

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
1.	161.3	4	1.0	1.0	320.0	1.00	0.
100.	182.7	4	1.0	1.0	320.0	1.00	0.
200.	195.9	4	1.0	1.0	320.0	1.00	0.
300.	82.34	4	1.0	1.0	320.0	1.00	0.
400.	56.62	4	1.0	1.0	320.0	1.00	0.
500.	43.22	4	1.0	1.0	320.0	1.00	0.

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

199. 197.9 4 1.0 1.0 320.0 1.00 0.

\*\*\*\*\*  
\*\*\* SCREEN DISCRETE DISTANCES \*\*\*  
\*\*\*\*\*

\*\*\* TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES \*\*\*

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
10.	163.7	4	1.0	1.0	320.0	1.00	0.

\*\*\*\*\*  
\*\*\* SUMMARY OF SCREEN MODEL RESULTS \*\*\*

*max concentration*

*receptor  
30ft or  
~ 10m*

## Downwind Dispersal of PM10 from "fence line" \*

Change in PM10 concentration from edge of construction area for first 100 meters  
(Fenceline = 1 meter):

$$C_x = 0.9403C_o * e^{(-0.0462x)}$$

where:

$C_x$  is the predicted PM10 concentration at  $x$  meters from the fence line

$C_o$  is the PM10 concentration at the fence line

$e$  is the natural logarithm

$x$  is the distance in meters from the fence line to the nearest receptor

$C_o =$	161.3	ug/cubic meters from SCREEN3 output
$x =$	9.0	meters to nearest downwind receptor
$C_x =$	100.1	ug/m <sup>3</sup> at receptor

\* Source: SCAQMD, June 2003, *Final Localized Significance Threshold Methodology*, Chapter 2

exceeds 50 ug/m<sup>3</sup>

by 50.1 ug.

**TABLE OF STANDARDS  
VOC LIMITS**

**Grams of VOC Per Liter of Coating,  
Less Water and Less Exempt Compounds**

COATING CATEGORY	Ceiling Limit*	Current Limit	Effective Date						
			1/1/03	1/1/04	1/1/05	7/1/06	7/1/07	7/1/08	
Bond Breakers	350								
Clear Wood Finishes 3	50					275			
Varnish	350					275			
Sanding Sealers	350					275			
Lacquer	680	550			275				
Clear Brushing Lacquer	680				275				
Concrete-Curing Compounds	350						100		
Concrete-Curing Compounds For Roadways and Bridges**	350								
Dry-Fog Coatings	400							150	
Fire-Proofing Exterior Coatings	450	350							
Fire-Retardant Coatings***									
Clear	650								
Pigmented	350								
Flats	250	100							50
Floor Coatings	420		100			50			
Graphic Arts (Sign) Coatings	500								
Industrial Maintenance (IM) Coatings	420			250		100			
High Temperature IM Coatings			420						
Zinc-Rich IM Primers	420		340			100			
Japans/Faux Finishing Coatings	700	350							
Magnesite Cement Coatings	600	450							
Mastic Coatings	300								
Metallic Pigmented Coatings	500								
Multi-Color Coatings	420	250							
Nonflat Coatings	250		150			50			
Nonflat High Gloss	250		150				50		
Pigmented Lacquer	680	550			275				
Pre-Treatment Wash Primers	780		420						
Primers, Sealers, and Undercoaters	350		200			100			
Quick-Dry Enamels	400		250			150	50		
Quick-Dry Primers, Sealers, and Undercoaters	350		200			100			
Recycled Coatings			250						
Roof Coatings	300		250						
Roof Coatings, Aluminum	500				50	100			
Roof Primers, Bituminous	350		350						
Rust Preventative Coatings	420		400			100			
Shellac									
Clear	730								
Pigmented	550								
Specialty Primers	350					250	100		
Stains	350		250				100		
Stains, Interior	250								

COATING CATEGORY	Ceiling Limit	Current Limit	Effective Date					
			1/1/03	1/1/04	1/1/05	7/1/06	7/1/07	7/1/08
Swimming Pool Coatings								
Repair	650		340					
Other	340							
Traffic Coatings	250	150					100	
Waterproofing Sealers	400		250			100		
Waterproofing Concrete/Masonry Sealers	400					100		
Wood Preservatives								
Below-Ground	350							
Other	350							

\* The specified limits remain in effect unless revised limits are listed in subsequent columns in the Table of Standards.

\*\* Does not include compounds used for curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas.

\*\*\* The Fire-Retardant Coating category will be eliminated on January 1, 2007 and subsumed by the coating category for which they are formulated.

**TABLE OF STANDARDS (cont.)  
VOC LIMITS**

**Grams of VOC Per Liter of Material**

COATING	Limit
Low-Solids Coating	120

(3) Coating Categorization

- (A) If anywhere on the container of any coating listed in the Table of Standards, on any sticker or label affixed thereto, or in any sales or advertising literature, any representation is made that the coating may be used as, or is suitable for use as, a coating for which a lower VOC standard is specified in the table or in paragraph (c)(1), then the lowest VOC standard shall apply.
- (B) The provisions of paragraph (c)(3)(A) shall not apply to a coating described in part as a flat, nonflat or primer-sealer-undercoater coating, or represented in part for use on flooring, provided that all of the following requirements are met:
  - (i) The coating meets the definition of a specific coating category for which a higher VOC standard is specified in the Table of Standards, and
  - (ii) The coating is labeled in a manner consistent with the definition and all the specific labeling requirements for that specific coating category, and



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*Global Climate Change*

**Greenhouse Gas Emission Worksheet**

**Mobile Emissions**

Lake View Estates

From URBEMIS 2007 Vehicle Fleet Mix Output:

Daily Vehicle Miles Traveled (VMT): 12,502 (Net: Proposed - Existing)  
 Annual VMT: 4,563,230

Vehicle Type	Percent Type	CH4		N2O	
		CH4 Emission Factor (g/mile)*	Emission (g/mile)	Emission Factor (g/mile)*	N2O Emission (g/mile)
Light Auto	55.6%	0.4	0.2224	0.4	0.2224
Light Truck < 3750 lbs	15.1%	0.5	0.0755	0.6	0.0906
Light Truck 3751-5750 lbs	15.9%	0.5	0.0795	0.6	0.0954
Med Truck 5751-8500 lbs	7.0%	0.5	0.035	0.6	0.042
Lite-Heavy Truck 8501-10,000 lbs	1.1%	0.12	0.00132	0.2	0.0022
Lite-Heavy Truck 10,001-14,000 lbs	0.3%	0.12	0.00036	0.2	0.0006
Med-Heavy Truck 14,001-33,000 lbs	1.0%	0.12	0.0012	0.2	0.002
Heavy-Heavy Truck 33,001-60,000 lbs	0.9%	0.12	0.00108	0.2	0.0018
Other Bus	0.0%	0.5	0	0.6	0
Urban Bus	0.1%	0.5	0.0005	0.6	0.0006
Motorcycle	1.7%	0.09	0.00153	0.01	0.00017
School Bus	0.1%	0.5	0.0005	0.6	0.0006
Motor Home	1.2%	0.12	0.00144	0.2	0.0024
<b>Total</b>			<b>0.42033</b>		<b>0.46077</b>

\* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile). Assume Model year 2000-present, gasoline fueled.

Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2, March 2007.

Total Emissions (metric tons) = Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g
--

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4 23 GWP  
 N2O 296 GWP  
 1 ton (short, US) = 0.90718474 metric ton.

Annual Mobile Emissions:

	Total Emissions	Total CO2e units
CO2 Emissions*	2789.2 tons CO2	2,530 metric tons CO2e
CH4 Emissions:	1.9 metric tons CH4	44 metric tons CO2e
N2O Emissions:	2.1 metric tons N2O	622 metric tons CO2e
<b>Project Total:</b>		<b>3,197 metric tons CO2e</b>

\* From URBEMIS 2007 results for mobile sources

## Greenhouse Gas Emission Worksheet

### Operational Emissions

Lake View Estates Mixed Use Project

Electricity Generation *	(kWh)		Project units	Project Usage
Commercial consumption	16,750	per KSF	70	1,172,500
Residential Consumption	7,000	per unit	70	490,000
			<b>Total</b>	<b>1,662,500</b>

\* Generation Factor Source: CAPCOA, January 2008. CEQA and Climate Change.

Total Project Annual kWh: **1,662,500 kWh/year**  
 Project Annual MWh: **1,663 MWh/year**

#### Emission Factors:

CO2 *	804.54 lbs/MWh/year
CH4 **	0.0067 lbs/MWh/year
N2O **	0.0037 lbs/MWh/year

**Total Annual Operational Emissions (metric tons) =  
 (Electricity Use (kWh) x EF) / 2,204.62 lbs/metric ton**

#### Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4	23 GWP
N2O	296 GWP

1 ton (short, US) = 0.90718474 metric ton.

#### Annual Operational Emissions:

	Total Emissions	Total CO2e Units
CO2 emissions, electricity:	668.7739 tons	606.7 metric tons CO2e
CO2 emissions***:	378.3700 tons	343.3 metric tons CO2e
CH4 emissions:	0.0051 metric tons	0.1 metric tons CO2e
N2O emissions:	0.0028 metric tons	0.8 metric tons CO2e
	<b>Project Total</b>	<b>951 metric tons CO2e</b>

#### References

\* Table C.1: EPA eGRID CO2 Electricity Emission Factors by Subregion (Year 2000)

\*\* Table C.2: Methane and Nitrous Oxide Electricity Emission Factors by State and Region (Average years 2001-1003)

\*\*\* URBEMIS Annual Emissions output for Area Source emissions; includes natural gas combustion for heating.

Sources: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 2.2, March 2007.  
 Third Assessment Report, 2001. U.S. Environmental Protection Agency, U.S. Greenhouse Gas Emissions and Sinks, 1990-2000 (April 2002).

Combined Annual Emissions Reports (Tons/Year)

File Name: L:\ESP\LA Co\04-55970 Castaic Mixed Use (Lake View Estates) EIR\Other\climate change\LVE Urbemis.urb924

Project Name: Lake View Estates Global Climate Change

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>CO2</u>
2008 TOTALS (tons/year unmitigated)	241.97
2008 TOTALS (tons/year mitigated)	241.97
Percent Reduction	0.00
2009 TOTALS (tons/year unmitigated)	490.61
2009 TOTALS (tons/year mitigated)	490.61
Percent Reduction	0.00
2010 TOTALS (tons/year unmitigated)	22.08
2010 TOTALS (tons/year mitigated)	22.08
Percent Reduction	0.00

754.66 Tons  
Total

686.43 metric tons

AREA SOURCE EMISSION ESTIMATES

	<u>CO2</u>
TOTALS (tons/year, unmitigated)	378.37
TOTALS (tons/year, mitigated)	304.80
Percent Reduction	19.44

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>CO2</u>
TOTALS (tons/year, unmitigated)	2,789.24
TOTALS (tons/year, mitigated)	2,656.98
Percent Reduction	4.74

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>CO2</u>
TOTALS (tons/year, unmitigated)	3,167.61
TOTALS (tons/year, mitigated)	2,961.78
Percent Reduction	6.50

**Table 16  
Mitigation Measure Summary**

Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective	Feasible (Yes/No)		Secondary Effects (Yes/No)	Agency/Organization/Other <sup>6</sup>	Description/Comments	
		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>			
<b>Transportation</b>								
<b><i>Bicycle/Pedestrian/Transit Measures</i></b>								
<b>MM T-1:</b> Bike Parking	LD (C, M), I, SP, TP, AQP, RR, P/Mobile	1%-5%/High: CCAP presents combined % reductions for a range of mitigation measures (Dierkers et al. 2007). SMAQMD allocates combined reductions among individual measures (e.g., 2.5% reduction for all bicycle-related measures and one-quarter of 2.5% for each individual measure) (TIAX 2005, EDAW 2006, SMAQMD 2007). VTPI presents % reductions for showers and combined measures in the TDM encyclopedia (VTPI	Yes: Lockers (\$1,200-\$2,950, \$700/bike on average), Racks (\$70-\$2,000, \$70/bike on average).	Yes (Caltrans 2005, Dierkers et al. 2007, VTPI 2007)	Yes (Caltrans 2005, Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	Caltrans, Portland Bicycle Master Plan (City of Portland 1998), CCAP Transportation Emissions Guidebook (Dierkers et al. 2007), SMAQMD Recommended Guidance for Land Use Emission Reductions (SMAQMD 2007), VTPI, CA air quality management and control districts, and cities/counties.	Nonresidential projects provide plentiful short- and long-term bicycle parking facilities to meet peak season maximum demand (e.g., one bike rack space per 20 vehicle/employee parking spaces).
<b>MM T-2:</b> End of Trip Facilities	LD (C, M), I, SP, TP, AQP, RR, P/Mobile	reductions for all bicycle-related measures and one-quarter of 2.5% for each individual measure) (TIAX 2005, EDAW 2006, SMAQMD 2007). VTPI presents % reductions for showers and combined measures in the TDM encyclopedia (VTPI	Yes	Yes (Caltrans 2005, Dierkers et al. 2007, VTPI 2007)	Yes (Caltrans 2005, Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	Caltrans, Portland Bicycle Master Plan (City of Portland 1998), CCAP Transportation Emissions Guidebook (Dierkers et al. 2007), SMAQMD Recommended Guidance for Land Use Emission Reductions (SMAQMD 2007), VTPI, CA air quality management and control districts, and cities/counties.	Nonresidential projects provide “end-of-trip” facilities including showers, lockers, and changing space (e.g., four clothes lockers and one shower provided for every 80 employee parking spaces, separate facilities for each gender for projects with 160 or more employee parking spaces).
<b>MM T-3:</b> Bike-Parking at Multi-	LD (R, M), SP, AQP, RR,	measures in the TDM encyclopedia (VTPI	Yes: Lockers (\$1,200-	Yes (Caltrans 2005,	Yes (Caltrans	Adverse: No Beneficial:	Caltrans, Portland Bicycle Master Plan (City of Portland 1998), CCAP Transportation Emissions Guidebook (Dierkers et al. 2007), SMAQMD Recommended Guidance for Land Use Emission Reductions (SMAQMD 2007), VTPI, CA air quality management and control districts, and cities/counties.	Long-term bicycle parking is provided at apartment

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**Table 16  
Mitigation Measure Summary**

Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective	Feasible (Yes/No)		Secondary Effects (Yes/No)	Agency/Organization/Other <sup>6</sup>	Description/Comments
		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>		
Unit Residential	P/Mobile	2007). JSA bases estimates on CCAP information (JSA 2004).	\$2,950, \$700/bike on average), Racks (\$70-\$2,000, \$70/bike on average).	Dierkers et al. 2007, VTPI 2007)	2005, Dierkers et al. 2007, VTPI 2007)	CAPs, TACs	complexes or condominiums without garages (e.g., one long-term bicycle parking space for each unit without a garage). Long-term facilities shall consist of one of the following: a bicycle locker, a locked room with standard racks and access limited to bicyclists only, or a standard rack in a location that is staffed and/or monitored by video surveillance 24 hours per day.
<b>MM T-4:</b> Proximity to Bike Path/Bike Lanes	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile		Yes	Yes (Caltrans 2005, Dierkers et al. 2007, VTPI 2007)	Yes (Caltrans 2005, Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	Entire project is located within one-half mile of an existing/planned Class I or Class II bike lane and project design includes a comparable network that connects the project uses to the existing offsite facility. Project design includes a designated bicycle route connecting all units, on-site bicycle parking facilities, offsite bicycle facilities, site entrances, and primary building entrances to existing Class I or Class II bike lane(s) within one-half mile. Bicycle route connects to all streets contiguous with project site. Bicycle route has minimum conflicts with automobile parking and circulation

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Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective		Feasible (Yes/No)		Secondary Effects (Yes/No)	Agency/Organization/Other <sup>6</sup>	Description/Comments
		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>			
								facilities. All streets internal to the project wider than 75 feet have Class II bicycle lanes on both sides.

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Mitigation Measure Summary**

Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective	Feasible (Yes/No)			Secondary Effects (Yes/No)	Agency/Organization/Other <sup>6</sup>	Description/Comments
		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>			
<b>MM T-5:</b> Pedestrian Network	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	1%-10%/High: CCAP presents combined % reductions for a range of mitigation measures (Dierkers et al. 2007). SMAQMD allocates 1% for each individual measure (TIAX 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	CCAP Transportation Emissions Guidebook (Dierkers et al. 2007), SMAQMD Recommended Guidance for Land Use Emission Reductions (SMAQMD 2007), VTPI, CA air quality management and control districts, and cities/counties.	The project provides a pedestrian access network that internally links all uses and connects to all existing/planned external streets and pedestrian facilities contiguous with the project site. Project design includes a designated pedestrian route interconnecting all internal uses, site entrances, primary building entrances, public facilities, and adjacent uses to existing external pedestrian facilities and streets. Route has minimal conflict with parking and automobile circulation facilities. Streets (with the exception of alleys) within the project have sidewalks on both sides. All sidewalks internal and adjacent to project site are minimum of five feet wide. All sidewalks feature vertical curbs. Pedestrian facilities and improvements such as grade separation, wider sidewalks, and traffic calming are implemented wherever feasible to minimize pedestrian barriers. All site entrances provide pedestrian access.
<b>MM T-6:</b> Pedestrian	LD (R, C, M), I, SP, TP,		Yes	Yes (Dierkers et al. 2007,	Yes (Dierkers et	Adverse: No Beneficial:		Site design and building placement minimize barriers to

**Table 16  
Mitigation Measure Summary**

Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective		Feasible (Yes/No)		Secondary Effects (Yes/No)	Agency/Organization/Other <sup>6</sup>	Description/Comments
		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>			
Barriers Minimized	AQP, RR, P/Mobile			VTPI 2007)	al. 2007, VTPI 2007)	CAPs, TACs		pedestrian access and interconnectivity. Physical barriers such as walls, berms, landscaping, and slopes between residential and nonresidential uses that impede bicycle or pedestrian circulation are eliminated.
<b>MM T-7:</b> Bus Shelter for Existing/Planned Transit Service	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	1%-2%/High: CCAP presents these % reductions (Dierkers et al., 2007). SMAQMD assigns from .25%-1%, depending on headway frequency (TIAX 2005, EDAW 2006, SMAQMD 2007).	Yes: \$15,000-\$70,000.	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	CCAP Transportation Emissions Guidebook (Dierkers et al. 2007), SMAQMD Recommended Guidance for Land Use Emission Reductions (SMAQMD 2007), VTPI, City of Calgary (City of Calgary 2004), CA air quality management and control districts, and cities/counties.	Bus or streetcar service provides headways of one hour or less for stops within one-quarter mile; project provides safe and convenient bicycle/pedestrian access to transit stop(s) and provides essential transit stop improvements (i.e., shelters, route information, benches, and lighting).

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Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective	Feasible (Yes/No)			Secondary Effects (Yes/No)	Agency/Organization/Other <sup>6</sup>	Description/Comments
			Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>			
<b>MM T-8:</b> Traffic Calming	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	1%-10%/High: CCAP presents combined % reductions for a range of mitigation measures (Dierkers et al. 2007). SMAQMD allocates .25%-1.0% for each individual measure depending on percent of intersections and streets with improvements (TIAX 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	CCAP Transportation Emissions Guidebook (Dierkers et al. 2007), SMAQMD Recommended Guidance for Land Use Emission Reductions (SMAQMD 2007), VTPI, CA air quality management and control districts, and cities/counties.	Project design includes pedestrian/bicycle safety and traffic calming measures in excess of jurisdiction requirements. Roadways are designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips by featuring traffic calming features. All sidewalks internal and adjacent to project site are minimum of five feet wide. All sidewalks feature vertical curbs. Roadways that converge internally within the project are routed in such a way as to avoid "skewed intersections;" which are intersections that meet at acute, rather than right, angles. Intersections internal and adjacent to the project feature one or more of the following pedestrian safety/traffic calming design techniques: marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, and roundabouts or mini-circles. Streets internal and adjacent to the project feature pedestrian safety/traffic calming measures such as on-street parking, planter strips with street trees,

**Table 16  
Mitigation Measure Summary**

Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective	Feasible (Yes/No)		Secondary Effects (Yes/No)	Agency/Organization/Other <sup>6</sup>	Description/Comments	
		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>				Logistical <sup>5</sup>
							and chicanes/chokers (variations in road width to discourage high-speed travel).	
<b>Parking Measures</b>								
<b>MM T-9:</b> Paid Parking (Parking Cash Out)	LD (C, M), I, SP, TP, AQP, RR, P/Mobile	1%-30%/High: CCAP presents a range of 15%-30% reduction for parking programs (Dierkers et al. 2007). SMAQMD presents a range of 1.0%-7.2%, depending on cost/day and distance to transit (TIAX 2005, EDAW 2006, SMAQMD 2007). Shoupe presents a 21% reduction [\$5/day for commuters to downtown LA, with elasticity of -0.18 (e.g., if price increases 10%, then solo driving goes down by 1.8% more)] (Shoupe 2005). Urban Transit Institute	Yes: Vary by location and project size.	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	CCAP Transportation Emissions Guidebook (Dierkers et al. 2007), SMAQMD Recommended Guidance for Land Use Emission Reductions (SMAQMD 2007), VTPI, CA air quality management and control districts, and cities/counties.	Project provides employee and/or customer paid parking system. Project must have a permanent and enforceable method of maintaining user fees for all parking facilities. The facility may not provide customer or employee validations. Daily charge for parking must be equal to or greater than the cost of a transit day/monthly pass plus 20%.

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Mitigation Measure Summary**

Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective	Feasible (Yes/No)		Secondary Effects (Yes/No)	Agency/Organization/Other <sup>6</sup>	Description/Comments	
		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>				Logistical <sup>5</sup>
		presents a range of 1%-10% reduction in trips to central city sites, and 2%-4% in suburban sites (VTPI 2007).						
<b>MM T-10:</b> Minimum Parking	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	1%-30%/High: CCAP presents a range of 15%-30% reduction for parking programs (Dierkers et al. 2007). SMAQMD presents a maximum of 6% (Nelson/Nygaard Consulting Associates, 2005, TIAX 2005, EDAW 2006).	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007), Note that in certain areas of the state, the minimum parking required by code is greater than the peak period parking demand for most land uses. Simply meeting minimum code requirements in these areas would not result in an emissions reduction.	Adverse: No Beneficial: CAPs, TACs	CCAP Transportation Emissions Guidebook (Dierkers et al. 2007), SMAQMD Recommended Guidance for Land Use Emission Reductions (SMAQMD 2007), VTPI, Governor's Office of Smart Growth (Annapolis, Maryland) (Zimbler), CA air quality management and control districts, and cities/counties.	Provide minimum amount of parking required. Once land uses are determined, the trip reduction factor associated with this measure can be determined by utilizing the ITE parking generation publication. The reduction in trips can be computed as shown below by the ratio of the difference of minimum parking required by code and ITE peak parking demand to ITE peak parking demand for the land uses multiplied by 50%. Percent Trip Reduction = 50 * [(min parking required by code – ITE peak parking demand)/ (ITE peak parking demand)]

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>			
<b>MM T-11:</b> Parking Reduction Beyond Code/Shared Parking	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	1%-30%/High: CCAP presents a range of 15%-30% reduction for parking programs (Dierkers et al. 2007). SMAQMD presents a maximum of 12% (Nelson/Nygaard, 2005, TIAX 2005, EDAW 2006).	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	Provide parking reduction less than code. This measure can be readily implemented through a shared parking strategy, wherein parking is utilized jointly among different land uses, buildings, and facilities in an area that experience peak parking needs at different times of day and day of the week.
<b>MM T-12:</b> Pedestrian Pathway Through Parking	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	1%-4%/Moderate: CCAP presents combined % reductions for a range of mitigation measures (Dierkers et al. 2007). SMAQMD allocates 0.5% reduction for this measure (TIAX 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances.

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>			
<b>MM T-13:</b> Off-Street Parking	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	1%-4%/Moderate: CCAP presents combined % reductions for a range of mitigation measures (Dierkers et al. 2007). SMAQMD allocates a range of 0.1%-1.5% for this measure (TIAX 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	Parking facilities are not adjacent to street frontage.
<b>MM T-14:</b> Parking Area Tree Cover	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	Annual net CO <sub>2</sub> reduction of 3.1 kg/m <sup>2</sup> canopy cover/Moderate (McPherson 2001).	Yes: \$19 per new tree for CA, cost varies for maintenance, removal and replacement (McPherson 2001).	Yes	Yes	Adverse: VOCs Beneficial: CAPs, TACs	AG, State of CA Department of Justice (Goldberg 2007) and cities/counties (e.g., parking lot ordinances in Sacramento, Davis, and Los Angeles, CA). Provide parking lot areas with 50% tree cover within 10 years of construction, in particular low emitting, low maintenance, native drought resistant trees. Reduces urban heat island effect and requirement for air conditioning, effective when combined with other measures (e.g., electrical maintenance equipment and reflective paving material).
<b>MM T-15:</b> Valet Bicycle Parking	LD (C, M), SP, AQP, TP, RR, P/Mobile	NA/Low	Yes	Yes	Yes: Raley Field (Sacramento, CA)	Adverse: No Beneficial: CAPs, TACs	Raley Field (Sacramento, CA). Provide spaces for the operation of valet bicycle parking at community event “centers” such as amphitheatres, theaters, and stadiums.
<b>MM T-16:</b> Garage Bicycle Storage	LD (R, M), SP, AQP, TP, RR, P/Mobile	NA/Low	Yes: Less than \$200/multiple bike rack.	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	City of Fairview, OR Provide storage space in one-car garages for bicycles and bicycle trailers.

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>			
<b>MM T-17:</b> Preferential Parking for EVs/CNG Vehicles	LD (C, M), I, SP, TP, AQP, RR, P/Mobile	NA/Low	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	USGBC, CA air quality management and control districts and cities/counties (e.g., BAAQMD).	Provide preferential parking space locations for EVs/CNG vehicles.
<b>MM T-18:</b> Reduced/No Parking Fee for EVs/CNG Vehicles	LD (C, M), I, SP, TP, AQP, RR, P/Mobile	NA/Low	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	Hotels (e.g., Argonaut in San Francisco, CA)	Provide a reduced/no parking fee for EVs/CNG vehicles.

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Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective	Feasible (Yes/No)		Secondary Effects (Yes/No)	Agency/Organization/Other <sup>6</sup>	Description/Comments	
		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>				Logistical <sup>5</sup>
<i>Miscellaneous Measure</i>								
<b>MM T-19:</b> TMA Membership	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	1%-28%/High: CCAP presents a range of 3%-25% for TDMs with complementary transit and land use measures (Dierkers et al. 2007). VTPI presents a range of 6%-7% in the TDM encyclopedia (VTPI 2007). URBEMIS offers a 2%-10% range in reductions for a TDM that has 5 elements that are pedestrian and transit friendly and 1%-5% for 3 elements. SMAQMD presents a reduction of 5% (TIAX 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007, VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Include permanent TMA membership and funding requirement. Funding to be provided by Community Facilities District or County Service Area or other nonrevocable funding mechanism. TDMs have been shown to reduce employee vehicle trips up to 28% with the largest reductions achieved through parking pricing and transit passes. The impact depends on the travel alternatives.
<b>MM T-20:</b> ULEV	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	NA/Low	Yes: Higher than corresponding gasoline models.	Yes	Yes: Fueling stations might not be readily available depending on location. More than 900 E85 fueling	Adverse: No Beneficial: CAPs, TACs	DGS, CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Use of and/or provide ULEV that are 50% cleaner than average new model cars (e.g., natural gas, ethanol, electric).

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>			
					stations in the U.S., 5 in CA. Vehicles available in select regions only		
<b>MM T-21:</b> Flex Fuel Vehicles	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	5466.97 lb GHG/year/Low (DOE Fuel Economy)	Yes: E85 costs less than gasoline per gallon, but results in lower fuel economy.	Yes	Yes: More than 900 E85 fueling stations in the U.S., 5 in CA. Vehicles available in select regions only	Adverse: Yes Issues with the energy intensive ethanol production process (e.g., wastewater treatment requirements). Beneficial: CAPs, TACs	DGS, CA air quality management and control districts and cities/counties (e.g., SJVAPCD). Use of and/or provide vehicles that utilize gasoline/ethanol blends (e.g., E85).
<b>Design</b>							
<b>Commercial &amp; Residential Building Design Measures</b>							
<b>MM D-1:</b> Office/Mixed Use Density	LD (C, M), SP, TP, AQP, RR, P/Mobile	0.05%-2%/Moderate: This range is from SMAQMD, depending	Yes	Yes (VTPI 2007)	Yes (VTPI 2007)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties Project provides high density office or mixed-use proximate to transit. Project must provide

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>				Logistical <sup>5</sup>
		on FAR and headway frequencies (Nelson/Nygaard Consulting Associates 2005, EDAW 2006, SMAQMD 2007).				(e.g., SMAQMD).	safe and convenient pedestrian and bicycle access to all transit stops within one-quarter mile.	
<b>MM D-2:</b> Orientation to Existing/Planned Transit, Bikeway, or Pedestrian Corridor	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	0.4%-1%/Moderate: CCAP attributes a 0.5% reduction per 1% improvement in transit frequency (Dierkers et al. 2007). SMAQMD presents a range of 0.25%-5% (JSA 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes (Dierkers et al. 2007)	Yes (Dierkers et al. 2007)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project is oriented towards existing transit, bicycle, or pedestrian corridor. Setback distance between project and existing or planned adjacent uses is minimized or nonexistent. Setback distance between different buildings on project site is minimized. Setbacks between project buildings and planned or existing sidewalks are minimized. Buildings are oriented towards existing or planned street frontage. Primary entrances to buildings are located along planned or existing public street frontage. Project provides bicycle access to any planned bicycle corridor(s). Project provides pedestrian access to any planned pedestrian corridor(s).
<b>MM D-3:</b> Services Operational	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	0.5%-5%/Moderate	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project provides on-site shops and services for employees.

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>				Logistical <sup>5</sup>
<b>MM D-4:</b> Residential Density (Employ Sufficient Density for New Residential Development to Support the Use of Public Transit)	LD (R, M), SP, TP, AQP, RR, P/Mobile	1%-40%/High: #7, EPA presents a range of 32%-40% (EPA 2006). SMAQMD presents a range of 1%-12% depending on density and headway frequencies (Nelson/Nygaard Consulting Associates 2005, JSA 2005, EDAW 2006, SMAQMD 2007). Nelson/Nygaard presents a trip reduction formula: Trip Reduction = $0.6 * (1 - (19749 * ((4.814 + \text{households per residential acre}) / (4.814 + 7.14)))^{-0.639}) / 25914$ .	Yes	Yes (VTPI 2007, Holtzclaw 2007)	Yes (VTPI 2007, Holtzclaw 2007)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project provides high-density residential development. Transit facilities must be within one-quarter mile of project border. Project provides safe and convenient bicycle/pedestrian access to all transit stop(s) within one-quarter mile of project border.
<b>MM D-5:</b> Street Grid	LD (R, C, M), I, SP, TP, AQP, RR,	1%/Moderate: SMAQMD presents this % reduction (JSA	Yes	Yes (Dierkers et al. 2007, VTPI 2007)	Yes (Dierkers et al. 2007,	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties	Multiple and direct street routing (grid style). This measure only applies to projects

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>			
	P/Mobile	2005, EDAW 2006, SMAQMD 2007).			VTPI 2007)		(e.g., SMAQMD).	with an internal CF $\geq 0.80$ , and average of one-quarter mile or less between external connections along perimeter of project. [CF= # of intersections / (# of cul-de-sacs + intersections)]. Cul-de-sacs with bicycle/pedestrian through access may be considered “complete intersections” when calculating the project’s internal connectivity factor. External connections are bike/pedestrian pathways and access points, or streets with safe and convenient bicycle and pedestrian access that connect the project to adjacent streets, sidewalks, and uses. If project site is adjacent to undeveloped land; streets, pathways, access points, and right-of-ways that provide for future access to adjacent uses may count for up to 50% of the external connections. Block perimeter (the sum of the measurement of the length of all block sides) is limited to no more than 1,350 feet. Streets internal to the project should connect to streets external to the project whenever possible.

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>				Logistical <sup>5</sup>
<b>MM D-6:</b> NEV Access	LD (R, C, M), SP, TP, AQP, RR, P/Mobile	0.5%-1.5%/Low: SMAQMD presents this % reduction (EDAW 2006, SMAQMD 2007).	Yes	Yes (Litman 1999, Sperling 1994)	Yes (Litman 1999, Sperling 1994)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Make physical development consistent with requirements for neighborhood electric vehicles. Current studies show that for most trips, NEVs do not replace gas-fueled vehicles as the primary vehicle.
<b>MM D-7:</b> Affordable Housing Component	LD (R, M), SP, TP, AQP, RR, P/Mobile	0.4%-6%/Moderate: SMAQMD presents this % reduction (Nelson/Nygaard Consulting Associates 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Residential development projects of five or more dwelling units provide a deed-restricted low-income housing component on-site (or as defined in the code). Developers who pay into In-Lieu Fee Programs are not considered eligible to receive credit for this measure. The award of emission reduction credit shall be based only on the proportion of affordable housing developed on-site because in-lieu programs simply induce a net increase in development.  Percentage reduction shall be calculated according to the following formula:

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							% reduction = % units deed-restricted below market rate housing * 0.04
<b>MM D-8:</b> Recharging Area	LD (R, M), SP, TP, AQP, RR, P/Mobile	NA/Low	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	Provide residential buildings with a “utility” room or space for recharging batteries, whether for use in a car, electric lawnmower, other electric landscaping equipment, or even batteries for small items such as flashlights.
<b>Mixed-Use Development Measures</b>							
<b>MM D-9:</b> Urban Mixed-Use	LD (M), SP, TP, AQP, RR, P/Mobile	3%-9%/Moderate: SMAQMD presents this % reduction (TIAX 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes (EPA 2006)	Yes (EPA 2006)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).  Development of projects predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site in an integrated development project with functional interrelationships and a coherent physical design.
<b>MM D-10:</b> Suburban Mixed-Use	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	3%/Moderate: SMAQMD presents this % reduction (TIAX 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes (EPA 2006)	Yes (EPA 2006)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).  Have at least three of the following on site and/or offsite within one-quarter mile: Residential Development, Retail Development, Park, Open Space, or Office.
<b>MM D-11:</b> Other Mixed-Use	LD (R, M), SP, TP, AQP, RR, P/Mobile	1%/Moderate: SMAQMD presents this % reduction (TIAX 2005, EDAW	Yes	Yes (EPA 2006)	Yes (EPA 2006)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).  All residential units are within one-quarter mile of parks, schools or other civic uses.

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		2006, SMAQMD 2007).						
<b>MM D-12:</b> Infill Development	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	3%-30%/High: Infill development reduces vehicle trips and VMT by 3% and 20%, respectively (Fehr & Peers 2007). CCAP identifies a site level VMT reduction range of 20%-30% (Dierkers et al. 2007).	Yes	Yes (Dierkers et al. 2007)	Yes (Dierkers et al. 2007)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project site is on a vacant infill site, redevelopment area, or brownfield or greyfield lot that is highly accessible to regional destinations, where the destinations rating of the development site (measured as the weighted average travel time to all other regional destinations) is improved by 100% when compared to an alternate greenfield site.
<b>Miscellaneous Measures</b>								
<b>MM D-13:</b> Electric Lawnmower	LD (R, M), SP, AQP, RR, P/Area	1%/Low: SMAQMD presents this % reduction (EDAW 2006, SMAQMD 2007).	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Provide a complimentary electric lawnmower to each residential buyer.

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<b>MM D-14:</b> Enhanced Recycling/Waste Reduction, Reuse, Composting	LD (R, C, M), I, SP, AQP, RR, P/Stationary & Area	NA/Low	Yes	Yes	Yes: Association with social awareness.	Adverse: No Beneficial: CAPs, TACs	CIWMB	Provide infrastructure/education that promotes the avoidance of products with excessive packaging, recycle, buying of refills, separating of food and yard waste for composting, and using rechargeable batteries.
<b>MM D-15:</b> LEED Certification	LD (R, C, M), I, SP, AQP, RR, P/Stationary & Area	NA/Moderate	Yes: Receive tax rebates, incentives (e.g., EDAAW San Diego office interior remodel cost \$1,700,000 for 32,500 square feet) (USGBC 2007)	Yes	Yes: More than 700 buildings of different certifications in CA (USGBC 2007).	Adverse: No Beneficial: CAPs, TACs	USGBC, CA air quality management and control districts and cities/counties (e.g., BAAQMD).	LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.
<b>MM D-16:</b> Retro-Commissioning	LD (C, M), I, SP, AQP, RR, P/Stationary & Area	8%-10% reduction in energy usage/Moderate: (Mills et al. 2004)	Yes: Average \$0.28/square feet, varies with building size (Haasl and Sharp 1999).	Yes	Yes: 27 projects underway in CA, 21 more to be completed in 2007, mostly state buildings owned by DGS (DGS 2007).	Adverse: No Beneficial: CAPs, TACs	DGS, CA air quality management and control districts and cities/counties (e.g., BAAQMD).	The process ensures that all building systems perform interactively according to the contract documents, the design intent and the owner's operational needs to optimize energy performance.
<b>MM D-17</b> Landscaping	LD (R, C, M), I, SP, AQP, RR,	NA/Low	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	Alliance for the Chesapeake Bay, EPA Green Landscaping	Project shall use drought resistant native trees, trees with low emissions and high carbon

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	P/Stationary & Area						Resources	sequestration potential. Evergreen trees on the north and west sides afford the best protection from the setting summer sun and cold winter winds. Additional considerations include the use of deciduous trees on the south side of the house that will admit summer sun; evergreen plantings on the north side will slow cold winter winds; constructing a natural planted channel to funnel summer cooling breezes into the house. Neighborhood CCR's not requiring that front and side yards of single family homes be planted with turf grass. Vegetable gardens, bunch grass, and low-water landscaping shall also be permitted, or even encouraged.
<b>MM D-18:</b> Local Farmers' Market	LD (M), SP/Mobile, Stationary, &	NA/Low	Yes	Yes	Yes: Associated with social	Adverse: No Beneficial: CAPs, TACs	Cities/counties (e.g., Davis, Sacramento)	Project shall dedicate space in a centralized, accessible location for a weekly farmers' market.

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	Area							choice and public awareness.
<b>MM D-19:</b> Community Gardens	LD (M), SP/Mobile, Stationary, & Area	NA/Low	Yes	Yes	Yes: Associated with social choice and public awareness.	Adverse: No Beneficial: CAPs, TACs	Cities/counties (e.g., Davis)	Project shall dedicate space for community gardens.
<b>Energy Efficiency/Building Component</b>								
<b>MM E-1:</b> High-Efficiency Pumps	LD (R, C, M), SP, AQP, RR, P/Stationary & Area	NA/Low	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., BAAQMD).	Project shall use high-efficiency pumps.
<b>MM E-2:</b> Wood Burning Fireplaces/Stoves	LD (R, M), SP, AQP, RR, P/Stationary & Area	NA/Low: EDAW 2006	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project does not feature fireplaces or wood burning stoves.
<b>MM E-3:</b> Natural Gas Stove	LD (R, M), SP, AQP, RR, P/Stationary & Area	NA/Low: EDAW 2006	Yes: Cost of stove—\$350 (gas) and \$360 (electric) same brand, total yearly cost of \$42.17 as opposed to \$56.65 for electric (Saving Electricity 2006).	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project features only natural gas or electric stoves in residences.

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<b>MM E-4:</b> Energy Star Roof	LD (R, C, M), I, SP, AQP, RR, P/Stationary & Area	0.5%-1%/Low: SMAQMD presents this % reduction (EDAW 2006, SMAQMD 2007).	Yes	Yes	Yes: 866 Energy Star labeled buildings in California (Energy Star 2007)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project installs Energy Star labeled roof materials.
<b>MM E-5:</b> On- site Renewable Energy System	LD (R, C, M), I, SP, AQP, RR, P/Stationary & Area	1%-3%/Moderate: SMAQMD presents this % reduction (USGBC 2002 and 2005, EDAW 2006, SMAQMD 2007).	Yes	Yes (USGBC 2002 and 2005)	Yes (USGBC 2002 and 2005)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project provides onsite renewable energy system(s). Nonpolluting and renewable energy potential includes solar, wind, geothermal, low-impact hydro, biomass and bio-gas strategies. When applying these strategies, projects may take advantage of net metering with the local utility.

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<b>MM E-6:</b> Exceed Title 24	LD (R, C, M), I, GSP, AQP, RR, P/Stationary & Area	1%/Moderate: SMAQMD presents this % reduction (EDAW 2006, SMAQMD 2007).	Yes	Yes (PG&E 2002, SMUD 2006)	Yes (PG&E 2002, SMUD 2006)	Adverse: No Beneficial: CAPs, TACs	PG&E, SMUD, CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project exceeds title 24 requirements by 20%.
<b>MM E-7:</b> Solar Orientation	LD (R, C, M), I, SP, AQP, RR, P/Stationary & Area	0.5%/Low: SMAQMD presents this % reduction (EDAW 2006, SMAQMD 2007).	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project orients 75% or more of homes and/or buildings to face either north or south (within 30° of N/S). Building design includes roof overhangs that are sufficient to block the high summer sun, but not the lower winter sun, from penetrating south facing windows. Trees, other landscaping features and other buildings are sited in such a way as to maximize shade in the summer and maximize solar access to walls and windows in the winter.
<b>MM E-8:</b> Nonroof Surfaces	LD (R, C, M), I, GSP, AQP, RR, P/Stationary & Area	1.0%/Low: SMAQMD presents this % reduction (EDAW 2006, SMAQMD 2007).	Yes	Yes (USGBC 2002 and 2005)	Yes (USGBC 2002 and 2005)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Provide shade (within 5 years) and/or use light-colored/high- albedo materials (reflectance of at least 0.3) and/or open grid pavement for at least 30% of the site's nonroof impervious surfaces, including parking lots, walkways, plazas, etc.; OR place a minimum of 50% of parking spaces underground or covered by structured parking; OR use an open-grid pavement system (less than 50% impervious) for a minimum of

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								50% of the parking lot area. The mitigation measure reduces heat islands (thermal gradient differences between developed and undeveloped areas to minimize impact on microclimate and human and wildlife habitats. This measure requires the use of patented or copyright protected methodologies created by the ASTM. The SRI is a measure of the constructed surface's ability to reflect solar heat, as shown by a small rise in temperature. It is defined so that a standard black (reflectance 0.05, emittance 0.90) is "0" and a standard white (reflectance 0.80, emittance 0.90) is 100. To calculate SRI for a given material, obtain the reflectance value and emittance value for the material. SRI is calculated according to ASTM E 1980-01. Reflectance is measured

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								according to ASTM E 903, ASTM E 1918, or ASTM C 1549. Emittance is measured according to ASTM E 408 or ASTM C 1371. Default values for some materials will be available in the LEED-NC v2.2 Reference Guide.
<b>MM E-9:</b> Low-Energy Cooling	LD (C, M), I, SP, AQP, RR, P/Stationary & Area	1%-10%/Low: EDAW presents this percent reduction range (EDAW 2006).	Yes	Yes (USGBC 2002 and 2005)	Yes (USGBC 2002 and 2005)	Adverse: No Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Project optimizes building's thermal distribution by separating ventilation and thermal conditioning systems.
<b>MM E-10:</b> Green Roof	LD (R, C, M), I, SP, AQP, RR, P/Stationary & Area	1.0%/Moderate: SMAQMD presents this % reduction (EDAW 2006, SMAQMD 2007).	Yes	Yes (USGBC 2002 and 2005)	Yes (USGBC 2002 and 2005)	Adverse: Increased Water Consumption Beneficial: CAPs, TACs	CA air quality management and control districts and cities/counties (e.g., SMAQMD).	Install a vegetated roof that covers at least 50% of roof area. The reduction assumes that a vegetated roof is installed on a least 50% of the roof area or that a combination high albedo and vegetated roof surface is installed that meets the following standard: (Area of SRI Roof/0.75)+(Area of vegetated roof/0.5) >= Total Roof Area. Water consumption reduction measures shall be considered in the design of the green roof.
<b>MM E-11:</b> EV Charging Facilities	LD (C, M), SP, AQP, RR, P/Stationary & Area	NA/Low	Yes: \$500-\$5000/vehicle site (PG&E 1999)	Yes	Yes: 381 facilities in CA (Clean Air Maps 2007).	Adverse: No Beneficial: CAPs, TACs	DOE, EERE, CA air quality management and control districts and cities/counties (e.g., BAAQMD).	Project installs EV charging facilities.
<b>MM E-12:</b>	LD (R, C, M),	NA/Low: Increasing	Yes: Light	Yes	Yes: Apply	Adverse: No		Project provides light-colored

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Light-Colored Paving	I, SP, AQP, RR, P/Stationary & Area	the albedo of 1,250 km of pavement by 0.25 would save cooling energy worth \$15M per year.	colored aggregates and white cement are more expensive than gray cement. Certain blended cements are very light in color and may reflect similarly to white cement at an equivalent cost to normal gray cement.	Yes	natural sand or gravel colored single surface treatments to asphalt (EOE 2007).	CEC	paving (e.g., increased albedo pavement).
<b>MM E-13:</b> Cool Roofs	LD (R, C, M), I, SP, AQP, RR, P/Stationary & Area	NA/Low	Yes: 0.75–1.5/square feet coating (EPA 2007a)	Yes	Yes: Over 90% of the roofs in the United States are dark colored	CEC	Adverse: No Beneficial: CAPs, TACs Project provides cool roofs. Highly reflective, highly emissive roofing materials that stay 50-60°F cooler than a normal roof under a hot summer sun. CA's Cool Savings

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**Table 16  
Mitigation Measure Summary**

Mitigation Measure	Applicable Project/Source Type <sup>1</sup>	Effective		Feasible (Yes/No)		Secondary Effects (Yes/No)	Agency/Organization/Other <sup>6</sup>	Description/Comments
		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>			
					(EPA 2007a).			Program provided rebates to building owners for installing roofing materials with high solar reflectance and thermal emittance. The highest rebate went to roofs on air conditioned buildings, while buildings with rooftop ducts and other nonresidential buildings were eligible for slightly less. The program aimed to reduce peak summer electricity demand and was administered by the CEC.
<b>MM E-14:</b> Solar Water Heaters	LD (R, M), SP, AQP, RR, P/Stationary & Area	20%–70% reduction in cooling energy needs/Moderate	Yes: \$1675/20 square feet, requires a 50 gallon tank, annual operating cost of \$176 (DOE 2007).	Yes	Yes: Based on solar orientation, building codes, zoning ordinances.	Adverse: No Beneficial: CAPs, TACs	Europe	Project provides solar water heaters.
<b>MM E-15:</b> Electric Yard Equipment Compatibility	LD (R, M), SP, AQP, RR, P/Stationary & Area	NA/Low	Yes: \$75–\$250/outlet from existing circuit (Cost Helper 2007).	Yes	Yes	Adverse: No Beneficial: CAPs, TACs		Project provides electrical outlets at building exterior areas.
<b>MM E-16:</b> Energy Efficient Appliance Standards	LD (R, C, M), SP, AQP, RR, P/Stationary & Area	NA/Low	Yes: Varies for each appliance—higher capital costs, lower operating costs (Energy	Yes	Yes: Major retail stores.	Adverse: No Beneficial: CAPs, TACs		Project uses energy efficient appliances (e.g., Energy Star).

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>				Logistical <sup>5</sup>
			Star 2007).					
<b>MM E-17:</b> Green Building Materials	LD (R, C, M), SP, AQP, RR, P/Stationary & Area	NA/Low: 25-30% more efficient on average.	Yes	Yes: BEES software allows users to balance the environmental and economic performance of building products; developed by NIST (NIST 2007).	Yes	Adverse: No Beneficial: CAPs, TACs	Project uses materials which are resource efficient, recycled, with long life cycles and manufactured in an environmentally friendly way.	
<b>MM E-18:</b> Shading Mechanisms	LD (R, C, M), I, SP, AQP, RR, P/Stationary, & Area	NA/Low: Up to \$450 annual energy savings (Energy Star 2007).	Yes: Higher capital costs, lower operating and maintenance costs (Energy Star 2007).	Yes	Yes: Major retail stores.	Adverse: No Beneficial: CAPs, TACs	Install energy-reducing shading mechanisms for windows, porch, patio and walkway overhangs.	

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>			
<b>MM E-19:</b> Ceiling/Whole-House Fans	LD (R, C, M), I, SP, AQP, RR, P/Stationary, & Area	NA/Low: 50% more efficient than conventional fans (Energy Star 2007).	Yes: \$45-\$200/fan, installation extra (Lowe's 2007).	Yes	Yes: Major retail stores.	Adverse: No Beneficial: CAPs, TACs	Install energy-reducing ceiling/whole-house fans.
<b>MM E-20:</b> Programmable Thermostats	LD (R, C, M), I, SP, AQP, RR, P/Stationary, & Area	NA/Low: \$100 annual savings in energy costs (Energy Star 2007).	Yes: \$60/LCD display and 4 settings for typical residential use (Lowe's 2007).	Yes	Yes: Major retail stores.	Adverse: Yes, Mercury Beneficial: CAPs, TACs	Install energy-reducing programmable thermostats that automatically adjust temperature settings.
<b>MM E-21:</b> Passive Heating and Cooling Systems	LD (R, C, M), I, SP, AQP, RR, P/Stationary, & Area	NA/Low	Yes: \$800 (wall heaters) to \$4,000+ (central systems)	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	Install energy-reducing passive heating and cooling systems (e.g., insulation and ventilation).
<b>MM E-22:</b> Day Lighting Systems	LD (R, C, M), I, SP, AQP, RR, P/Stationary, & Area	NA/Low	Yes: \$1,300 to \$1,500 depending upon the kind of roof (Barrier 1995), installation extra.	Yes	Yes: Work well only for space near the roof of the building, little benefit in multi-floor buildings.	Adverse: No Beneficial: CAPs, TACs	Install energy-reducing day lighting systems (e.g., skylights, light shelves and interior transom windows).
<b>MM E-23:</b> Low-Water Use Appliances	LD (R, C, M), I, SP, AQP, RR, P/Stationary, & Area	NA/Low: Avoided water agency cost for using water-efficient kitchen pre-rinse spray valves of \$65.18 per acre-foot.	Yes: Can return their cost through reduction in water consumption,	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	Require the installation of low-water use appliances.

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			Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>				Technical <sup>4</sup>
							pumping, and treatment.	
<b>MM E-24:</b> Goods Transport by Rail	LD (C, M), I, SP, AQP, RR, P/Mobile	NA/Moderate	Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs	ARB Goods Movement Plan (ARB 2007)	Provide a spur at nonresidential projects to use nearby rail for goods movement.
<b>Social Awareness/Education</b>								
<b>MM S-1:</b> GHG Emissions Reductions Education	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile, Stationary, & Mobile	NA/Low	Yes	Yes	Yes: Similar programs currently exist in CA.	Adverse: No Beneficial: CAPs, TACs		Provide local governments, businesses, and residents with guidance/protocols/information on how to reduce GHG emissions (e.g., energy saving, food miles).
<b>MM S-2:</b> School Curriculum	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile, Stationary, & Mobile	NA/Low	Yes	Yes	Yes: Similar programs currently exist in CA.	Adverse: No Beneficial: CAPs, TACs		Include how to reduce GHG emissions (e.g., energy saving, food miles) in the school curriculum.
<b>Construction</b>								
<b>MM C-1:</b> ARB-Certified Diesel Construction Equipment	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile	NA/Low	Yes: Oxidation Catalysts, \$1,000-	Yes	Yes	Adverse: Yes, NO <sub>x</sub> Beneficial: CAPs, TACs	AG, EPA, ARB, and CA air quality management and pollution control districts.	Use ARB-certified diesel construction equipment. Increases CO <sub>2</sub> emissions when trapped CO and carbon particles

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>	Logistical <sup>5</sup>			
			\$2,000. DPF, \$5000-\$10,000; installation extra (EPA 2007b).					are oxidized (Catalyst Products 2007, ETC 2007).
<b>MM C-2:</b> Alternative Fuel Construction Equipment	LD (R, C, M), NA/Low I, SP, TP, AQP, RR, P/Mobile		Yes	Yes	Yes	Adverse: Yes, THC, NO <sub>x</sub> Beneficial: CO, PM, SO <sub>x</sub>	AG, EPA, ARB, and CA air quality management and pollution control districts.	Use alternative fuel types for construction equipment. At the tailpipe biodiesel emits 10% more CO <sub>2</sub> than petroleum diesel. Overall lifecycle emissions of CO <sub>2</sub> from 100% biodiesel are 78% lower than those of petroleum diesel (NREL 1998, EPA 2007b).
<b>MM C-3:</b> Local Building Materials	LD (R, C, M), NA/Low I, SP, TP, AQP, RR, P/Mobile		Yes	Yes	Yes: Depends on location of building material manufacture sites.	Adverse: No Beneficial: CAPs, TACs		Use locally made building materials for construction of the project and associated infrastructure.
<b>MM C-4:</b> Recycle Demolished Construction Material	LD (R, C, M), NA/Low I, SP, TP, AQP, RR, P/Mobile		Yes	Yes	Yes	Adverse: No Beneficial: CAPs, TACs		Recycle/Reuse demolished construction material. Use locally made building materials for construction of the project and associated infrastructure.

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>			
<b>Miscellaneous</b>							
<b>MM M-1:</b> Off-Site Mitigation Fee Program	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile & Area	NA/Moderate-High: Though there is currently no program in place, the potential for real and quantifiable reductions of GHG emissions could be high if a defensible fee program were designed.	Yes	Yes	No: Program does not exist in CA, but similar programs currently exist (e.g., Carl Moyer Program, SJVAPCD Rule 9510, SMAQMD Off-Site Construction Mitigation Fee Program).	Adverse: No Beneficial: CAPs, TACs	Provide/Pay into an off-site mitigation fee program, which focuses primarily on reducing emissions from existing development and buildings through retro-fit (e.g., increased insulation).
<b>MM M-2:</b> Offset Purchase	LD (R, C, M), I, SP, TP, AQP, RR, P/Mobile, Stationary, & Area	NA/Low	Yes	Yes	No: ARB has not adopted official program, but similar programs	No	Provide/purchase offsets for additional emissions by acquiring carbon credits or engaging in other market “cap and trade” systems.

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		Emissions Reduction/Score <sup>2</sup>	Cost (Yes/No) <sup>3</sup>	Technical <sup>4</sup>			
					currently exist.		
<b>Regional Transportation Plan Measures</b>							
<b>MM RTP-1:</b> Dedicate High Occupancy Vehicle (HOV) lanes prior to adding capacity to existing highways.	RTP	Yes	Yes	Yes	Adverse: possible local CO Beneficial: regional CAPs, TACs	Caltrans, local government	Evaluate the trip reduction (and GHG reduction) potential of adding HOV lanes prior to adding standard lanes.
<b>MM RTP-2:</b> Implement toll/user fee programs prior to adding capacity to existing highways.	RTP	Yes	Yes	Yes	Adverse: possible local CO. Beneficial: regional CAPs, TACs	Caltrans	Evaluate price elasticity and associated trip reduction (and GHG reduction) potential with adding or increasing tolls prior to adding capacity to existing highways.
<p>Note:  <sup>1</sup> Where LD (R, C, M) =Land Development (Residential, Commercial, Mixed-Use), I=Industrial, GP=General Plan, SP=Specific Plan, TP=Transportation Plans, AQP=Air Quality Plans, RR=Rules/Regulations, and P=Policy. It is important to note that listed project types may not be directly specific to the mitigation measure (e.g., TP, AQP, RR, and P) as such could apply to a variety of source types, especially RR and P.  <sup>2</sup> This score system entails ratings of high, moderate, and low that refer to the level of the measure to provide a substantive, reasonably certain (e.g., documented emission reductions with proven technologies), and long-term reduction of GHG emissions.  <sup>3</sup> Refers to whether the measure would provide a cost-effective reduction of GHG emissions based on available documentation.  <sup>4</sup> Refers to whether the measure is based on currently, readily available technology based on available documentation.  <sup>5</sup> Refers to whether the measure could be implemented without extraordinary effort based on available documentation.  <sup>6</sup> List is not meant to be all inclusive.                      Source: Data compiled by EDAW in 2007</p>							

**Table 17  
General Planning Level Mitigation Strategies Summary**

Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
<b>MS G-1:</b> Adopt a GHG reduction plan	GP/ Mobile, Stationary, & Area	City of San Bernardino	<p>- Adopt GHG reduction targets for the planning area, based on the current legislation providing direction for state-wide targets, and update the plan as necessary.</p> <p>-The local government agency should serve as a model by inventorying its GHG emissions from agency operations, and implementing those reduction goals.</p>
<b>Circulation</b>			
<b>MS G-2:</b> Provide for convenient and safe local travel	GP/ Mobile	Cities/Counties (e.g., Aliso Viejo, Claremont)	<p>- Create a gridded street pattern with small block sizes. This promotes walkability through direct routing and ease of navigation.</p> <p>-Maintain a high level of connectivity of the roadway network. Minimize cul-de-sacs and incomplete roadway segments.</p> <p>-Plan and maintain an integrated, hierarchical and multi-modal system of roadways, pedestrian walks, and bicycle paths throughout the area.</p> <p>-Apply creative traffic management approaches to address congestion in areas with unique problems, particularly on roadways and intersections in the vicinity of schools in the morning and afternoon peak hours, and near churches, parks and community centers.</p> <p>-Work with adjacent jurisdictions to address the impacts of regional development patterns (e.g. residential development in surrounding communities, regional universities, employment centers, and commercial developments) on the circulation system.</p> <p>-Actively promote walking as a safe mode of local travel, particularly for children attending local schools. -Employ traffic calming methods such as median landscaping and provision of bike or transit lanes to slow traffic, improve roadway capacity, and address safety issues.</p>
<b>MS G-3:</b> Enhance the regional transportation network and maintain effectiveness	GP/ Mobile	Cities/Counties (e.g., Aliso Viejo, Claremont)	<p>-Encourage the transportation authority to reduce fees for short distance trips.</p> <p>-Ensure that improvements to the traffic corridors do not negatively impact the operation of local roadways and land uses.</p>

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Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
			<ul style="list-style-type: none"> <li>-Cooperate with adjacent jurisdictions to maintain adequate service levels at shared intersections and to provide adequate capacity on regional routes for through traffic.</li> <li>-Support initiatives to provide better public transportation. Work actively to ensure that public transportation is part of every regional transportation corridor.</li> <li>- Coordinate the different modes of travel to enable users to transfer easily from one mode to another.</li> <li>-Work to provide a strong paratransit system that promotes the mobility of all residents and educate residents about local mobility choices.</li> <li>- Promote transit-oriented development to facilitate the use of the community’s transit services.</li> </ul>
<p><b>MS G-4:</b> Promote and support an efficient public transportation network connecting activity centers in the area to each other and the region.</p>	GP/ Mobile	<p>Cities/Counties (e.g., Aliso Viejo, Claremont)</p>	<ul style="list-style-type: none"> <li>-Promote increased use of public transportation and support efforts to increase bus service range and frequency within the area as appropriate.</li> <li>-Enhance and encourage provision of attractive and appropriate transit amenities, including shaded bus stops, to encourage use of public transportation.</li> <li>-Encourage the school districts, private schools and other operators to coordinate local bussing and to expand ride-sharing programs. All bussing options should be fully considered before substantial roadway improvements are made in the vicinity of schools to ease congestion.</li> </ul>
<p><b>MS G-5:</b> Establish and maintain a comprehensive system, which is safe and convenient, of pedestrian ways and bicycle routes that provide viable options to travel by automobile.</p>	GP/ Mobile	<p>Cities/Counties (e.g., Aliso Viejo, Claremont)</p>	<ul style="list-style-type: none"> <li>-Improve area sidewalks and rights-of-way to make them efficient and appealing for walking and bicycling safely. Coordinate with adjacent jurisdictions and regional agencies to improve pedestrian and bicycle trails, facilities, signage, and amenities.</li> <li>-Provide safe and convenient pedestrian and bicycle connections to and from town centers, other commercial districts, office complexes, neighborhoods, schools, other major activity centers, and surrounding communities.</li> <li>-Work with neighboring jurisdictions to provide well-designed pedestrian and bicycle crossings of major roadways.</li> <li>-Promote walking throughout the community. Install sidewalks where missing and make improvements</li> </ul>

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			<p>to existing sidewalks for accessibility purposes. Particular attention should be given to needed sidewalk improvement near schools and activity centers.</p> <ul style="list-style-type: none"> <li>-Encourage businesses or residents to sponsor street furniture and landscaped areas.</li> <li>- Strive to provide pedestrian pathways that are well shaded and pleasantly landscaped to encourage use.</li> <li>- Attract bicyclists from neighboring communities to ride their bicycles or to bring their bicycles on the train to enjoy bicycling around the community and to support local businesses.</li> <li>- Meet guidelines to become nationally recognized as a Bicycle-Friendly community.</li> <li>- Provide for an education program and stepped up code enforcement to address and minimize vegetation that degrades access along public rights-of-way.</li> <li>-Engage in discussions with transit providers to increase the number of bicycles that can be accommodated on buses</li> </ul>
<p><b>MS G-6:</b> Achieve optimum use of regional rail transit.</p>	<p>GP/ Mobile</p>	<p>Cities/Counties (e.g., Aliso Viejo, Claremont)</p>	<ul style="list-style-type: none"> <li>-Support regional rail and work with rail authority to expand services.</li> <li>- Achieve better integration of all transit options.</li> <li>-Work with regional transportation planning agencies to finance and provide incentives for multimodal transportation systems.</li> <li>- Promote activity centers and transit-oriented development projects around the transit station.</li> </ul>
<p><b>MS G-7:</b> Expand and optimize use of local and regional bus and transit systems.</p>	<p>GP/ Mobile</p>	<p>Cities/Counties (e.g., Aliso Viejo, Claremont)</p>	<ul style="list-style-type: none"> <li>-Encourage convenient public transit service between area and airports.</li> <li>-Support the establishment of a local shuttle to serve commercial centers.</li> <li>-Promote convenient, clean, efficient, and accessible public transit that serves transit-dependent riders and attracts discretionary riders as an alternative to reliance on single-occupant automobiles.</li> </ul>

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General Planning Level Mitigation Strategies Summary**

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			<ul style="list-style-type: none"> <li>- Empower seniors and those with physical disabilities who desire maximum personal freedom and independence of lifestyle with unimpeded access to public transportation.</li> <li>-Integrate transit service and amenities with surrounding land uses and buildings.</li> </ul>
<b>Conservation, Open Space</b>			
<p><b>MS G-8:</b> Emphasize the importance of water conservation and maximizing the use of native, low-water landscaping.</p>	<p>GP/Stationary &amp; Area</p>	<p>Cities/Counties (e.g., Aliso Viejo, Claremont)</p>	<ul style="list-style-type: none"> <li>-Reduce the amount of water used for landscaping and increase use of native and low water plants. Maximize use of native, low-water plants for landscaping of areas adjacent to sidewalks or other impermeable surfaces.</li> <li>-Encourage the production, distribution and use of recycled and reclaimed water for landscaping projects throughout the community, while maintaining urban runoff water quality objectives.</li> <li>-Promote water conservation measures, reduce urban runoff, and prevent groundwater pollution within development projects, property maintenance, area operations and all activities requiring approval.</li> <li>-Educate the public about the importance of water conservation and avoiding wasteful water habits.</li> <li>-Work with water provider in exploring water conservation programs, and encourage the water provider to offer incentives for water conservation.</li> </ul>
<p><b>MS G-9:</b> Improve air quality within the region.</p>	<p>GP/ Mobile, Stationary, &amp; Area</p>	<p>Cities/Counties (e.g., Aliso Viejo, Claremont)</p>	<ul style="list-style-type: none"> <li>-Integrate air quality planning with area land use, economic development and transportation planning efforts.</li> <li>-Support programs that reduce air quality emissions related to vehicular travel.</li> <li>-Support alternative transportation modes and technologies, and develop bike- and pedestrian-friendly neighborhoods to reduce emissions associated with automobile use.</li> <li>-Encourage the use of clean fuel vehicles.</li> <li>-Promote the use of fuel-efficient heating and cooling equipment and other appliances, such as water</li> </ul>

**Table 17  
General Planning Level Mitigation Strategies Summary**

Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
			<p>heaters, swimming pool heaters, cooking equipment, refrigerators, furnaces, and boiler units.</p> <ul style="list-style-type: none"> <li>- Promote the use of clean air technologies such as fuel cell technologies, renewable energy sources, UV coatings, and alternative, non-fossil fuels.</li> <li>-Require the planting of street trees along streets and inclusion of trees and landscaping for all development projects to help improve airshed and minimize urban heat island effects.</li> <li>- Encourage small businesses to utilize clean, innovative technologies to reduce air pollution.</li> <li>- Implement principles of green building.</li> <li>- Support jobs/housing balance within the community so more people can both live and work within the community. To reduce vehicle trips, encourage people to telecommute or work out of home or in local satellite offices.</li> </ul>
<p><b>MS G-10:</b> Encourage and maximize energy conservation and identification of alternative energy sources.</p>	<p>GP/ Stationary &amp; Area</p>	<p>Cities/Counties (e.g., Aliso Viejo, Claremont)</p>	<ul style="list-style-type: none"> <li>-Encourage green building designs for new construction and renovation projects within the area.</li> <li>-Coordinate with regional and local energy suppliers to ensure adequate supplies of energy to meet community needs, implement energy conservation and public education programs, and identify alternative energy sources where appropriate.</li> <li>-Encourage building orientations and landscaping that enhance natural lighting and sun exposure.</li> <li>-Encourage expansion of neighborhood-level products and services and public transit opportunities throughout the area to reduce automobile use.</li> <li>- Incorporate the use of energy conservation strategies in area projects.</li> <li>- Promote energy-efficient design features, including appropriate site orientation, use of light color roofing and building materials, and use of evergreen trees and wind-break trees to reduce fuel consumption for heating and cooling.</li> </ul>

**Table 17**  
**General Planning Level Mitigation Strategies Summary**

Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
			<ul style="list-style-type: none"> <li>-Explore and consider the cost/benefits of alternative fuel vehicles including hybrid, natural gas, and hydrogen powered vehicles when purchasing new vehicles.</li> <li>-Continue to promote the use of solar power and other energy conservation measures.</li> <li>- Encourage residents to consider the cost/benefits of alternative fuel vehicles.</li> <li>- Promote the use of different technologies that reduce use of non-renewable energy resources.</li> <li>-Facilitate the use of green building standards and LEED in both private and public projects.</li> <li>-Promote sustainable building practices that go beyond the requirements of Title 24 of the California Administrative Code, and encourage energy-efficient design elements, as appropriate.</li> <li>-Support sustainable building practices that integrate building materials and methods that promote environmental quality, economic vitality, and social benefit through the design, construction, and operation of the built environment.</li> <li>- Investigate the feasibility of using solar (photovoltaic) street lights instead of conventional street lights that are powered by electricity in an effort to conserve energy.</li> <li>- Encourage cooperation between neighboring development to facilitate on-site renewable energy supplies or combined heat and power co-generation facilities that can serve the energy demand of contiguous development.</li> </ul>

**Table 17  
General Planning Level Mitigation Strategies Summary**

Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
<p><b>MS G-11:</b> Preserve unique community forests, and provide for sustainable increase and maintenance of this valuable resource.</p>	<p>GP/Stationary &amp; Area</p>	<p>Cities/Counties (e.g., Aliso Viejo, Claremont)</p>	<ul style="list-style-type: none"> <li>- Develop a tree planting policy that strives to accomplish specific % shading of constructed paved and concrete surfaces within five years of construction.</li> <li>-Provide adequate funding to manage and maintain the existing forest, including sufficient funds for tree planting, pest control, scheduled pruning, and removal and replacement of dead trees.</li> <li>-Coordinate with local and regional plant experts in selecting tree species that respect the natural region in which Claremont is located, to help create a healthier, more sustainable urban forest.</li> <li>- Continue to plant new trees (in particular native tree species where appropriate), and work to preserve mature native trees.</li> <li>-Increase the awareness of the benefits of street trees and the community forest through a area wide education effort.</li> <li>-Encourage residents to properly care for and preserve large and beautiful trees on their own private property.</li> </ul>
<b>Housing</b>			
<p><b>MS G-12:</b> Provide affordability levels to meet the needs of community residents.</p>	<p>GP/ Mobile</p>	<p>Cities/Counties (e.g., Aliso Viejo, Claremont)</p>	<ul style="list-style-type: none"> <li>-Encourage development of affordable housing opportunities throughout the community, as well as development of housing for elderly and low and moderate income households near public transportation services.</li> <li>-Ensure a portion of future residential development is affordable to low and very low income households.</li> </ul>
<b>Land Use</b>			
<p><b>MS G-13:</b> Promote a visually-cohesive urban form and establish connections between the urban core and outlying portions of the</p>	<p>GP/ Mobile, Stationary, &amp; Area</p>	<p>Cities/Counties (e.g., Aliso Viejo, Claremont)</p>	<ul style="list-style-type: none"> <li>-Preserve the current pattern of development that encourages more intense and higher density development at the core of the community and less intense uses radiating from the central core.</li> <li>-Create and enhance landscaped greenway, trail and sidewalk connections between neighborhoods and to commercial areas, town centers, and parks.</li> </ul>

**Table 17  
General Planning Level Mitigation Strategies Summary**

Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
community.			<p>-Identify ways to visually identify and physically connect all portions of the community, focusing on enhanced gateways and unifying isolated and/or outlying areas with the rest of the area.</p> <p>-Study and create a diverse plant identity with emphasis on drought-resistant native species.</p>
<p><b>MS G-14:</b> Provide a diverse mix of land uses to meet the future needs of all residents and the business community.</p>	GP/ Mobile	<p>Cities/Counties (e.g., Aliso Viejo, Claremont)</p>	<p>-Attract a broad range of additional retail, medical, and office uses providing employment at all income levels.</p> <p>-Support efforts to provide beneficial civic, religious, recreational, cultural and educational opportunities and public services to the entire community.</p> <p>-Coordinate with public and private organizations to maximize the availability and use of parks and recreational facilities in the community.</p> <p>-Support development of hotel and recreational commercial land uses to provide these amenities to local residents and businesses.</p>
<p><b>MS G-15:</b> Collaborate with providers of solid waste collection, disposal and recycling services to ensure a level of service that promotes a clean community and environment.</p>	GP/ Stationary, & Area	<p>Cities/Counties (e.g., Aliso Viejo, Claremont)</p>	<p>-Require recycling, composting, source reduction and education efforts throughout the community, including residential, businesses, industries, and institutions, within the construction industry, and in all sponsored activities.</p>
<p><b>MS G-16:</b> Promote construction, maintenance and active use of publicly- and privately-operated parks, recreation programs, and a community center.</p>	GP/ Mobile	<p>Cities/Counties (e.g., Aliso Viejo, Claremont)</p>	<p>-Work to expand and improve community recreation amenities including parks, pedestrian trails and connections to regional trail facilities.</p> <p>-As a condition upon new development, require payment of park fees and/or dedication and provision of parkland, recreation facilities and/or multi-use trails that improve the public and private recreation system.</p> <p>-Research options or opportunities to provide necessary or desired community facilities.</p>

**Table 17**  
**General Planning Level Mitigation Strategies Summary**

Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
<b>MS G-17:</b> Promote the application of sustainable development practices.	GP/ Mobile, Stationary, & Area	Cities/Counties (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Encourage sustainable development that incorporates green building best practices and involves the reuse of previously developed property and/or vacant sites within a built-up area.</li> <li>- Encourage the conservation, maintenance, and rehabilitation of the existing housing stock.</li> <li>-Encourage development that incorporates green building practices to conserve natural resources as part of sustainable development practices.</li> <li>-Avoid development of isolated residential areas in the hillsides or other areas where such development would require significant infrastructure investment, adversely impact biotic resources.</li> <li>- Provide land area zoned for commercial and industrial uses to support a mix of retail, office, professional, service, and manufacturing businesses.</li> </ul>
<b>MS G-18:</b> Create activity nodes as important destination areas, with an emphasis on public life within the community.	GP/ Mobile	Cities/Counties (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>-Provide pedestrian amenities, traffic-calming features, plazas and public areas, attractive streetscapes, shade trees, lighting, and retail stores at activity nodes.</li> <li>-Provide for a mixture of complementary retail uses to be located together to create activity nodes to serve adjacent neighborhoods and to draw visitors from other neighborhoods and from outside the area.</li> </ul>
<b>MS G-19:</b> Make roads comfortable, safe, accessible, and attractive for use day and night.	GP/ Mobile	Cities/Counties (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>-Provide crosswalks and sidewalks along streets that are accessible for people with disabilities and people who are physically challenged.</li> <li>-Provide lighting for walking and nighttime activities, where appropriate.</li> <li>-Provide transit shelters that are comfortable, attractive, and accommodate transit riders.</li> </ul>
<b>MS G-20:</b> Maintain and expand where possible the system of neighborhood connections that attach neighborhoods to larger roadways.	GP/ Mobile	Cities/Counties (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Provide sidewalks where they are missing, and provide wide sidewalks where appropriate with buffers and shade so that people can walk comfortably.</li> <li>-Make walking comfortable at intersections through traffic-calming, landscaping, and designated crosswalks.</li> </ul>

**Table 17  
General Planning Level Mitigation Strategies Summary**

Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
<b>MS G-21:</b> Create distinctive places throughout the area.	GP/ Mobile	Cities/Counties (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>-Look for opportunities for connections along easements &amp; other areas where vehicles not permitted.</li> <li>-Provide benches, streetlights, public art, and other amenities in public areas to attract pedestrian activities.</li> <li>-Encourage new developments to incorporate drought tolerant and native landscaping that is pedestrian friendly, attractive, and consistent with the landscaped character of area.</li> <li>-Encourage all new development to preserve existing mature trees.</li> <li>-Encourage streetscape design programs for commercial frontages that create vibrant places which support walking, bicycling, transit, and sustainable economic development.</li> <li>-Encourage the design and placement of buildings on lots to provide opportunities for natural systems such as solar heating and passive cooling.</li> <li>- Ensure that all new industrial development projects are positive additions to the community setting, provide amenities for the comfort of the employees such as outdoor seating area for breaks or lunch, and have adequate landscape buffers.</li> </ul>
<b>MS G-22:</b> Reinvest in existing neighborhoods and promote infill development as a preference over new, greenfield development	GP/ Mobile, Stationary, & Area	Cities/Counties (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Identify all underused properties in the plan area and focus development in these opportunity sites prior to designating new growth areas for development.</li> <li>- Implement programs to retro-fit existing structures to make them more energy-efficient.</li> <li>-Encourage compact development, by placing the desired activity areas in smaller spaces.</li> </ul>

**Table 17**  
**General Planning Level Mitigation Strategies Summary**

Strategy	Source Type <sup>1</sup>	Agency/Organization <sup>2</sup>	Description/Comments
<b>Public Safety</b>			
<b>MS G-23:</b> Promote a safe community in which residents can live, work, shop, and play.	GP/ Mobile	Cities/Counties (e.g., Aliso Viejo, Claremont)	<ul style="list-style-type: none"> <li>- Foster an environment of trust by ensuring non-biased policing, and by adopting policies and encouraging collaboration that creates transparency.</li> <li>- Facilitate traffic safety for motorists and pedestrians through proper street design and traffic monitoring.</li> </ul>
<p>Note:  <sup>1</sup> Where GP=General Plan.  <sup>2</sup> List is not meant to be all inclusive.            Source: Data compiled by EDAW in 2007</p>			

## **Appendix E**

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*Biological Constraints Analysis, EIP Associates, 2003  
Oak Tree Report, Trees Etc.  
Los Angeles County Department of Regional Planning Letter*



# Los Angeles County Department of Regional Planning

*Planning for the Challenges Ahead*



Jon Sanabria  
Acting Director of Planning

July 8, 2009

Ms. Cori Thomas  
Rincon Consultants, Inc.  
790 E. Santa Clara Street  
Ventura, CA 93001

Dear Ms. Thomas and Rincon Consultants:

Subject: Lake View Estates Mixed Use Project, Los Angeles County, March 2009 , DEIR  
Vested Tentative Tract 53933; Project 03-304; California SCH 2005051009

Thank you for your email on revised mitigation measures. I think we are very close to resolution of text for these. County Biologist has changed BIO-1(a) again to read:

During grading and construction, a wheel well and undercarriage washing station shall be installed at project site entrances to serve the purpose of removing dust and plant parts from entering and exiting vehicles in order to prevent transport of invasive weed species onto and off of the site.

You did a good job of incorporating California Department of Fish and Game (CDFG) requirements into the mitigation measures of 1C, as CDFG could be involved later and might want to redirect the coastal sage scrub mitigation if any protected species are found on the site.

Please see the attachment for revised mitigation measures text.

You should be aware that the mitigation for Coastal Sage Scrub that the County of Los Angeles Department of Regional Planning is approving here in Project 03-304, would not be acceptable under current practice, which is constantly developing as we learn more about mitigation. Because your mitigation was designed some years ago under guidance from the Department of Regional Planning biologists and approved by them, and because we have extended the mitigation period until performance criteria are met, the mitigation for Project 03-304 will be acceptable.

For your future reference, we have attached a description of current mitigation requirements for Coastal Sage Scrub.

If you have any questions regarding this matter, please contact my staff biologist, Dr. Shirley Insand, at (213) 974-6461 Monday through Thursday between the hours of 7:30 a.m. and 6:00 p.m. Our offices are closed on Fridays.

Thank you very much for your work and diligence on preparing our document.

Sincerely,

DEPARTMENT OF REGIONAL PLANNING  
Mr. Jon Sanabria  
Acting Director, Department of Regional Planning

A handwritten signature in blue ink that reads "Paul D. McCarthy". The signature is written in a cursive style with a large, sweeping initial "P".

Paul D. McCarthy, Supervising Regional Planner  
Impact Analysis Section

PMC:SI:si  
Attachments

## COASTAL SAGE SCRUB MITIGATION:

For your information with respect to future projects, current mitigation practice is described here.

Current practice, which is based on California Department of Fish and Game experience, began in January 2008. The differences would be the following points:

- (1) Mitigation acreage would be different. Current practice is: Coastal Sage Scrub (CSS) and other veg. communities having an NDDDB threatened sensitivity ranking:
  - no less than 1:1 for acquisition of existing CSS. Acreage required depends on quality comparison of removed and acquired areas. For example, removal of good quality and acquisition of poor quality would require a greater acreage of acquisition. Impacted habitat with known occurrences of the endangered California Gnatcatcher are mitigated at 3:1 with good quality replacement habitat regardless of baseline.
  - 2:1 if created.
  - 1:1 if created before development impacts occur and created habitat meets success criteria.
- (2) Mitigation acreage would NOT include re-vegetation of manufactured slopes.
- (3) A Home Owner's Association is NOT the preferred responsible mitigation agency, but would be acceptable when no other conservation organization can be found. Proof of attempts to find a conservation agency for mitigation responsibility will be needed for future projects, and project funding for monitoring and mitigation will be needed.

Measures that you have complied with that would remain:

- (3) Mitigation acreage would not include fuel modification areas.
- (4) Pressurized washing against invasive plant introduction.
- (5) Performance criteria based upon natural community species and proportions, adjusted for requirements of Fire and Building and Safety where necessary.
- (6) Monitoring would continue until performance criteria are met, and annual reports on mitigation would continue until performance criteria are met.

**BIO-1(a)** Temporarily disturbed areas shall be revegetated with native vegetation in the same proportions and species as the natural habitat removed. Preconstruction detailed surveys of vegetation on at least three(3) blocks of 50 x 50 meters on the site shall be used to determine the native coastal scrub vegetation of the site [also see mitigation measure BIO-1(c-d)]. These proportions may be modified by County Fire Department and County Public Works as needed for safety reasons. If the 80% coastal sage scrub vegetative coverage (plants typical of the removed coastal sage scrub community in proportion to natural coverages) is not met within three years, the monitoring effort shall be extended to five years. If not met at the end of five years, the monitoring effort shall be extended another five years and again tested at the end of five years for meeting success criteria. This extension process should continue until the success criteria are met. Annual monitoring reports shall be prepared and submitted to the County Director of Regional Planning that include qualitative and quantitative data regarding the success of the revegetation effort, comparison to performance criteria, and recommendations for the successful completion of the restoration effort.

**Comment [CT1]:** Original language from BIO-1(c) used here because it contains more criteria, but used your "County Director of Regional Planning"

A landscape plan that includes control of invasive non-native plants shall be submitted for review and approval by the County of Los Angeles Department of Regional Planning prior to the issuance of a grading permit. The landscape plan shall limit irrigation to within Fuel Modification Zone A and shall utilize only locally indigenous plant species and varieties.

**Comment [CT2]:** This portion of the original mitigation measure was not mentioned in your response, do you want me to delete this? It still seems important and was the original focus of this mitigation measure, while BIO-1(c) was focused on sage scrub mitigation.

**Deleted:** install

During grading and construction, a wheel well and undercarriage washing station shall be installed at project site entrances to serve the purpose of removing dust and plant parts from entering and exiting vehicles in order to prevent transport of invasive weed species onto and off of the site. The wheel washing station shall consist of a lined aggregate pit (2-3" aggregate), designed such that the washed seeds and plant parts filter through timbers and gravel onto a geotech cloth. At the end of construction, the pit shall be disassembled and back-filled, and the geotech cloth shall be carefully removed with all contents and taken to a disposal site and buried deeply so that the invasive plant parts and propagules will not spread to other areas.

Pressurized washing shall be done for all vehicles (1) before coming to the site, (2) upon entry, and (3) at the end of each day when grading an area with exotic plants, and (4) before moving the vehicle to another site. Vehicle operators shall fill out a log book kept in a waterproof container at each washing station that can be checked by the biologist in charge of biological mitigation.

**BIO-1(c)** The 8.5 acres of removed coastal sage scrub shall be replaced ~~mitigated~~ at a ratio of 1:1, combining planting and protection of coastal sage scrub. Fuel modification zones shall not be included as mitigation areas. This Mitigation areas shall be set aside and protected in perpetuity from further development, and shall be contiguous with other coastal sage scrub. In the event that the California Department of Fish and Game (CDFG) becomes a responsible agency under the California Endangered Species Act pursuant to additional field work conducted under Mitigation Measures BIO-4(b-c) and/or BIO-5 (a-b, & d) the CDFG shall retain the right to supersede these

**Comment [CT3]:** This differs slightly from your language, does it satisfy your needs?

coastal sage scrub mitigation requirements through modification or addition pursuant to nexus. Covenants, Conditions & Restrictions (CC&R's) and/or deed restrictions or conservation easements shall be developed to protect this area the mitigation area, and adequate fencing shall separate all preserved lands from developed areas in order to prevent pets, vehicles, and people from impacting the area.

**Comment [CT4]:** CDFG currently has no authority or jurisdiction.

If coastal sage scrub habitat is restored onsite on manufactured slope or non-native grassland habitat areas that are outside the fuel modification zones in accordance with mitigation measure BIO-1(a & d), the plantings shall be monitored for at least three years to determine if the restoration plantings have been successful. Success criteria shall be developed as part of the planting plans and shall be no less than 80% vegetative coverage by native plants at the conclusion of the restoration effort. If the 80% coastal sage scrub vegetative coverage (plants typical of the removed coastal sage scrub community in proportion to natural coverages) is not met within three years, the monitoring effort shall be extended to five years. If not met at the end of five years, the monitoring effort shall be extended another five years and again tested at the end of five years for meeting success criteria. This extension process should continue until the success criteria are met. Annual monitoring reports shall be prepared and submitted to the County Director of Regional Planning that include qualitative and quantitative data regarding the success of the revegetation effort, comparison to performance criteria, and recommendations for the successful completion of the restoration effort.

If there is not sufficient suitable replacement habitat remaining onsite and outside of the fuel modification zones, the applicant shall either purchase and set-aside the residual amount of habitat needed with suitable conservation easements or restrictive covenants as necessary to provide for long term preservation, or shall acquire mitigation credits from a suitable bank. If mitigation credits are acquired from a bank, the applicant shall provide evidence of same to the County Department of Regional Planning prior to site occupancy.

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*EIP Associates, Biological Constraints Analysis*

# Biological Constraints Analysis

## Biological Resources Technical Report: Tract # 53933, Castaic, Los Angeles County, California

*Prepared for:*

Bahram Safavi  
Los Angeles, CA

November 22, 2003

EIP Job #: 10661-00

*Prepared by:*

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## 1.0 INTRODUCTION

EIP Associates (EIP) has prepared this document as an assessment of biological resources associated with tract # 53933 located in the City of Castaic, California. This technical report describes the biological resources that occur within the proposed project site, identifies potential project impacts, both direct and cumulative, on these resources, and recommends mitigation measures to avoid or reduce these impacts to a less-than-significant level, where feasible. It also outlines the impact reduction measures that were incorporated into the current plan from an initial biological technical report based on a June 2002 site plan. The impact reduction measures included major site plan changes that were designed to reduce impact to U.S. jurisdictional waters, and sensitive biological resources. This technical information is provided for project review under the California Environmental Quality Act, State and Federal Endangered Species Acts, and other pertinent regulations.

## 2.0 PROJECT LOCATION AND DESCRIPTION

The proposed project involves the construction of 70 homes, three commercial lots, and associated access roads and infrastructure within a 47-acre parcel. The project site is located within an unincorporated area of Los Angeles County, in the City of Castaic.

### *Regional Setting*

The project site is contained within the United States Geological Society (USGS) 7.5-minute series topographic map for the Newhall (1973, photo-revised 1980) Quadrangles, Section 36. The approximately 47-acre project site is located in the northwestern portion of the County of Los Angeles, approximately 1.0 mile southwest of Castaic Lake, adjacent to Interstate 5 (see figure 1). This area is a hilly region located south of the Antelope Valley and north of the Santa Clarita Valley, approximately 35 miles northwest of Los Angeles, within the (see figure 2).

### *Topography*

The project site is located within the northwestern portion of the Castaic Valley. The Valley's northern region is defined by the ridgelines of the Liebre and Topatopa Mountains. The project site has significant topography and multiple elevations, characterized by moderate to steep sloping ridges with open intervening canyons and

ranges from approximately 1,100 to 1,450 feet above mean sea level (msl). Some of the area has been graded for development, but the majority of the site retains its natural topography. Figure 3 is an aerial photograph of the project site and the surrounding area that illustrates the area's topography, existing development, and surrounding land uses.

### *Adjacent and Existing Land Use*

Land uses located to the northwest and north are comprised predominantly of single-family detached condominiums that border the project site. The Old Road and Interstate 5, along with a building supply yard business, boarder the eastern portion of the site. To the south is a residential property that has an approved 40-acre residential tract development plan (Tr.#46798). The project site is subject to considerable human disturbance and use, including hiking, bike riding, jogging, and dog-walking.

### *Drainage/Watershed*

The site and the surrounding area drain into Castaic Creek, which is a major tributary to the Santa Clara River. The Santa Clara River is the largest river system in southern California that remains in a relatively natural state. The river originates in the northern slopes of the San Gabriel Mountains in north Los Angeles County, traverses in a westerly direction into Ventura County, and discharges into the Pacific Ocean in the City of Ventura. The river runs approximately 100 miles from its headwaters near Acton, California, to its outlet, and drains an area of approximately 1,200 square miles. On site hydrology is dominated by the steep sloping hills that drain into an unnamed ephemeral stream in the eastern portion of the site.

## 3.0 METHODOLOGY

### 3.1 Literature Survey

Information on occurrences of special-status species in the vicinity of the project site was obtained from the California Department of Fish and Game's (CDFG) Natural Diversity Data Base (CNDDDB, January 2002) and California Native Plant Society's (CNPS) Electronic Inventory (January 2002) for the U. S. Geological Survey's (USGS) 7.5-minute Warm Springs Mountain, Whitaker Peak, Val Verde, and Newhall quadrangles. Information on the status of special-status plant and animal species potentially occurring within the project site was obtained from the CDFG's Special

Vascular Plants, Bryophytes, and Lichens List (January 2002), CDFG's List of State and Federally Listed Endangered and Threatened Animals of California (January 2002), and CDFG's list of Special Animals (January 2002). This search range encompasses a sufficient distance to accommodate for regional habitat diversity and to overcome the limitations of the CNDDDB. The CNDDDB is based on reports of actual occurrences and does not constitute an exhaustive inventory of every resource.

Additionally, background information on biological resources was derived from the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), the List of California Terrestrial Natural Communities Recognized by the Natural Diversity Data Base (CDFG, January 2002), and *The Jepson Manual of Higher Plants of California* (J.C. Hickman, Ed., 1993). Based upon the results of the literature review and record searches, a list of special-status plant and animal species and habitats with the potential to occur within the project site was developed for verification in the field (refer to Table 1, Special Status Plant Species Known To Occur In The Region Of Tract #53933, and Table 2, Special Status Wildlife Species Known To Occur In The Region Of Tract # 53933).

### 3.2 Field Surveys

#### *Plant Surveys*

EIP botanist Joshua Boldt conducted a general botanical survey on May 14, 2002 to describe the on-site vegetation and evaluate the potential of the onsite habitats to support special status plant species. The survey included an assessment of vegetation types, plant communities occurring within the project site, as well as a general search for wetland indicator plant species along the drainages within the project site. Plant species were identified in the field or collected for future identification. Plants were identified using keys in Hickman (1993), Munz (1974), and Abrams (1923). Taxonomy follows Hickman (1993) for scientific and common names. Vegetation was characterized and mapped to identify, quantify, and illustrate habitats capable of supporting special status plant species on the site. To calculate acreages, all vegetation was mapped on a 200-scale (1" = 200') aerial photograph. All plant species observed on the project site have been summarized in Table A-1 of Appendix A.

The plant survey was conducted at a time of year when any potentially sensitive species are both evident and identifiable. Blooming periods were taken from the CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California

(information dated 2001). All of the annual species and most of the perennial species included on the list would be expected to be in bloom on May 14.

### *Wildlife Surveys*

Wildlife biologists John Spranza and Michael Bumgardner conducted general wildlife surveys on May 14, 2002 from 6:30 am until 2:00 pm, when opportunities for detecting wildlife species are greatest. Surveys included active searches for reptiles and amphibians that involved lifting, overturning, and carefully replacing rocks and debris and observing reptile activity on dirt roads and in drainage bottoms. Birds were identified by standard visual and auditory recognition, and the presence of nests or other evidence of breeding activity was noted. Surveys for mammals included searching for and identifying diagnostic sign, including scat, footprints, scratch-outs, dusting bowls, burrows, and trails. Wildlife species observed on the project site have been summarized in the in Table A-2 of Appendix A.

## 4.0 REGULATORY SETTING

### *Federal and State*

Several federal, State, and regional agencies have jurisdictional responsibilities regarding permit approvals and other regulatory actions for public improvements and private development projects that may affect biological resources in the project area. These jurisdictional authorities are described in Appendix B of this document.

### *Regional and Local Regulations*

Regional and local regulations and ordinances, such as tree or creek ordinances, may also define sensitive communities. Los Angeles County passed an Oak Tree Ordinance effective September 1998. The ordinance applies to all unincorporated areas of Los Angeles County, and states that a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone of any tree of the oak tree genus without first obtaining a permit. Currently, the County has no creek protection ordinances. However, all Federal and State regulations described above would apply to projects within the County.

## 5.0 RESULTS

### 5.1 Wildlife

A total of 50 wildlife species were recorded on the project site (i.e., through direct observation, detection of vocalizations, or observation of sign). These species included two reptile, 41 birds, and eight mammals.

#### *Reptiles*

Reptilian diversity and abundance typically varies with vegetation type and character. Many species prefer only one or two vegetation communities; however, most will forage in a variety of habitat types. Most species occurring in open areas use rodent burrows and various objects lying on the ground for cover, protection from predators, and extreme weather conditions.

In addition to the observed species listed in Table A-2, several reptilian species are expected to occur within the site, based on habitat suitability. These include the side-blotched lizard (*Uta stansburiana*), southern alligator lizard (*Gerrhonotus multicarinatus*), striped racer (*Masticophis lateralis*), coachwhip (*Masticophis flagellum*), gopher snake (*Pituophis melanoleucus*), common kingsnake (*Lampropeltis getulus*), and western rattlesnake (*Crotalus viridis*).

#### *Amphibians*

The extremely limited riparian association on the site (willow and cottonwood trees) may provide suitable habitat for the western toad (*Bufo boreas*), Pacific slender salamander (*Batrachoseps pacificus*), and Pacific tree frog (*Hylla regilla*). However, none were observed during the surveys.

#### *Birds*

Birds were the most widely observed vertebrate taxon occurring on the site (Table A-2 of Appendix A). A total of 41 avian species were detected within the proposed project site. The site, as well as adjacent habitat, is used by raptors (birds of prey) for foraging. However, cliffs on site lack edges and holes and are generally not considered adequate to provide nesting habitat for raptors. Raptors observed on the property included the red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), and the turkey vulture (*Cathartes aura*). Other raptor species that could potentially use the site

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include the barn owl (*Tyto alba*), Cooper's hawk (*Accipiter cooperii*), and red-shouldered hawk (*Buteo lineatus*)

### *Mammals*

Traces of mammalian activity within the site were common. A total of seven mammalian species were observed or detected within the project site (Table A2, Appendix A). In addition to these species, the following species are expected to occur within the site, based on habitat suitability. Small mammals would include the western harvest mouse (*Reithrodontomys megalotis*), and California ground squirrel (*Spermophilus beecheyi*). Medium to large sized mammals expected to occur include the desert cottontail (*Sylvilagus audubonii*), striped skunk (*Mephitis mephitis*), western spotted skunk (*Spilogale gracilis*), Virginia opossum (*Didelphis virginiana*), and bobcat (*Lynx rufus*). In addition, several bat species may forage on the site, but are not expected to roost on the site due to lack of suitable habitat. → DT?

### *Wildlife Movement*

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, would not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information (MacArthur and Wilson 1967; Soule 1987; Harris and Gallagher 1989; Bennett 1990). Corridors mitigate the effects of this fragmentation by: 1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; 2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) on population or local species extinction; and 3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Noss 1983; Simberloff and Cox 1987; Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories: 1) dispersal (e.g., juvenile animals from natal areas, or individuals extending range distributions); 2) seasonal migration; and 3) movements related to home range activities

(foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies, such as "wildlife corridor," "travel route," "habitat linkage," and "wildlife crossing" to refer to areas in which wildlife move from one area to another. To clarify the meaning of these terms and facilitate the discussion of wildlife movement in this analysis, these terms are defined as follows:

- Travel route: a landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another. It contains adequate food, water, and/or cover while moving between habitat areas and provides a relatively direct link between target habitat areas.
- Wildlife corridor: a piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species.
- Wildlife crossing: a small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These often represent "choke points" along a movement corridor.

Within a large open space area in which there are few or no manmade or naturally occurring physical constraints to wildlife movement, wildlife corridors, as defined above, may not yet exist. Given an open space area that is both large enough to maintain viable populations of species and provide a variety of travel routes (canyons, ridgelines, trails, riverbeds, and others), wildlife would use these "local" routes while searching for food, water, shelter, and mates, and would not need to cross into other large open space areas. Based on their size, location, vegetative composition, and

availability of food, some of these movement areas (e.g., large drainages and canyons) are used for longer lengths of time and serve as source areas for food, water, and cover, particularly for small- and medium-sized animals. This is especially true if the travel route is within a larger open space area. However, once open space areas become constrained and/or fragmented as a result of urban development or construction of physical obstacles, such as roads and highways, the remaining landscape features or travel routes that connect the larger open space areas can "become" corridors as long as they provide adequate space, cover, food, and water, and do not contain obstacles or distractions (e.g., manmade noise, lighting) that would generally hinder wildlife movement.

The site is not expected to function as an important regional wildlife corridor because it is bounded by large developments on two sides (to the west and north) and Interstate 5 to the east, which acts as a barrier to wildlife movement. However, the project site is expected to provide resident wildlife species with local movement opportunities across the property as these wildlife species travel on and off the project site in search for food, water, and mates. While the project is located just east of a large amount of undeveloped land, the project site is not expected to currently function as a regional wildlife movement corridor because the project site does not link important wildlife habitat areas offsite.

## 5.2 Vegetation Communities

A total of 50 plant species were observed within the project site. The common and scientific names of these species are contained in Table A-1. No special-status plant species were observed within the project site.

The approximately 47-acre project site supports a total of five vegetation communities, or habitat types (see figure 4). Three communities dominate the project site, including, chamise chaparral (9.47 acres), mixed chaparral (16.62 acres), and coastal sage scrub (13.55 acres). Additional habitat types found in the project site include cottonwood-willow riparian forest (0.35 acres) and California annual grassland-sage scrub ecotone (6.65 acres).

### *Chamise Chaparral (9.47 Acres)*

Chamise chaparral is a 1 to 3 meter tall, often nearly impenetrable vegetation community that is dominated by chamise (*Adenostoma fasciculatum*), with other shrub

species scattered throughout. Other species that occur in this community include elements of the coastal sage scrub community such as black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), California sagebrush (*Artemisia californica*), deerweed (*Lotus scoparius*), and thicketleaf yerbasanta (*Eriodictyon crassifolium*). Buck brush (*Ceanothus cuneatus*), our lord's candle (*Yucca whipplei*), and scrub oak (*Quercus dumosa*) are also found within this community. These associated species are sparsely distributed and contribute little to the overall canopy of the community. Additionally, due to the density of cover, this community generally has very little herbaceous understory. This vegetation community is typically associated with dry, rocky (often steep) slopes with little soil. Chamise chaparral frequently occurs adjacent to oak woodlands although the underlying soils are much rockier. This community is adapted to repeated fires from which it recovers by stump sprouting.

#### *Mixed Chaparral (16.62 Acres)*

Mixed chaparral is a structurally homogenous brushland type dominated by shrubs with thick, stiff evergreen leaves. These shrubs form a dense, often nearly impenetrable vegetation community with a canopy ranging from 1 to 4 meters tall. Mixed chaparral in the project site is dominated by a combination of *Ceanothus* species (*Ceanothus* spp.), chamise, black sage, California sagebrush, and California buckwheat. Associated species include toyon (*Heteromeles arbutifolia*), chaparral currant (*Ribes malvaceum*), coyote brush (*Baccharis pilularis*), big-berry manzanita (*Arctostaphylos glauca*) and other manzanitas (*Arctostaphylos* spp.), mountain mahogany (*Cercocarpus betuloides* var. *betuloides*), blue elderberry (*Sambucus mexicana*), thicketleaf yerbasanta, deerweed, and scrub oak. Occasional live oaks (*Quercus agrifolia*) are scattered throughout this habitat type. The herbaceous understory consists of annual grasses (*Bromus diandrus*, *Bromus madritensis*, *Bromus tectorum*, *Avena fatua*, *Hordeum jubatum*), bunchgrasses (*Festuca* sp.), and herbs such as black mustard (*Brassica nigra*) and composites. Infrequent occurrences of prickly-pear (*Opuntia* sp.) are found scattered throughout this habitat type.

#### *Coastal Sage Scrub (13.55 Acres)*

Coastal sage scrub is found throughout the project site, growing on many of the southern-facing slopes and upper reaches of the canyons that dissect the project site. The canopy of coastal sage scrub is much less developed than the chaparral

communities. This vegetation community is dominated by low, soft-woody subshrubs with a canopy up to 2 meters tall. The dominant species are California sagebrush, black sage, California buckwheat, and deerweed. Some areas were nearly 100% black sage. Associated species include thicketleaf yerbasanta, our lord's candle, and chaparral currant. Chaparral species including *Ceanothus sp.*, chamise, and coyote brush can also be found here.

#### *Cottonwood-Willow Riparian Forest (0.35 Acres)*

A small section of riparian forest is situated at the bottom of the southeastern most canyon along the eastern border of the project site. The entire riparian area could not be accessed during field surveys, but both cottonwood (*Populus fremontii*) and willows (*Salix spp.*) were seen from afar. In addition, scrub oaks were common within the canyon area. Other species associated with the canyon bottom were bush monkeyflower (*Mimulus aurantiacus*), blue elderberry, sticky eupatorium (*Ageratina adenophora*), dudleya (*Dudleya sp.*), and elegant fairyfan (*Clarkia unguiculata*). Uplands immediately adjacent to the riparian habitat are composed of common coastal sage scrub inhabitants such as California sagebrush, black sage, and California buckwheat.

#### *California Annual Grassland-Sage Scrub Ecotone (6.65 Acres)*

Several small areas in the project site exhibit characteristics of both California annual grassland and coastal sage scrub, and the areas can be considered a transition zone between the two communities. Nonnative grass species such as wild oats (*Avena fatua*), rip-gut brome (*Bromus diandrus*), foxtail brome (*Bromus madritensis*), cheat grass (*Bromus tectorum*), and foxtail barley (*Hordeum jubatum*), are codominant with native coastal sage scrub species such as California sagebrush, black sage, California buckwheat. In addition, several live oaks are found scattered throughout this community. Secondary species include deerweed and chaparral currant. This community is generally found in the flat areas of canyon bottoms and in previously disturbed areas near the Project site boundary.

### **5.3 Special Status Biological Resources**

The following section addresses special status biological resources observed, reported, or having the potential to occur on the site. These resources include plant and wildlife species that have been afforded special status and/or recognition by federal and/or State resource agencies, as well as private conservation organizations. In general, the

principal reason an individual taxon (species, subspecies, or variety) is given such recognition is the documented or perceived decline or limitation of its population size or geographical extent and/or distribution, resulting in most cases from habitat loss. Tables 1 and 2 list special status plants and animals known to occur within the four USGC quadrangles surrounding the project site, along with their federal, and State listing and their potential for occurrence on the site. In addition, special status biological resources include vegetation types and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. Federal, State, and local government conservation programs have defined these vegetation resources.

In addition to the sources listed on page two of this report, the following sources were used to determine the special status of biological resources:

- **Plants:** CNPS 2002. *Electronic Inventory of Rare and Endangered Vascular Plants of California*. California Native Plant Society, Sacramento, California. California Natural Diversity Data Base (CNDDDB), 2001. Various Federal Register notices from the USFWS regarding listing status of plant species.
- **Wildlife:** California Natural Diversity Data Base (CNDDDB), 2002. Federal Register notices from the USFWS regarding listing status of wildlife species.
- **Habitats:** California Natural Diversity Data Base (CNDDDB), 2002.

## Definitions of Special Status Biological Resources

### *Federal*

A *federally endangered species* is one facing extinction throughout all or a significant portion of its geographic range. A *federally threatened species* is one likely to become endangered within the foreseeable future throughout all or a significant portion of its range. The presence of any federally threatened or endangered species on a site generally imposes severe constraints on development; particularly if development would result in "take" of the species or its habitat. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct. Harm in this sense can include any disturbance to habitats used by the species during any portion of its life history.

*Proposed species* are those officially proposed by the USFWS for addition to the federal threatened and endangered species list. Because proposed species may soon be listed as threatened or endangered, these species could become listed prior to or during implementation of a proposed development project.

Federal Species of Concern (a "term of art" for former Category 2 candidates) have an informal designation by the USFWS for some declining species that are not federal candidates for listing at this time. This designation does not provide legal protection but signifies that these species are recognized as special status by the USFWS.

### *State*

The State of California considers an *endangered species* as one whose prospects of survival and reproduction are in immediate jeopardy, a *threatened species* as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management, and a *rare species* as one present in such small numbers throughout its range that it may become endangered if its present environment worsens. Rare species applies to California native plants. State threatened and endangered species are fully protected against take.

*California Species of Special Concern* is an informal designation used by the CDFG for some declining wildlife species that are not State candidates. This designation does not provide legal protection but signifies that these species are recognized as special status by the CDFG.

Species that are *California fully protected* include those protected by special legislation for various reasons, such as the mountain lion and white-tailed kite.

### *Local*

*Special Status habitats* are vegetation communities, associations, or sub-associations designated by the CDFG and/or CNPS that support concentrations of special status plant or wildlife species, are of relatively limited distribution, or are of particular value to wildlife (CDFG, 2000). Although special status habitats are not afforded legal protection unless they support protected species, potential impacts on them may increase concerns and mitigation suggestions by resources agencies.

The CNPS is a local resource conservation organization that has developed an inventory of California's special status plant species (CNPS, 2002). This inventory provides the summary of information on the distribution, rarity, and endangerment of California's vascular plants. This rare plant inventory is comprised of four lists. CNPS presumes that *List 1A* plant species are extinct in California because they have not been seen in the wild for many years. CNPS considers *List 1B* plants as rare, threatened, or endangered throughout their range. *List 2* plant species are considered rare, threatened, or endangered in California but more common in other states. Plant species for which CNPS needs additional information are included on *List 3*. *List 4* plant species are those of limited distribution in California whose susceptibility to threat appears low at this time.

TABLE 1  
 SPECIAL STATUS PLANT SPECIES  
 KNOWN TO OCCUR IN THE REGION OF TRACT # 53933

Species	USFWS	CDFG	CNPS	Occurrence Potential
<b>PLANTS</b>				
<i>Berberis nevadensis</i> Nevin's barberry	E	E	1B	Potentially occurring Low probability
<i>Calochortus clavatus</i> var. <i>gracilis</i> Slender mariposa lily	SOC	--	1B	Potentially occurring Low probability c
<i>Calochortus plummerae</i> Liliaceae Plummer's mariposa lily	SOC		1B	Potentially occurring Low probability
<i>Chorizanthe parryi</i> var. <i>fernandina</i> San Fernando Valley spineflower	<del>P/E</del>	<del>P/E</del>	1B	Potentially occurring Low probability
<i>Dodecagema leptoceras</i> Slender-horned spineflower	E	E	1B	No suitable habitat
<i>Galium grande</i> San Gabriel bedstraw	--	--	1B	Potentially occurring Moderate habitat suitability Low probability
<i>Opuntia basilaris</i> var. <i>brachyclada</i> Short-joint beavertail	SOC	--	1B	Potentially occurring Moderate habitat suitability Low probability
<i>Senecio aphanactis</i> Rayless ragwort	--	--	2	No suitable habitat

Add  
 CA Occurrence  
 E/E  
 2002

LEGEND			
Federal (USFWS)		State (CDFG)	
E	Endangered	E	Endangered
T	Threatened	T	Threatened
PE	Proposed Endangered	PE	Proposed Endangered
PT	Proposed Threatened	PT	Proposed Threatened
SOC	Species of Concern	SSC	Species of Special Concern
California Native Plant Society (CNPS)			
1A	Plants Presumed Extinct in California		
1B	Plants Rare, Threatened, or Endangered in California and Elsewhere		
2	Plants Rare, Threatened, or Endangered in California But More Common Elsewhere		
3	Plants About Which More Information is Needed - A Review List		
4	Plants of Limited Distribution - A Watch List		

TABLE 2 SPECIAL STATUS WILDLIFE SPECIES  
KNOWN TO OCCUR IN THE REGION OF THE TRACT # 53933

Species	USFWS	CDFG	Occurrence Potential
<b>Amphibians</b>			
<i>Bufo microscaphus californicus</i> Arroyo toad	E	SSC	Potentially occurring Low probability, lacks suitable hydrology
<b>Reptiles</b>			
<i>Clemmys marorata pallida</i> Southwestern pond turtle	<del>SOC</del>	SSC	No suitable habitat
<i>Cnemidophorus tigris multiscutatus</i> Coastal western whiptail	<del>SOC</del>	<del>SSC</del>	Observed
<i>Phrynosoma coronatum blainvillei</i> San Diego horned lizard	-	SSC/ <del>T</del>	Potentially occurring Low probability
<i>Thamnophis hammondi</i> Two-striped garter snake	-	SSC	No suitable habitat
<b>Birds</b>			
<i>Accipiter cooperii</i> Cooper's hawk	-	SSC	No suitable nesting habitat, potential foraging habitat
<i>Aimophila ruficeps canescens</i> Southern California rufous-crowned sparrow	SOC	SSC	Observed
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	-	E	No suitable habitat
<i>Dendroica petechia brewsteri</i> Western yellow warbler	-	SSC	No suitable habitat
<i>Gymnogyps californianus</i>	E	E	No suitable nesting habitat,

Add -  
Western spadefoot  
toad (Zoo)  
SOC/SSC

Species	USFWS	CDFG	Occurrence Potential
California condor			potential foraging habitat
<i>Icteria virens</i> Yellow breasted chat	--	SSC	No suitable habitat
<i>Vireo bellii bellii</i> Least Bell's vireo	E	E	No suitable habitat
<b>Fish</b>			
<i>Catostomus santaanae</i> Santa Ana sucker	<del>T</del>	SSC	No suitable habitat
<i>Gasterosteus aculeatus williamsoni</i> Unarmored threespine stickleback	E	E	No suitable habitat
<i>Gila orcutti</i> Arroyo chub	--	SSC	No suitable habitat
<b>LEGEND</b>			
<b>Federal (USFWS)</b>		<b>State (CDFG)</b>	
E	Endangered	E	Endangered
T	Threatened	T	Threatened
PE	Proposed Endangered	P	Protected
PT	Proposed Threatened	PE	Proposed Endangered
SOC	Species of Concern	PT	Proposed Threatened
		SSC	Species of Special Concern

#### 5.4 Special Status Plants

Although none were observed within the project boundary, four of the seven special status plant species known to occur in the region have the potential to occur on the site. One of the species, the San Fernando Valley spineflower, has been proposed for listing as a federal and State threatened species. Additionally, the presence of any CNPS List 1B species on the site may result in a significant impact, depending on the species found and the extent of the population on the site. Focused plant surveys were not conducted for this analysis. However, the botanical survey was performed during the blooming period of the potentially occurring special status species. Special status plant species known to occur in the region are discussed below and summarized in Table 1.

##### Nevin's barberry (*Berberis nevini*)

Nevin's barberry is federal and State endangered plant. This species occurs in coastal sage scrub, alluvial scrub, and chaparral communities in the margins of dry washes in the foothills of the Transverse and Peninsular ranges. Plants are found growing on

either steep north-facing slopes or low-grade sandy washes. Although once more widespread, the present day range of Nevin's barberry includes less than 30 occurrences in portions of Los Angeles, San Bernardino, and Riverside counties. Ten of these are single plants last seen in the 1980s; seven are occurrences of less than ten plants last seen in the 1970s or 1980s; three are plantings; and the largest is 134 plants, last seen in 1987

Loss of habitat continues to be a major threat to this species. Of great concern is the lack of reproduction and recruitment at most sites, and the very low number of individuals at most populations. The site provides moderately suitable habitat for this species but it was not observed during blooming season surveys, and as such has a low potential to occur.

#### **Slender mariposa lily (*Calochortus clavatus var. gracilis*)**

The slender mariposa lily is a federal Species of Concern and a CNPS List 1B species that typically blooms from March through May. The known range for this species includes canyons and slopes below 4,000 feet above msl at the southern base of the San Gabriel Mountains. This species is a perennial herb that is found in openings in chaparral and coastal sage scrub. The site provides potentially suitable habitat for the slender mariposa lily. However, due to its conspicuous nature, the lack-detection during the blooming season field survey suggests that this species has a very low probability of occurrence within the project boundary.

#### **Plummer's mariposa lily (*Calochortus plummerae liliaceae*)**

This lily is found on granitic, rocky, or alluvial soil within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. The site has potential habitat for this species, but it was not observed during the blooming season field survey. As such, it has a low probability of occurrence.

#### **San Fernando Valley spineflower (*Chorizanthe parrti var fernandina*)**

The San Fernando Valley spineflower is a federal and State candidate for listing as a threatened species, and a CNPS List 1B species that typically blooms from April to June. This species grows in alluvial fan scrub and in open sandy locales in open and low growing sage scrub. Once thought to be extinct, several specimens have been recently found in Calabasas, California and the Newhall Ranch development site, 2.5 miles southwest of the site. The species was not observed during the blooming season

field survey and, due to its limited distribution and the lack of alluvial fan scrub habitat within the project site, has a low probability of occurrence.

#### **Slender-horned spineflower (*Dodecabea leptoceras*)**

The slender-horned spineflower is a federal and State endangered plant species and a CNPS List 1B species that typically blooms from April to June. The slender-horned spineflower is restricted to eight sites in Los Angeles, Riverside, and San Bernardino counties ranging from Tujunga Valley at the western edge of the San Fernando Valley, eastward to the Santa Ana River Wash near Redlands, and southward to the San Jacinto River floodplain near Hemet and Temescal Canyon near Elsinore. This spineflower, which is a prostrate diminutive annual of the buckwheat family, grows primarily in alluvial fan sage scrub habitat in sandy to gravelly soil from 700 to 2,500 feet above mean sea level (msl). It is generally found in small isolated areas lacking any evidence of surface disturbance.

Approximately 75 percent of the historical locations of this species have been extirpated because of modifications of drainages and from sand and gravel mining. Continued threats to the spineflower include urban development, off-road vehicles, flood control activities, and sand and gravel mining operations. This species historically occurred in Mint Canyon (CNDDDB, 1999), but was not observed during the blooming season field survey and is not expected to occur on the site due to lack of suitable alluvial habitat.

#### **San Gabriel bedstraw (*Galium grande*)**

San Gabriel bedstraw is a CNPS List 1B species that is found in chaparral, foothill woodland, yellow pine forest, and mixed evergreen forest. It is a small shrub that is endemic to the San Gabriel Mountains and is known from fewer than 10 occurrences. Although the probability of its occurrence is low, the site does provide a potentially suitable habitat. However, the species was not observed during the blooming season field survey.

#### **Short-joint beavertail (*Opuntia basilaris* var. *brachyclada*)**

The short-joint beavertail is a federal Species of Concern and a CNPS List 1B species that blooms from April to June. This species is found in chaparral, Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodlands. The site

provides moderate potentially suitable habitat for the short-joint beavertail. However, this species has a large conspicuous flower, and it was not observed during the blooming season surveys. Therefore, potential for occurrence at the site is low.

#### Rayless ragwort (*Senico aphanactis*)

This annual occurs in coastal sage scrub, cismontane woodland, and alkaline flats. Although it is found throughout central and northern California, it is substantially declining in southern California. This inconspicuous annual has a relatively wide distribution, but is apparently quite uncommon to rare in any given region. It may not be able to compete well with invasive Eurasian grasses. The species was not observed during the blooming season field survey and is not expected to occur on the site due to lack of suitable alkaline habitat.

### 5.5 Special Status Wildlife

Six of the 15 special status wildlife species known to occur in the region could potentially occur on the site or use it for foraging. Of these, only one (the California condor) is listed as a federal and State endangered species. The presence of any species listed as endangered or threatened by the State or federal resource agencies could result in significant impacts to these resources by any proposed development activities on the site. Additionally, two federal and State species of concern, the southern California rufous-crowned sparrow and the coastal western whiptail, were observed at the site. All special status wildlife species known to occur in the region are summarized in Table 2. Detailed information on special status wildlife species potentially located on the property is given below.

#### *Amphibians*

##### Arroyo toad (*Bufo microscaphus californicus*)

Federally listed as an endangered species, the Arroyo Toad is fully protected by the U.S. Fish and Wildlife Service and California Department of Fish and Game. Most remaining populations in the United States occur on privately owned lands, primarily within or adjacent to the Cleveland National Forest. The main cause of decline for this species in the United States is the loss of habitat. This loss has been attributed to urbanization, agriculture, and dam construction within the toad's preferred habitat. The Arroyo toad inhabits coastal southern California from Salinas River Basin in

Monterey and San Luis Obispo Counties to Arroyo San Simón in northern Baja California, México.

This toad prefers riparian habitats with sandy streambeds and cottonwood, sycamore, and willow trees. Some populations occur in streams within coniferous forests. The stream setting usually has adjacent shallow pools where the toad may sit in the water while partially exposed above. Although it is found within Castaic Creek (personal communication Dr. Daryl Koutnik, LA County Department of Regional Planning, May 2002), the lack of a high quality riparian habitat and a significant water source suggests that this species has a low probability of occurring with the project site.

### *Reptiles*

#### *Southwestern pond turtle (Clemmys marorata pallida)*

The southwestern pond turtle is a federal and State species of concern. It inhabits slow moving permanent or intermittent streams, small ponds, small lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and sewage treatment lagoons. Pools are the preferred habitat within streams. Abundant logs, rocks, submerged vegetation, mud, undercut banks, and ledges are necessary habitat components for cover as well as a water depth greater than 2 meters. Additionally, emergent basking sites, emergent vegetation and the availability of suitable terrestrial shelter and nesting sites seem to characterize optimal habitat. Adjacent upland areas typically provide over wintering and estivation sites. Due to the lack of a significant water source at the site, suitable habitat for this species is not present on the site.

#### *Coastal western whiptail (Cnemidophorus tigris multiscutatus)*

Coastal western whiptail, a Federal Special Concern Species, occurs in a wide range of desert and semi-arid habitats where vegetation is sparse and there are large open areas for running (Stebbins, 1985). Vegetation communities that this species is typically associated with include sparse grasslands, desert scrub habitats, chaparral, oak savannas, and the drier parts of oak woodlands and pine forests (Stebbins, 1985). Coastal western whiptail generally avoids dense grasslands (Stebbins, 1985). Threats to this species are primarily the result of habitat loss due to conversion to agriculture or urban development. This species was observed within the project boundary.

### **San Diego horned lizard (*Phrynosoma coronatum blainvillii*)**

The San Diego coast horned lizard is a federal Species of Concern, a California Species of Special Concern, and a CDFG protected species. It is a small, spiny, somewhat rounded lizard that occurs primarily in open or sparse scrub and chaparral communities. This species prefers loose, friable soil for burrowing. Additionally, this subspecies requires populations of granivorous ants on which they feed almost exclusively (Stebbins 1985). Three factors have contributed to its decline: loss of habitat, over collecting, and the introduction of exotic ants. In some places, especially adjacent to urban areas, the introduced ants have displaced the native species upon which the lizard feeds. The lack of granivorous ant colonies (which are typically very apparent in areas that have horned lizard populations) and characteristic gelatin-capsule sized and shaped fecal pellets that are typical of this species, indicate that this species has a low probability of occurring within the project site.

### **Two-striped Garter Snake (*Thamnophis hammondi*)**

This species is highly aquatic, and forages primarily in and along streams taking fishes, (especially trout and sculpins) and their eggs, amphibians, and amphibian larvae. Small mammals and invertebrates such as leeches and earthworms are also taken. The preferred nocturnal retreats of this active diurnal snake are thought to be holes, especially mammal burrows, crevices, and surface objects. During the day this garter snake often basks on streamside rocks or on densely vegetated stream banks. When disturbed it usually retreats rapidly to water. Due to the lack of a significant water source at the site, suitable habitat for this species is not present on the site.

## ***Birds***

### **Cooper's hawk (*Accipiter cooperii*)**

The Cooper's hawk is a California Species of Special Concern. Both resident and migratory populations exist in Los Angeles County. Wintering Cooper's hawks are often seen in wooded urban areas and native woodland communities. Preferred nesting habitats are oak and riparian woodlands dominated by sycamores and willows. Cooper's hawks in the region prey on small birds and rodents that live in woodland and occasionally scrub and chaparral communities. This species is not expected to nest on the site due to lack of suitable habitat, although it may occasionally forage on the site.

**Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)**

The Southern California rufous-crowned sparrow is a federal Species of Concern and a California Species of Special Concern. In coastal southern California, rufous-crowned sparrows are considered fairly common in scrub communities and other habitats vegetated with grasses and widely spaced low shrubs. They also prefer slopes with rock outcroppings. This subspecies is present throughout the year in southern California. Two individuals were observed at the site and may use this area for both nesting and foraging habitat.

**Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)**

The western yellow-billed cuckoo is a California endangered species. Formerly a rare summer resident, the bird is now extirpated from much of Southern California. Occasional sightings in coastal southern California suggest that a very few breeding pairs may persist despite extensive habitat loss. Breeding yellow-billed cuckoos are restricted to extensive deciduous riparian thickets or forests with dense, low-level or understory foliage that occur along slow-moving watercourses, backwaters, or seeps. Willows are almost always a dominant component of western yellow-billed cuckoo nesting habitat. This species is not expected to occur on the site due to lack of suitable riparian habitat.

**Western yellow warbler (*Dendroica petechia brewsteri*)**

This subspecies of the yellow warbler are mostly migrants that breed in southern California. The CDFG has included this subspecies on its list of California Species of Special Concern. *D.p. brewsteri* occurs in coastal areas from northwestern Washington south to western Baja California. It was once a common to locally abundant summer resident in riparian areas throughout California, but many populations are currently, reduced and/or locally extirpated (Garrett and Dunn, 1981). In southern California, yellow warblers breed locally in riparian woodlands. This species is not expected to occur on the site due to lack of suitable riparian habitat.

**California condor (*Gymnogyps californianus*)**

The California condor is the largest bird in North America and is a federal and State listed endangered species. California condors are found in the arid foothills and mountain ranges of southern and central California (Garrett and Dunn, 1981). They

roost in rocky cliffs or in trees, from the late afternoon until the next mid-morning and nest in caves and overhangs on cliffs that have a clear approach for easy take-offs and landings. This species is not expected to nest on the site due to lack of suitable roosting habitat, although it may occasionally forage on the site

#### **Yellow-breasted chat (*Icteria virens*)**

The yellow-breasted chat is a California Species of Special Concern. This large warbler was once a fairly common summer resident in riparian woodlands throughout California, but is now much reduced in numbers, especially in southern California. For nesting, this species requires dense, brushy tangles near water and riparian woodlands supporting a thick understory (Garrett and Dunn, 1981). This species is not expected to occur on the site due to lack of suitable riparian habitat.

#### **Least bell's vireo (*Vireo bellii pusillus*)**

The least Bells vireo is a federal and State endangered species. The vireo is a rare local summer resident of southern California's lowland riparian woodlands. While destruction of lowland riparian habitats has played a large role in driving this species to its present precarious situation, brood parasitism by brown-headed cowbirds is the most important factor in its decline (Garrett and Dunn, 1981). Local cowbird control programs have been very effective in maintaining some populations (Small, 1994); the species has begun to recover. Based on information from the USFWS, approximately 1,500 territories were located in 1995. This species is not expected to occur on the site due to lack of suitable and/or sufficient riparian habitat.

#### ***Fish***

#### **Santa Ana sucker (*Catostomus santaanae*)**

The Santa Ana sucker is listed as a federally threatened species and is a California Species of Special Concern. This species is found in small, shallow streams with currents that run from swift to sluggish. They are most abundant where waters are cool (less than 72 degrees Fahrenheit) and unpolluted, although they can withstand turbidity. They are also associated with bottom materials of boulders, rubble, and sand where there are growths of filamentous algae. They feed on algae and detritus that they scrape from rock surfaces, and will rarely ingest aquatic insect larvae. Spawning occurs from early April to early July, peaking in late May and early June.

River channelization and poor watershed management threaten the Santa Ana sucker. This species is not expected to occur on the site due to lack of suitable habitat.

**Unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*)**

The unarmored three-spine stickleback is a federal and California endangered species. The historic range of the unarmored three-spine stickleback includes all of the major drainages of the San Gabriel Mountains, including the Los Angeles, San Gabriel, and Santa Ana rivers. It is now restricted to the San Francisquito Canyon and Santa Clara River drainages. Its regional decline is attributed to the channelization of watershed for flood control and development, and disruption of drainages by urbanization. This species is not expected to occur on the site due to lack of suitable aquatic habitat.

**Arroyo chub (*Gila orcutti*)**

Arroyo chubs are a state species of special concern. This small minnow-like fish is native to southern California river systems and found in slow-moving or backwater sections of warm to cool (10-24 C) streams with mud or sand substrates. Its regional decline is attributed to the channelization of watershed for flood control and development, and disruption of drainages by urbanization. This species is not expected to occur on the site due to lack of suitable aquatic habitat.

**6.0 IMPACTS**

The following is an analysis of the potential impacts to biological resources based on the current (November 2003) site plan. Impacts include direct modification due to the proposed project, and impacts due to current County fuel modification guidelines.

**Standards of Significance**

For the purpose of this Biological Resources Technical Report, impacts to biological resources are considered significant if implementation of the proposed project would result in one or more of the following conditions:

- substantial reduction of the habitat of a wildlife species;
- produce a drop in a wildlife population below self-sustaining levels;
- elimination of a plant or animal community;
- reduction or restriction of the number or range of a rare or endangered plant or animal;
- substantial affect on a rare or endangered species of animal or plant or the habitat of the species;
- substantial interference with the movement of any resident or migratory wildlife species; or
- the loss of wetland or riparian habitat.
- conflict with any local policies or ordinances protecting biological resources
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other state, regional or local conservation plan.

## 6.1 Non-Sensitive Species

### Plant communities

#### *Native Oak Trees*

The Los Angeles County Oak Tree Ordinance has been established to recognize oak trees as significant historical, aesthetic, and ecological resources. According to the Los Angeles County Ordinance, a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone<sup>1</sup> of any tree of the oak genus (*Quercus*), that is eight inches or more in diameter at breast height or in the case of oaks with multiple trunks a combined diameter of twelve inches or more of the two largest trunks, without first obtaining a permit. All oak species are protected by this ordinance.

The Protected Tree Permit Guidelines protects native tree species, including oaks, by requiring that development be sited, designed, and constructed to prevent or minimize impacts on protected trees. The permit recognizes that these protected trees provide important public health, safety, and welfare benefits such as: 1) air and water quality improvement; 2) energy conservation; 3) flood protection; 4) groundwater

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<sup>1</sup> The protected zone of a tree is the area within the dripline of the tree and extending at least five feet outside of the dripline, or 15 feet from the trunk of the tree, whichever distance is greater

replenishment; and 5) enhancement of aesthetics and property values. Protected species include native oaks, native California walnuts (*Juglans californica*), and native western sycamores (*Platanus racemosa*). Trees with at least one trunk measuring at least six inches in diameter at breast height, or any combination of two trunks together measuring at least eight inches in diameter, are protected by the Protected Tree Permit Guidelines.

Biological surveys performed by EIP Associates identified 27 native oak trees and shrubs within the project area that are potentially protected by the preceding L.A. County Oak Tree Ordinance and Protected Tree Permit Guidelines (Figure 5). This includes 20 coast live oaks (*Quercus agrifolia*) and seven scrub oaks (*Quercus berberidifolia*). Implementation of the proposed project would result in the loss of or damage to, 10 of the coast live oaks (Trees H, I, J, K, L, M, O, W, X, and Y, in Figure 5). Although other oaks on the site will be in areas that will be graded, standard tree protection measures required by the County would avoid impacts to the trees or the root zones. Under the preceding regulations, all of the affected coast live oaks would qualify for protection under the tree ordinance.

Impacts to oak trees, as detailed above, have been reduced via the modification of the original site plan. The original plan would have resulted in the loss of or damage to, 16 of coast live oaks (Trees C, D, H, I, J, K, L, M, N, O, T, W, X, Y, Z, and AA in Figure 5) and three of scrub oaks (Trees S, U, and V in Figure 5).

### *Riparian Vegetation*

The proposed project would not result in the removal of riparian vegetation. This is due to a change in site design that incorporated impact reduction measures that reduced riparian impacts from 0.35 acres in the original design to zero with the current design.

### *Chaparral*

Impacts to the chaparral habitats (chamise and mixed) on site will amount to approximately 9.03 acres of Chamise chaparral habitat and 8.86 acres of mixed chaparral habitat. Though the chaparral habitat on site is high quality, there are widespread areas of similar chaparral habitat in the vicinity of the project area, along with approximately 6.43 acres of on-site chaparral that is outside the area of impact. Current project design utilizing impact reduction measures reduced overall impacts to chaparral by 1.18 acres. Chaparral is not considered a sensitive community, nor is it

the exclusive host for many sensitive plant or animal species. As such, impacts to chaparral would be *less than significant*.

### *Coastal Sage Scrub*

Impacts to coastal sage scrub (CSS) habitats on site will be approximately 8.5 acres. Although the current site plan and impact reduction measures have reduced impact to CSS by 0.75 acre, CSS is considered a sensitive community by the CDFG and CNPS. While the CSS habitat on site is of high quality the site is outside of the current range of the California gnatcatcher (*Polioptila californica californica*). However, the loss of significant portions of this habitats would be a potentially significant impact without mitigation; however, current site plans and easement boundaries indicate approximately 5 acres coastal sage scrub would not be directly impacted. With the preservation of the approximately 5 acres of this sensitive habitat via a conservation easement or other equivalent measure; the formulation of a mitigation plan, as stipulated by Mitigation Measures 2.1 and 2.2, and the implementation of impact-avoidance techniques (BMPs), impacts to coastal sage scrub communities would be *less than significant* with the current design.

### *Grassland Sage Scrub*

Approximately 6.32 acres of annual grassland/mixed sage scrub or disturbed areas will be impacted by the project. These areas provide poor quality habitat due to low cover by native vegetation and increased levels of disturbance. Impacts to these areas would be considered *less than significant*.

### **Wildlife**

The amount of habitat for wildlife that would be affected by implementation of the proposed project is relatively small, not necessarily in relation to what remains in the immediate area, but certainly in relation to the habitat available in the Los Padres National Forest to the west, and Angeles National Forest to the north. Although the site does not act as a wildlife corridor, individuals of many wildlife species are highly mobile and will be able to relocate from the relatively small area impact to the adjoining larger areas of vacant land to the west and north. Other, less mobile individuals in the impact areas will be lost during project implementation. However, as the loss of these species would not result in:

- substantial reduction of the habitat of a wildlife species;
- produce a drop in a wildlife population below self-sustaining levels;
- elimination of a plant or animal community;
- reduction or restriction of the number or range of a rare or endangered plant or animal;
- substantial interference with the movement of any resident or migratory wildlife species; or
- the confliction with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other state, regional or local conservation plan.

As discussed in the previous section, due to surrounding development and Interstate 5, the area does not serve as a wildlife corridor, and the proposed project will not contribute to habitat fragmentation in this area. As such, impacts to non-sensitive wildlife species would be *less than significant*.

## 6.2 Sensitive Species

### *Plants*

One special-status plant species, San Gabriel bedstraw, has a moderate potential to occur within the project site because of potentially suitable habitat and known occurrences within 10 miles of the project site. However, this species are fairly obvious, and had it been present, it would have been detected during the spring survey. All other special-status plant species recorded in the CNDDDB and CNPS electronic databases have a low potential for occurrence within the project site. These species have been eliminated from further consideration in this technical report because the specific habitats they require are not present in the project area or their known geographic range does not include the Castaic Valley area.

As no sensitive plant species were observed in the study area during the biological surveys and no species listed within the CNNDDB have greater than a moderate probability of occurring within the site, the proposed project is not expected to result in significant adverse impacts to any sensitive plant species.

### *Wildlife*

Two special-status wildlife species were observed at the project site during the May 2002 surveys: the Southern California rufous-crowned sparrow and coastal western whiptail. Additionally, the Cooper's hawk, and San Diego woodrat could potentially use the area for foraging. No listed species were observed, but one, the California condor, could potentially use the area for foraging. All other special-status wildlife species recorded in the CNDDDB electronic database have a low potential for occurrence within the project site. These species occur in a wide variety of habitat types that are not present in the project area.

### **Avian Species**

Construction-related activities including, but not limited to, grading, materials laydown, facilities construction, and construction vehicle traffic may result in the disturbance of nesting special status species (e.g., Southern California rufous-crowned sparrow) and raptors, and ultimately in the abandonment of nests, eggs, or unfledged juveniles. Given that all species of raptors in California are protected during nesting by the California Fish and Game Code (Section 3503.5) and the Migratory Bird Treaty Act, and that raptors have the potential to forage within the project boundaries, Mitigation Measure 4 is recommended to reduce potential impacts to these species to *less-than-significant* levels.

### **Coastal western whiptail**

Construction-related activities including, but not limited to, grading, materials laydown, facilities construction, and construction vehicle traffic may result in the displacement and/or loss of individual coastal western whiptails. Additionally, implementation of the project would remove potential habitat of this species. To reduce the potential impacts to *less-than-significant* levels Mitigation Measure 5 is recommended.

### **San Diego desert woodrat**

Construction-related activities including, but not limited to, grading, materials laydown, facilities construction, and construction vehicle traffic may result in the displacement and/or loss of individual special status woodrats. Additionally, implementation of the project would remove potential habitat of this species. To reduce the potential impacts to *less-than-significant* levels Mitigation Measure 6 is recommended.

With implementation of Mitigation Measures 4, 5, and 6, and given the:

- lack of suitable habitat within the project site;
- the large areas of suitable habitat in the vicinity, including Angeles and Los Padres National Forests;
- the existing human disturbance on the edges of the site;
- the small size of the site relative to the surrounding national forests; and
- the fact that this site does not function as a wildlife linkage.

With the incorporation of the proposed mitigation measures, impacts to special status species would be *less than significant*.

### *Waters of the United States*

No direct impacts to the stream channel would occur from the proposed project. This is due to an avoidance of approximately 0.15 acre of channel impacts that would have occurred under the old site plan. Although direct modification of the ephemeral stream in the southern portion of the site would not occur, construction of the proposed project could result in indirect impacts to the channel. Mitigation Measure 7 would reduce this impact to *less-than-significant* levels.

### *Cumulative Impacts*

The primary effects of the proposed project, when considered with other projects in the region, would be the cumulative direct loss of vegetation associations, wildlife habitat and movement corridors. Specifically, past, present, and probable future projects in the vicinity of the proposed project are anticipated to permanently remove plant and wildlife resources within development areas. In addition, wildlife populations within the surrounding open space patches or larger areas of habitat that are fragmented would be subject to increased risks of local extirpation. While impacts to chaparral, riparian and coastal sage scrub habitats (the only on-site habitats that are sensitive or capable of supporting sensitive species) will add to the cumulative loss of these plant communities in the region, the relatively small area impacted by the proposed project, combined with the compensation for impacts to the riparian and scrub communities via mitigation measures, would not constitute a cumulatively considerable impact. Additionally, the cumulative effect of the loss of plant and wildlife habitat in the region is expected to be adverse, though not significant because the Los Padres National Forest to the west, and Angeles National Forest to the north are expected to provide adequate protection of habitat for common plant and wildlife species in the region. As such, these cumulative effects would be *less than significant*.

## 7.0 Recommended Mitigation Measures

The evaluation of impacts on biological resources is based on information contained in the literature sources that were previously cited, site visits by EIP biologists, and additional information provided by Los Angeles County biologist Daryl Koutnik.

### *Oak Trees*

For all oak trees that occur within the project area and that will be adversely affected by the proposed project, the following mitigation measures, as recommended by the county biologist or forester may include:

#### Mitigation Measure 1-1

The Applicant, prior to being issued a grading permit, shall prepare a tree report that meets the requirements of the County's Tree Ordinance. It shall also include the preparation and submission of a tree protection plan. When construction activities occur near protected tree species, Best Management Practices (BMPs) to avoid damage to the trees shall be implemented, and verified by the developer. The BMPs will include, but are not limited to (1) installing protective fencing prior to and during construction, using wire mesh or plastic barrier fencing placed at 2.25 times the canopy of the tree; (2) avoiding disturbance and trenching within the tree drip line; (3) maintaining the surface grade around the tree; and (4) prohibiting the placement of paving or landscaping requiring summer irrigation in the vicinity of trees.

#### Mitigation Measure 1-2

A drainage plan shall be designed in such a way as to avoid changes to hydrology in the vicinity of the protected trees.

#### Mitigation Measure 1-3

Construction staging areas shall be designated on the construction plans and parking, loading, and grading during all construction activities prohibited within the root zone of the protected trees.

#### Mitigation Measure 1-4

The Applicant shall provide a protected tree information manual to purchasers or homeowner's association.

### *Sensitive Habitats*

Grading for construction could remove or damage sensitive plant communities that occur within the project site.

#### **Mitigation Measure 2-1**

Impacted coastal sage scrub vegetation that cannot be avoided, including that which is impacted due to brush clearing requirements, shall be replaced at a minimum 1:1 ratio under a mitigation plan approved by the CDFG. If replacement within the area is not feasible, then an approved mitigation bank shall be used. For either case, onsite or offsite revegetation, a mitigation monitoring plan shall be prepared and approved by the CDFG prior to the issuance of a grading permit.

#### **Mitigation Measure 2-2**

The potential establishment and expansion of exotic plant species into newly graded areas should be minimized by seeding disturbed areas with a native grassland mix applied in conjunction with mulch and tackifier as soon as grading activities are completed. Landscaping on the site should contain as much native California species of trees, shrubs, and groundcovers appropriate to Los Angeles County and the project vicinity as possible. This would provide foraging opportunities for native wildlife. Appropriate native species include trees such as coast live oaks; shrubs such as blue elderberry, toyon, coffeeberry, and coyote brush; and native grasses, such as purple and foothill needlegrass.

### *Wildlife Impacts*

#### **Mitigation Measure 3**

To reduce indirect impacts to local wildlife all lighting along the perimeter of natural and easement areas shall be downcast luminaries with light patterns directed away from natural areas, as coordinated with a certified lighting engineer and project biologist. Additionally, trails shall be unlit through any natural or easement areas.

### *Sensitive Species*

#### **Birds**

#### **Mitigation Measure 4**

If construction would occur within the breeding season, pre-construction surveys of the project site shall be conducted by a qualified biologist prior to any construction-

related activities. The surveys shall be conducted during an appropriate season that will allow for the identification of nesting raptors. If nesting raptors are found during the pre-construction surveys the project sponsor shall either (1) avoid any construction activity within 250 feet of active nest(s) until a qualified biologist has determined that the adults and juveniles are no longer utilizing the nest site(s) or (2) contract for continuous monitoring of the active nest site(s) by a qualified biologist who can terminate further construction activity within 250 feet of the nest site(s) if the behavior of the birds suggest that they could abandon their nest, eggs, or young.

Alternatively, to avoid impacts to nesting special status species and/or raptors, the project sponsor can begin construction after the previous breeding season for local raptors and special status species has ended (generally after mid-August) and before the next breeding season begins (generally before February). Should special status species and/or raptors choose to nest in an area within 500 feet of active construction that was initiated after mid-August and prior to February of the following year, the project sponsor shall only be required to provide a buffer of 200 feet between activities and the nest site.

### **Coastal western whiptail**

#### **Mitigation Measure 5**

Thirty days prior to construction activities in areas of the upland impact zone, a qualified biologist shall conduct a survey to capture and relocate individual coastal western whiptails in order to avoid or minimize take of these sensitive species. Individuals shall be relocated to nearby undisturbed areas with suitable habitat. Preconstruction surveys shall only be conducted in areas dominated by coastal sage scrub and chaparral or if construction will occur within 300 feet of native upland habitat. Results of the surveys and relocation efforts shall be provided to CDFG and/or Los Angeles County Biologists in a Mitigation Status Report. Collection and relocation of animals shall only occur with the proper scientific collection and handling permits.

### **San Diego woodrat**

#### **Mitigation Measure 6**

Immediately prior to construction or grading activities, or as these activities are commencing, a survey shall be conducted by a qualified biologist to determine if individuals of San Diego woodrat (including unknown woodrat houses) occur within the construction and/or grading zone. If located, individuals of this species shall be

captured and translocate unharmed into areas of appropriate habitat (either on or off site) that are not subject to further disturbance.

Alternately, if the Applicant so desires, prior to construction, focused woodrat surveys performed by a qualified biologist, may be performed to determine if the woodrat house observed onsite is that of a San Diego woodrat. If this option is chosen, and no San Diego woodrat are found on site, then no further action is required. However, if San Diego woodrats are found within the construction or grading zone, then relocation, as described in paragraph one of this mitigation measure, shall be implemented.

#### *Stream Channel and Riparian Vegetation*

##### **Mitigation Measure 7**

The Applicant shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP shall require that stormwater runoff be prevented from flowing over unprotected slopes and that silt fencing shall be trenched in 100 feet from the outer limits of riparian vegetation and left in place during construction. Disturbed areas shall be stabilized as quickly as possible, using biotechnical techniques.

Construction and operation of the proposed project shall avoid contamination of the ephemeral drainage by incorporating the following provisions:

- a. California Stormwater Best Management Practices (BMPs) for Construction Activity, prepared by the California State Stormwater Quality Task Force, shall be incorporated into the construction plans. BMPs for Municipal Activities shall be incorporated into a long-term site management program. When implemented, BMPs would reduce operation-related impacts from sedimentation and contaminant loading to an insignificant level.
- b. Native plant species with minimum water and fertilizer requirements shall be selected and for landscaping to the extent feasible. Use of nitrogen fertilizers in landscaped areas shall be kept to a minimum. Watering shall be kept to the minimum necessary to maintain new landscaping. Drip irrigation shall be used only until native landscaping is established.

#### **References**

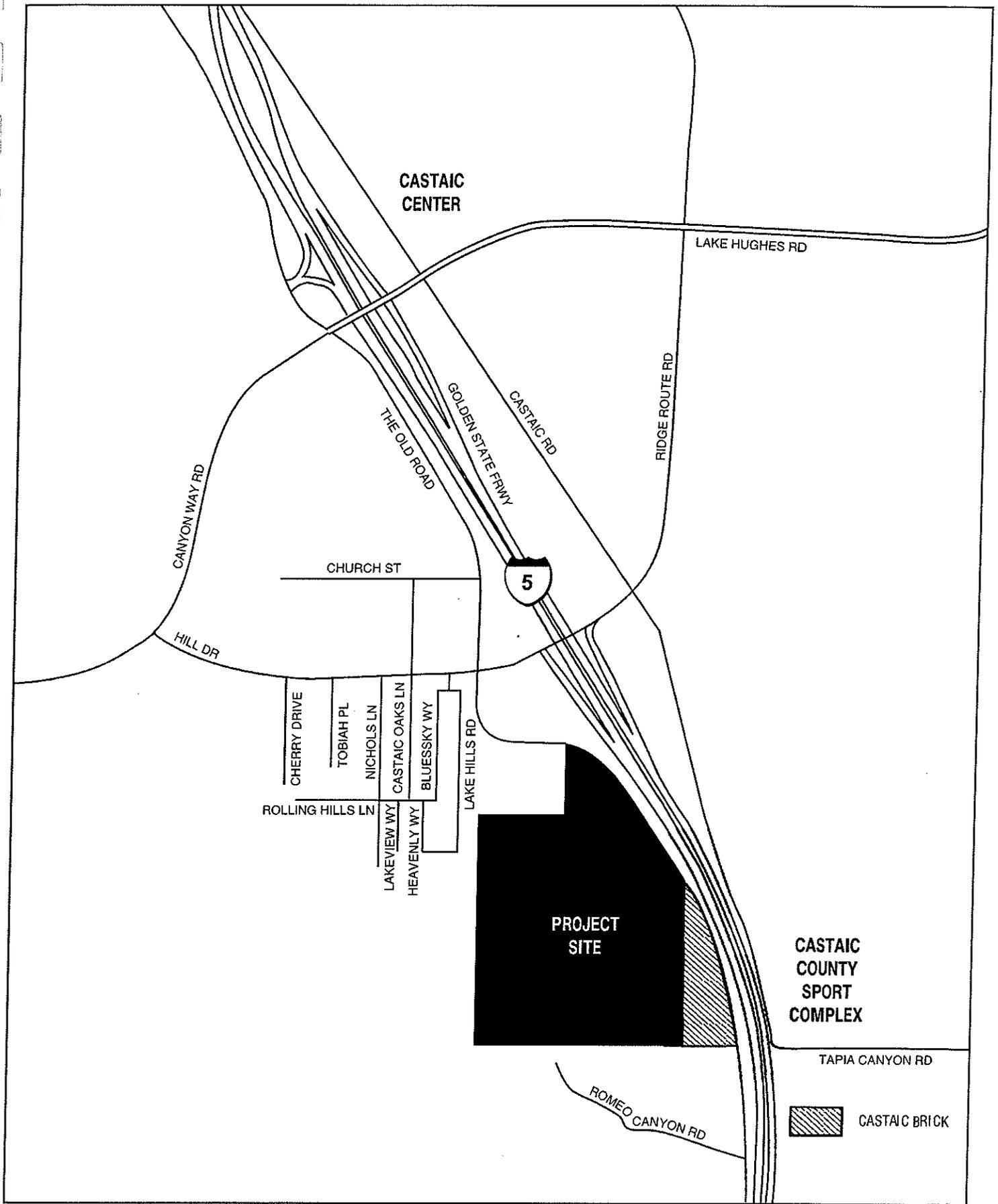
Abrams, L. 1923. *Illustrated Flora of the Pacific States*, Volumes. I, II, and III. Stanford University Press, Stanford, California.

- Abrams, L. 1960. *Illustrated Flora of the Pacific States*. Volume IV. Stanford University Press, Stanford, California.
- Bennett, A. F. 1990. *Habitat corridors and the conservation of small mammals in a fragmented forest environment*. *Landscape Ecol.* 4:109-122.
- California Department of Fish and Game. January 2001. *Rarefind Database*. California Department of Fish and Game, Natural Heritage Division, Sacramento, California.
- California Native Plant Society (CNPS) 2001. *Electronic Inventory of Rare and Endangered Vascular Plants of California*. California Native Plant Society, Sacramento, California.
- California Natural Diversity Data Base (CNDDB). 2002. *List of special plants*. Heritage section, California Department of Fish and Game. (January).
- California, State of. 2002. *CEQA: California Environmental Quality Act, Statutes and Guidelines*. Governor's Office of Planning and Research, Sacramento.
- Garrett, K., and J. Dunn. 1981. *Birds of southern California: status and distribution*. Los Angeles Audubon Soc., Los Angeles, CA. 408 pp
- Harris, L. D., and P.B. Gallagher. 1989. *New Initiatives for Wildlife Conservation; The Need for Movement Corridors*. Pages 11-34 in G. Mackintosh, ed. *Preserving Communities and Corridors*. Defenders of Wildlife., Washington, D.C. 96pp.
- Holland, R. F. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Non-game Heritage Program, State of California Department of Fish and Game, Sacramento, California.
- Holland, V. L., and David J. Keil. 1989. *California Vegetation*. California Polytechnic State University, San Luis Obispo. El Corral Publications, San Luis Obispo.
- MacArthur, R. H. and E. O. Wilson. 1967. *The Theory of Island Biogeography*. Princeton University Press, Princeton, New Jersey.
- Munz, P.A. 1974. *A Flora of Southern California*. University of California Press, Berkeley, California.

- Noss, R. F. 1983. *A Regional Landscape Approach to Maintain Diversity*. BioScience 33:700-706.
- RWQCB (Regional Water Quality Control Board). 2001. Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties.
- Sawyer, J.O. and Keeler-Wolf, T. 1995. *A Manual of California Vegetation*. California Native Plant Society, Sacramento, CA.
- Simberloff, D., and J. Cox. 1987. *Consequences and Costs of Conservation Corridors*. Conser. Biol. 1:63-71.
- Soule, M.E. 1987. *Viable populations for conservation*. Cambridge Univ. Press, New York, New York.
- State of California. 1998. Porter-Cologne Water Quality Control Act of 1998.
- State of California 2001. Fish and Game Code of California
- Stebbins, R. C. 1985. *A Field Guide to Western Reptiles and Amphibians*. 2<sup>nd</sup> ed. Houghton-Mifflin Company. Boston, Massachusetts.
- SWRQB (State Water Resources Control Board). 2001. General Construction Activity Storm Water Permit.
- Thomas Guide. 2001. Los Angeles County.
- USACE (United States Army Corps of Engineers) and CDFG (California Department of Fish & Game). 1998. Section 404 Permit and Section 1603 Streambed Alteration Agreement for Portions of the Santa Clara River and its Tributaries, Los Angeles County, Final Environmental Impact Statement/Environmental Impact Report
- USGS (United States Geological Survey). 1960 (photorevised 1988). 7.5-minute series topographic map for Warm Springs Mountain, California.
- USGS (United States Geological Survey). 1960 (photorevised 1988). 7.5-minute series topographic map for Whitaker Peak, California.

Yerkes, R. F. , and Campbell, R. H. , 1995, Preliminary geologic map of the Newhall 7.5' quadrangle, southern California: A digital database: U.S. Geological Survey Open-File Report 95-0800.

Yerkes, R. F., and Campbell, R. H. , 1995, Preliminary geologic map of the Val Verde 7.5' quadrangle, southern, California: A digital database: U.S. Geological Survey Open-File Report 95-0699.



Not to Scale

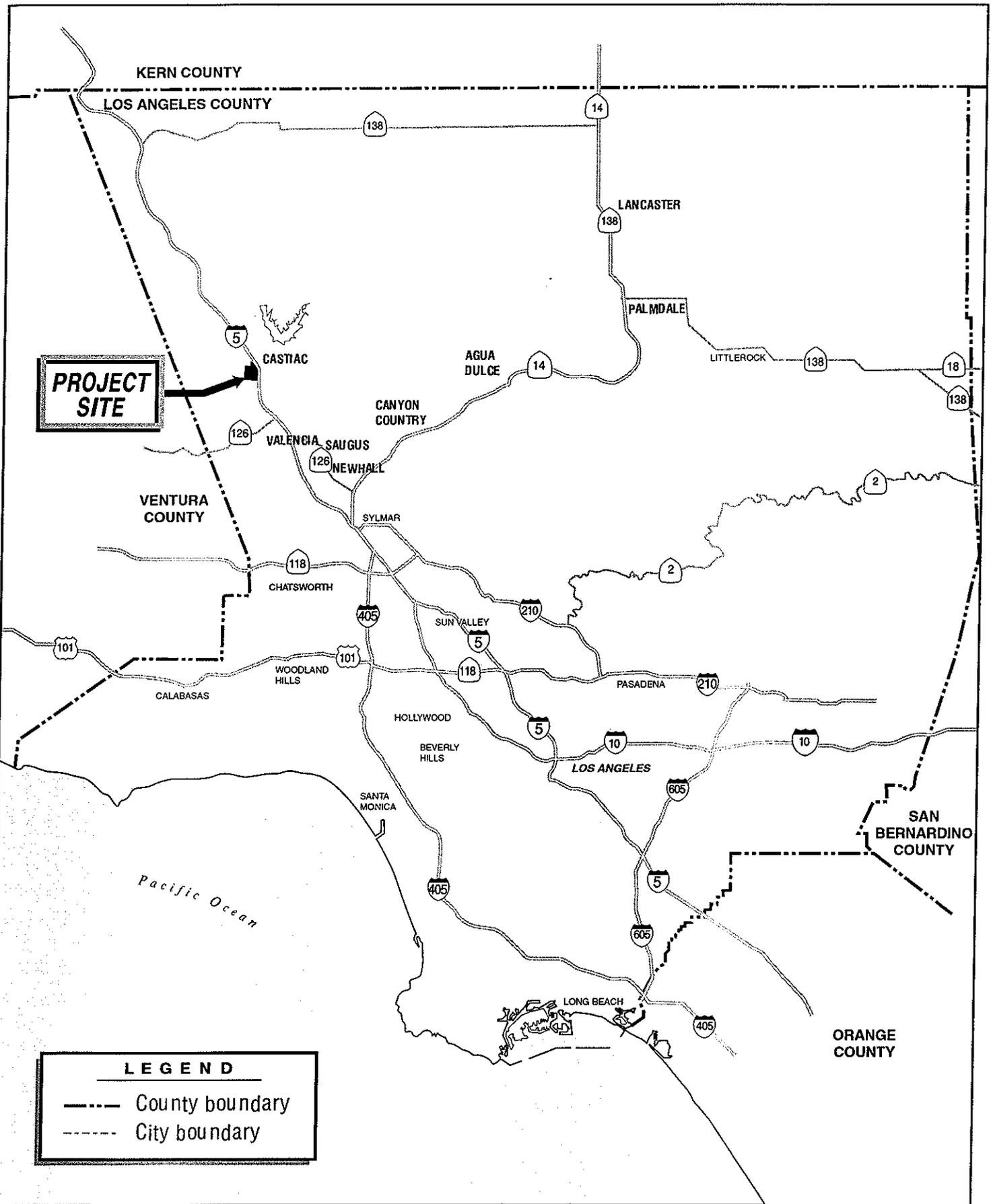
SOURCE: EIP Associates



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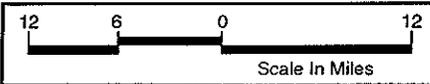
EIP  
ASSOCIATES

FIGURE 1  
**Project Site**  
Castaic Biological Assessment



**PROJECT SITE**

**LEGEND**  
 - - - - - County boundary  
 - · - · - City boundary



**EIP**  
 ASSOCIATES

**FIGURE 2**  
**Regional Setting**



FIGURE 3  
Project Vicinity Aerial Map

Catastic Biological Assessment



Not to Scale

SOURCE: Behram Safavi

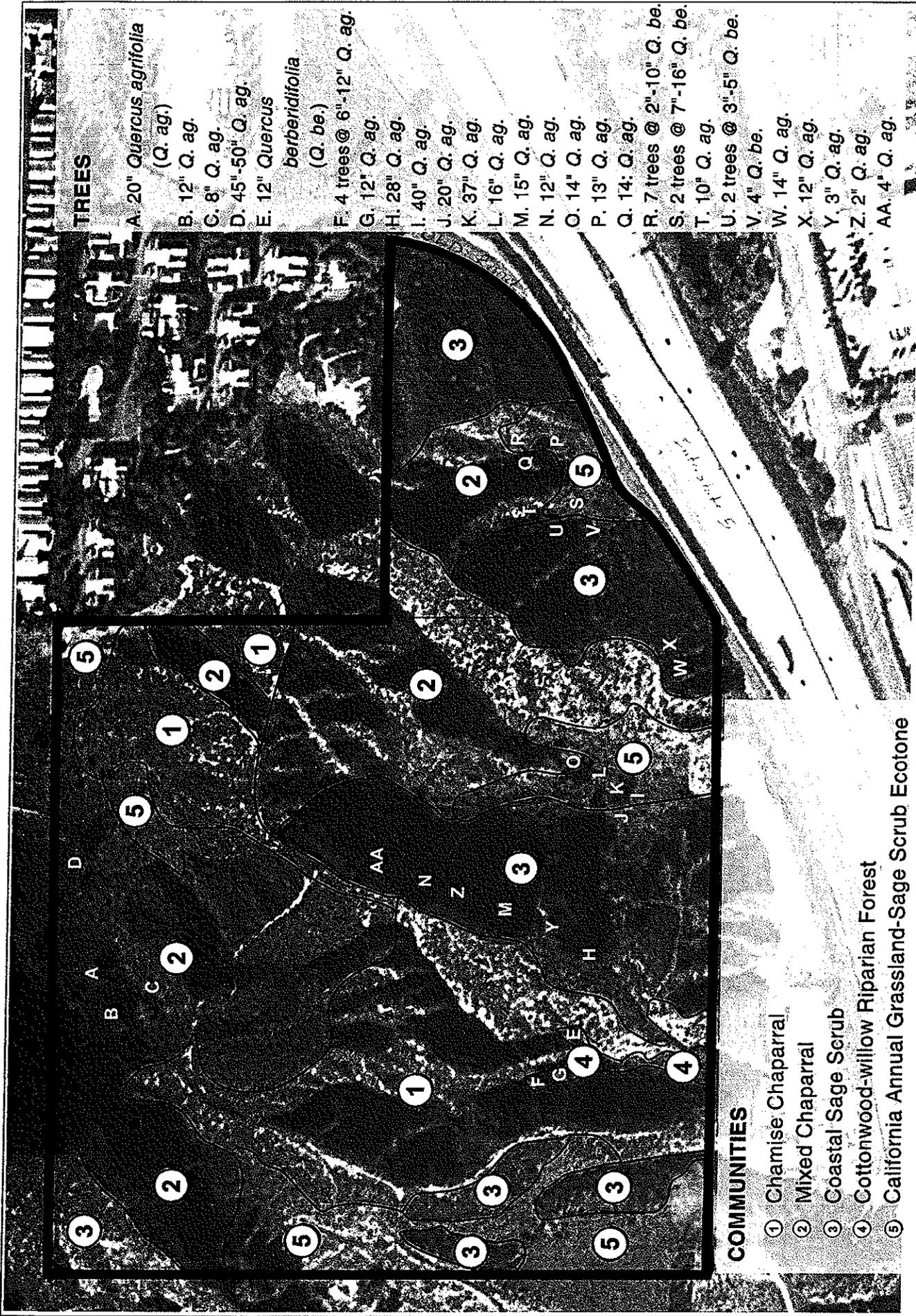
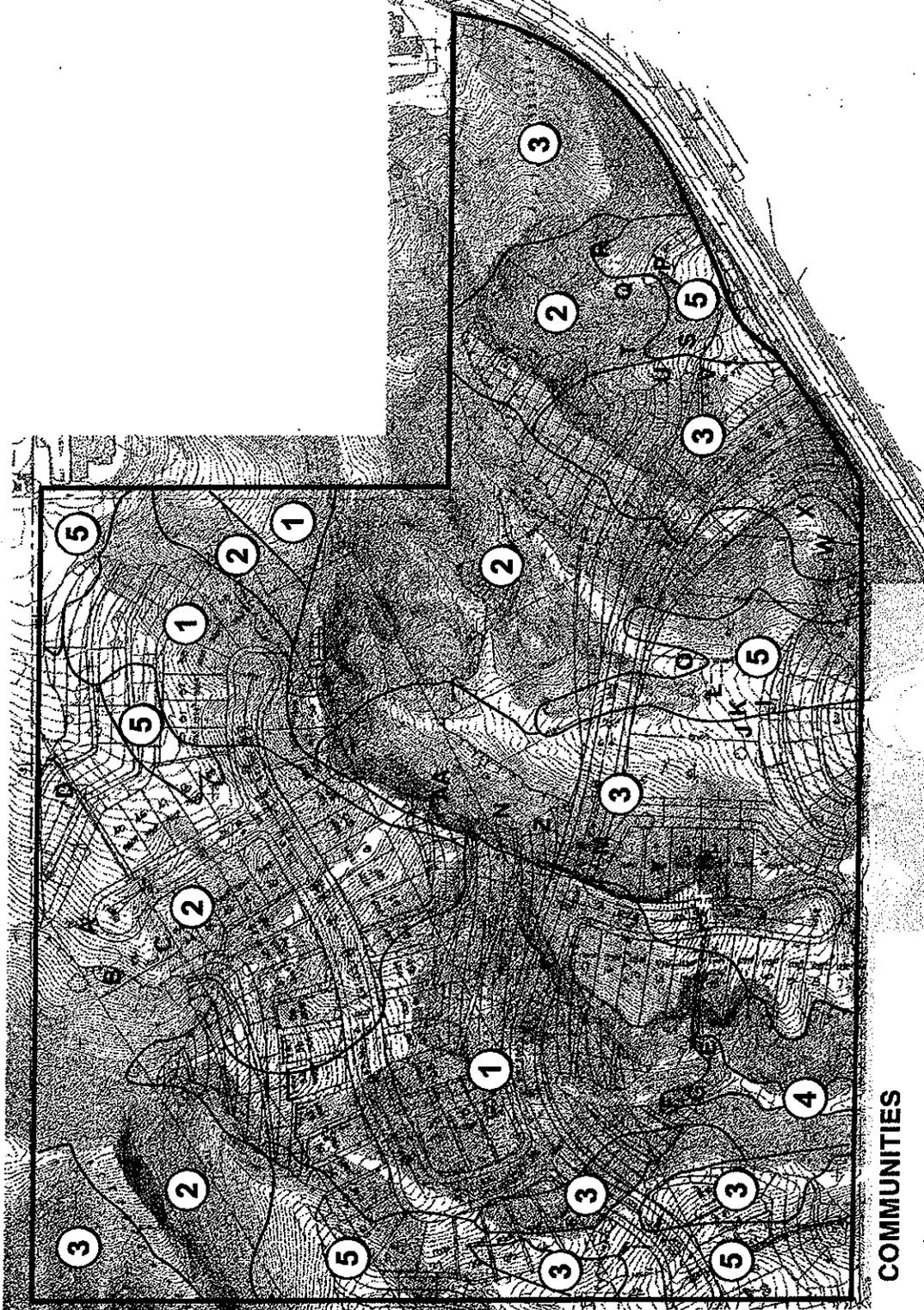


FIGURE 4  
**Vegetation Map & Oak Tree Locations**  
 Castaic Biological Assessment



**TREES**

- A. 20" *Quercus agrifolia* (*Q. ag.*)
- B. 12" *Q. ag.*
- C. 8" *Q. ag.*
- D. 45"-50" *Q. ag.*
- E. 12" *Quercus berberidifolia* (*Q. be.*)
- F. 4 trees @ 6"-12" *Q. ag.*
- G. 12" *Q. ag.*
- H. 28" *Q. ag.*
- I. 40" *Q. ag.*
- J. 20" *Q. ag.*
- K. 37" *Q. ag.*
- L. 16" *Q. ag.*
- M. 15" *Q. ag.*
- N. 12" *Q. ag.*
- O. 14" *Q. ag.*
- P. 13" *Q. ag.*
- Q. 14: *Q. ag.*
- R. 7 trees @ 2"-10" *Q. be.*
- S. 2 trees @ 7"-16" *Q. be.*
- T. 10" *Q. ag.*
- U. 2 trees @ 3"-5" *Q. be.*
- V. 4" *Q. be.*
- W. 14" *Q. ag.*
- X. 12" *Q. ag.*
- Y. 3" *Q. ag.*
- Z. 2" *Q. ag.*
- AA. 4" *Q. ag.*

**COMMUNITIES**

- ① Chamise Chaparral
- ② Mixed Chaparral
- ③ Coastal Sage Scrub
- ④ Cottonwood-willow Riparian Forest
- ⑤ California Annual Grassland-Sage Scrub Ecotone

Not to Scale

SOURCE: Bahram Safavi



**FIGURE 5**  
**Concept Plan Impact Zones**

Castaic Biological Assessment

Appendix A  
Species Lists

Biological Assessment of Tract # 53933 Castaic, California  
EIP Associates May 29, 2002

**TABLE A1 NATIVE PLANT SPECIES OBSERVED WITHIN THE  
CASTAIC PROJECT SITE**

<i>Scientific Name</i>	<i>Common Name</i>
LILIACEAE <i>Yucca whipplei</i>	Our Lord's candle
POACEAE <i>Festuca</i> sp. <i>Hordeum jubatum</i> <i>Leymus condensatus</i> <i>Melica imperfecta</i>	Fescue Foxtail barley Giant wild rye Small-flowered melic
ASTERACEAE <i>Artemisia californica</i> <i>Baccharis pilularis</i> <i>Conyza canadensis</i> <i>Filago californica</i> <i>Gnaphalium californicum</i> <i>Gnaphalium canescens</i> <i>Stephanomeria pauciflora</i> var. <i>pauciflora</i>	California sagebrush Coyote brush Common horseweed California fluffweed California everlasting White everlasting Wire lettuce
CACTACEAE <i>Opuntia ficus-indica</i>	Indian fig
CAPRIFOLIACEAE <i>Lonicera interrupta</i> <i>Sambucus mexicana</i>	Chaparral honeysuckle Blue elderberry
CRASSULACEAE <i>Dudleya cymosa</i>	Rock lettuce
CUCURBITACEAE <i>Cucurbita foetidissima</i>	Calabazilla
ERICACEAE <i>Arctostaphylos glauca</i>	Big berry manzanita
FABACEAE <i>Lotus scoparius</i>	Deer weed
FAGACEAE <i>Quercus agrifolia</i> var. <i>agrifolia</i> <i>Quercus berberidifolia</i>	Coast live oak Scrub oak
GROSSULARIACEAE <i>Ribes malvaceum</i>	Chaparral currant
HYDROPHYLLACEAE <i>Eriodictyon crassifolium</i> <i>Phacelia parryi</i>	Yerba santa Parry's phacelia
LAMIACEAE <i>Salvia leucophylla</i> <i>Salvia mellifera</i>	Purple sage Black sage

**TABLE A1 NATIVE PLANT SPECIES OBSERVED WITHIN THE  
CASTAIC PROJECT SITE**

<i>Scientific Name</i>	<i>Common Name</i>
NYCTAGINACEAE <i>Mirabilis californica</i>	California wishbone bush
ONAGRACEAE <i>Clarkia unguiculata</i>	Elegant fairyfan
POLYGONACEAE <i>Eriogonum fasciculatum</i>	California buckwheat
RHAMNACEAE <i>Ceanothus crassifolius</i> <i>Ceanothus cuneatus</i> var. <i>cuneatus</i> <i>Ceanothus integerrimus</i> <i>Ceanothus leucodermis</i> <i>Rhamnus crocea</i>	Hoaryleaf ceanothus Buck brush Deer brush Chaparral whitethorn Spiny redberry
ROSACEAE <i>Adenostoma fasciculatum</i> <i>Cercocarpus betuloides</i> var. <i>betuloides</i> <i>Heteromeles arbutifolia</i>	Chamise Birch-leaf mountain mahogany Toyon
SALICACEAE <i>Populus fremontii</i> <i>Salix</i> sp.	Fremont's cottonwood Willow
<b>Source:</b> EIP field surveys performed May, 2002.	

**TABLE 1B NON-NATIVE PLANT SPECIES OBSERVED WITHIN THE  
CASTAIC PROJECT SITE**

<i>Scientific Name</i>	<i>Common Name</i>
POACEAE <i>Avena fatua</i> <i>Bromus diandrus</i> <i>Bromus hordeaceus</i> <i>Bromus madritensis</i> <i>Bromus tectorum</i> <i>Poa annua</i> <i>Shismus barbatus</i> <i>Vulpia myuros</i>	Common wild oat Ripgut brome Soft chess Foxtail chess Cheat grass Annual bluegrass Mediterranean shismus Rattail fescue
ASTERACEAE <i>Ageratina adenophora</i> <i>Cirsium vulgare</i>	Sticky eupatorium Bull thistle
BRASSICACEAE <i>Brassica nigra</i>	Black mustard
<b>Source:</b> EIP field surveys performed May, 2002.	

**TABLE A2 WILDLIFE SPECIES OBSERVED ON THE 47 ACRE PARCEL IN CASTAIC CALIFORNIA<sup>1, 2</sup>**

Scientific Name	Common Name
<b>Reptiles</b>	
IGUANIDAE	
<i>Cnemidophorus tigris multiscutatus</i>	Coastal western whiptail*
<i>Sceloporus occidentalis</i> 2	Western fence lizard
<b>Birds</b>	
ACCIPITRIDAE	
<i>Buteo jamaicensis</i>	Red-tailed Hawk
AEGITHALIDAE	
<i>Psaltriparus minimus</i>	Common bushtit
CATHARTIDAE	
<i>Cathartes aura</i>	Turkey vulture
FALCONIDAE	
<i>Falco sparverius</i>	American kestrel
COLUMBIDAE	
<i>Columba livia</i> *	Rock dove (Common pigeon)
<i>Zenaida macroura</i>	Mourning dove
TROCHILIDAE	
<i>Calypte anna</i>	Anna's hummingbird
<i>Calypte costae</i>	Costa's hummingbird
PICIDAE	
<i>Picoides nuttallii</i>	Nuttall's woodpecker
PARULIDAE	
<i>Vermivora celata</i>	Orange-crowned Warbler
TIMALIIDAE	
<i>Chamaea fasciata</i>	Wrentit
HIRUNDINIDAE	
<i>Hirundo pyrrhonota</i>	Cliff swallow
<i>Stelgidopteryx serripennis</i>	Northern rough-winged swallow
CORVIDAE	
<i>Aphelocoma californicas</i>	Western scrub jay
<i>Corvus corvax</i>	Common raven
<i>Corvus brachyrhynchos</i>	American crow
<i>Agelaius phoeniceus</i>	Red-winged blackbird
TURDIDAE	
<i>Pipilo crissalis</i>	California towhee
<i>Pipilo erythrophthalmus</i>	Spotted towhee
MIMIDAE	
<i>Mimus polyglottos</i>	Northern mockingbird
<i>Toxostoma redivivum</i>	california thrasher
BOMBYCILLIDAE	
<i>Bombycilla cedrorum</i>	Cedar waxwing

**TABLE A2 WILDLIFE SPECIES OBSERVED ON THE 47 ACRE PARCEL IN CASTAIC CALIFORNIA<sup>1, 2</sup>**

Scientific Name	Common Name
<b>EMBERIZIDAE</b> <i>Aimophila ruficeps canescens</i> <i>Spizella atrogularis</i> <i>Melospiza melodia</i>	Southern California rufous-crowned sparrow * Black-throated sparrow Song sparrow
<b>ICTERIDAE</b> <i>Icterus bullockii</i> <i>Molothrus ater</i>	Bullock's oriole Brown-headed cowbird
<b>FRINGILLIDAE</b> <i>Carduelis psaltria</i> <i>Carduelis tristis</i> <i>Carpodacus mexicanus</i>	Lesser goldfinch American goldfinch House finch
<b>PLOCEIDAE</b> <i>Passer domesticus</i>	House sparrow
<b>APODIDAE</b> <i>Aeronautes saxatilis</i>	White-throated swift
<b>ODONTOPHORIDAE</b> <i>Callipepla californica</i>	California quail
<b>PTILOGONATIDAE</b> <i>Phainopepla nitens</i>	Phainopepla
<b>STURNIDAE</b> <i>Sturnus vulgaris</i>	European starling
<b>THRAUPIDAE</b> <i>Piranga ludoviciana</i>	Western tanager
<b>TYRANNIDAE</b> <i>Tyrannus verticalis</i> <i>Sayornis nigricans</i> <i>Myiarchus cinerascens</i>	Western kingbird Black phoebe Ash-throated flycatcher
<b>TROGLODYTIDAE</b> <i>Thryomanes bewickii</i> <i>Troglodytes aedon</i>	Bewick's wren House wren
<b>Mammals</b>	19 (41)
<b>CERVIDAE</b> <i>Odocoileus hemionus</i>	Mule deer
<b>CANIDAE</b> <i>Canis latrans</i>	Coyote
<b>SCIURIDAE</b> <i>Spermophilus beecheyi</i> <i>Sciurus griseus</i>	California ground squirrel Western gray squirrel
<b>GEOMYIDAE</b> <i>Thomomys bottae</i>	Botta's pocket gopher

**TABLE A2 WILDLIFE SPECIES OBSERVED ON THE 47 ACRE PARCEL IN CASTAIC CALIFORNIA<sup>1, 2</sup>**

Scientific Name	Common Name
MURIDAE	
<i>Peromyscus maniculatus</i>	Deer mouse
<i>Neotoma sp.</i>	Woodrat** (2)

1. Taxonomy and nomenclature follows American Ornithologists' Union (1983) and supplements for birds, and Laundenslayer et al. (1991) for amphibians, reptiles and mammals.
2. This is not intended to be an exhaustive list of all bird species that may occur at one time or another on the project site during their migration.

\* Indicates a State Species of Special Concern

\*\* Identified from woodrat house - species may be either *Neotoma lepida*, *N. cinerea*, or *N. lepida intermedia*\*

Source: EIP field survey performed 14 May 2002

# Appendix B

## Regulatory Framework

Biological Assessment of Tract # 53933 Castaic, California  
EIP Associates May 29, 2002

## **APPENDIX B: Regulatory Framework**

### ***Federal Regulations***

#### ***Section 404 of the Clean Water Act***

Section 404 of the Clean Water Act requires that a permit be obtained from the U.S. Army Corps of Engineers (Corps) prior to the discharge of dredged or fill materials into any "waters of the United States," including wetlands. Waters of the United States are broadly defined in the Corps' regulations (33 CFR 328) to include navigable waterways, their tributaries, lakes, ponds, and wetlands. Wetlands are defined as: "Those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas." Such permits often require mitigation to offset losses of these habitat types. Wetlands that are not specifically exempt from Section 404 regulations (such as drainage channels excavated on dry land) are considered to be "jurisdictional wetlands." The Corps is required to consult with the USFWS, Environmental Protection Agency (EPA), State Regional Water Quality Control Board (RWQCB), and the CDFG in carrying out its discretionary authority under Section 404. A wetlands delineation would determine if a Section 404 Corps permit could be required for this project..

#### ***Section 401 of the Clean Water Act***

A Section 401 Water Quality Certification, or waiver thereof, is required from the RWQCB before a Section 404 permit becomes valid. The Regional Board will review the project for consistency with Waste Discharge Requirements under the State land disposal regulations (Subchapter 15). In reviewing the project, the Regional Board will also consider impacts to waters of the United States, in addition to filling of wetlands, in accordance with the State wetland policy. Usually, mitigation is required (if not already a condition of the 404 permit) in the form of replacement or restoration of adversely impacted "waters of the U.S." A Section 401 Water Quality Certification or waiver from the California Regional Water Quality Control Board could be required for this project.

#### ***Migratory Bird Treaty Act of 1918***

The Migratory Bird Treaty Act makes it unlawful to "take" (kill, harm, harass, etc.) any migratory bird listed in 50 CFR 10, including their nests, eggs, or products. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, and many other species.

### *Federal Endangered Species Act of 1973*

Section 3 of the Federal Endangered Species Act (FESA) defines an endangered species as any species or subspecies "in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as any species or subspecies of fish, wildlife, or plants "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Threatened or endangered species and their critical habitat are designated through publication of a final rule in the *Federal Register*. Designated endangered and threatened animal species are fully protected from "take" unless an applicant has an incidental take permit issued by the USFWS under Section 10 or incidental take statement issued under Section 7 of the FESA. A take is defined as the killing, capturing, or harassing of a species. Proposed endangered or threatened species or their critical habitat are those for which a proposed regulation, but not final rule, has been published in the Federal Register.

Section 7 of the FESA requires that Federal agencies ensure that their actions (including permitting) are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify its critical habitat. This obligation requires Federal agencies to consult with the USFWS on any actions that may affect listed species (including approving or authorizing Federal projects, allocating Federal funding for Federal or private projects, or issuing permits for private projects) to ensure that reasonable and prudent measures will be undertaken to mitigate impacts on listed species. Consultation with USFWS can be either formal or informal depending on the likelihood that the action will adversely affect listed species or critical habitat. Once a formal consultation is initiated, USFWS will issue a Biological Opinion (either a "no jeopardy" or a "jeopardy" opinion) indicating whether the proposed agency action will likely jeopardize the continued existence of a listed species or result in the destruction or modification of its critical habitat. A permit cannot be issued for a project with a "jeopardy" Biological Opinion unless it is redesigned to lessen impacts. The Biological Opinion also provides an incidental take statement that identifies the anticipated amount or extent of incidental take that will occur as result of the proposed action or an action modified by reasonable and prudent alternatives. It should be noted that an incidental take statement is not a permit and therefore does not authorize or formally

permit incidental take. It does however provide for compliance with the FESA as long as the Biological Opinion's reasonable and prudent measures are implemented and the incidental take does not exceed the amount or extent of take anticipated.

Section 10 incidental take permits provide incidental take coverage for private applicant's projects or actions that do not have a federal nexus (e.g., either federal permitting or funding). Issuance of a Section 10 incidental take permit may require the private permit applicant to prepare a Habitat Conservation Plan (HCP) that specifies the measures that will be implemented to minimize and mitigate impacts from incidental take. It should be noted that federally-listed plants occurring on private land with no other federal jurisdiction are not subject to the Section 9 take provisions. However, federally-listed plants are subject to the Section 7(a)(2) prohibition against jeopardy. Therefore, since an internal Section 7 consultation must be conducted prior to the issuance of a Section 10(a)(1)(B) (i.e., the USFWS consults with itself concerning the issuance of the permit), an applicant must ensure that the actions proposed in the HCP are not likely to jeopardize any federally-listed plant species.

### ***State Regulations***

#### ***California Endangered Species Act***

The California Endangered Species Act (CESA) declares that deserving plant or animal species will be given protection by the State because they are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the State. CESA establishes that it is State policy to conserve, protect, restore, and enhance endangered species and their habitats. Under State law, plant and animal species may be formally designated as rare, threatened, or endangered through official listing by the California Fish and Game Commission.<sup>ii</sup> Listed species are given greater attention during the land use planning process by local governments, public agencies, and landowners than are species that have not been listed.

On private property, endangered plants may also be protected by the Native Plant Protection Act (NPPA) of 1977. Threatened plants are protected by CESA, and rare plants are protected by the NPPA. However, CESA authorizes that "Private entities may take plant species listed as endangered or threatened under the FESA and CESA through a Federal incidental take permit issued pursuant to Section 10 of the FESA, if the CDFG certifies that the incidental take statement or incidental take permit is consistent with CESA."<sup>iii</sup> In addition, the California Environmental Quality Act

(CEQA)<sup>iv</sup> requires disclosure of any potential impacts on listed species and alternatives or mitigation that would reduce those impacts.

*California Environmental Quality Act – Treatment of Listed Plant and Animal Species*

FESA and CESA protect only those species formally listed as threatened or endangered (or rare in the case of the State list). Section 15380 of the CEQA Guidelines independently defines "endangered" species of plants or animals as those whose survival and reproduction in the wild are in immediate jeopardy and "rare" species as those who are in such low numbers that they could become endangered if their environment worsens. Therefore, a project normally will have a significant effect on the environment if it will substantially affect a rare or endangered species of animal or plant or the habitat of the species. The significance of impacts to a species under CEQA must be based on analyzing actual rarity and threat of extinction despite legal status or lack thereof.

*State of California – Sections 1601-1603 of the California Fish and Game Code*

Streambeds and other drainages that occur within the project site are subject to regulation by the CDFG. The CDFG considers most drainages to be "streambeds" unless it can be demonstrated otherwise. A stream is defined as a body of water that flows at least periodically or intermittently through a bed or channel with banks and supports fish or other aquatic life. This includes watercourses having a surface or sub-surface flow that supports, or has supported, riparian vegetation. CDFG jurisdiction typically extends to the edge of the riparian canopy, and therefore, usually encompasses a larger area than Corps jurisdiction. A CDFG Streambed Alteration Agreement would likely be required for this project.

*State of California – Sections 3503, 3503.5, 3800 of the California Fish and Game Code*

These sections of the Fish and Game Code prohibit the "take, possession, or birds, their nests or eggs." Disturbance that causes nest abandonment and/or loss of reproductive effort (killing or abandonment of eggs or young) is considered a "take." Such a take would also violate Federal law protecting migratory birds.<sup>v</sup>

Incidental Take Permits (i.e., Management Agreements) are required from the CDFG for projects that may result in the incidental take of species listed by the State of

California as endangered, threatened, or candidate species. The permits require that impacts to protected species be minimized to the extent possible and mitigated to a level of insignificance.

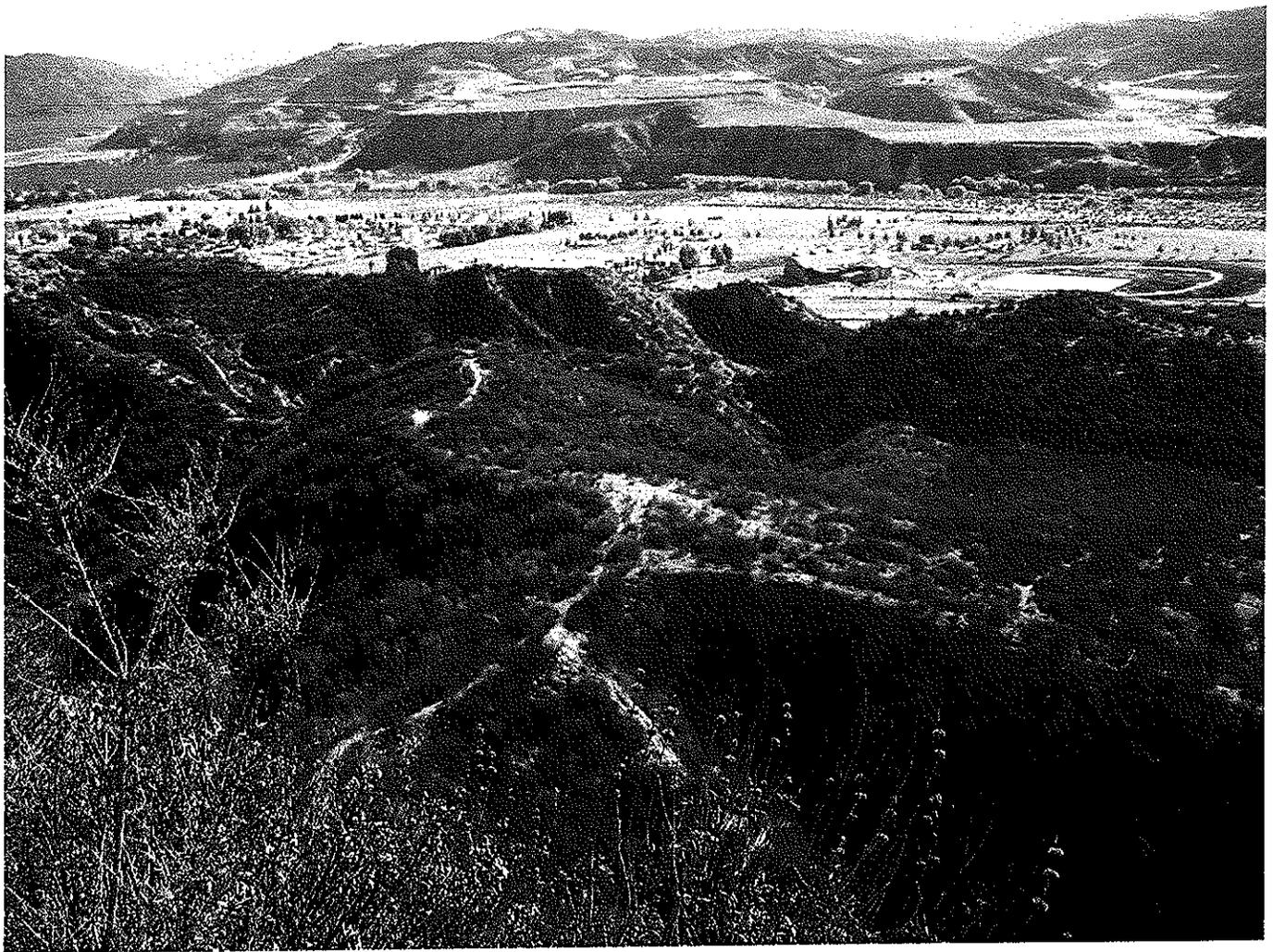
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- i. Code of Federal Regulations, *Wetlands definition*, CE Federal Register, 1982 and EPA Federal Register, 1980.
- ii. Code of Federal Regulations, *Final Notice of Issuance and Modification of Nationwide Permits*, 65 CFR 12818-12899, Volume 65(47), March 9, 2000.
- iii. California Endangered Species Act, 14 CCR 670.5.
- iv. Public Resources Code, Section 21000 et seq.
- v. Migratory Bird Treaty Act, 1918.



Appendix C  
Site Photographs

Biological Assessment of Tract # 53933 Castaic, California  
EIP Associates May 29, 2002



Not to Scale

SOURCE: EIP Associates



10661-00

**EIP**  
ASSOCIATES

APPENDIX C PHOTO 1  
**View Looking East**

Castaic Biological Assessment



Not to Scale

SOURCE: EIP Associates

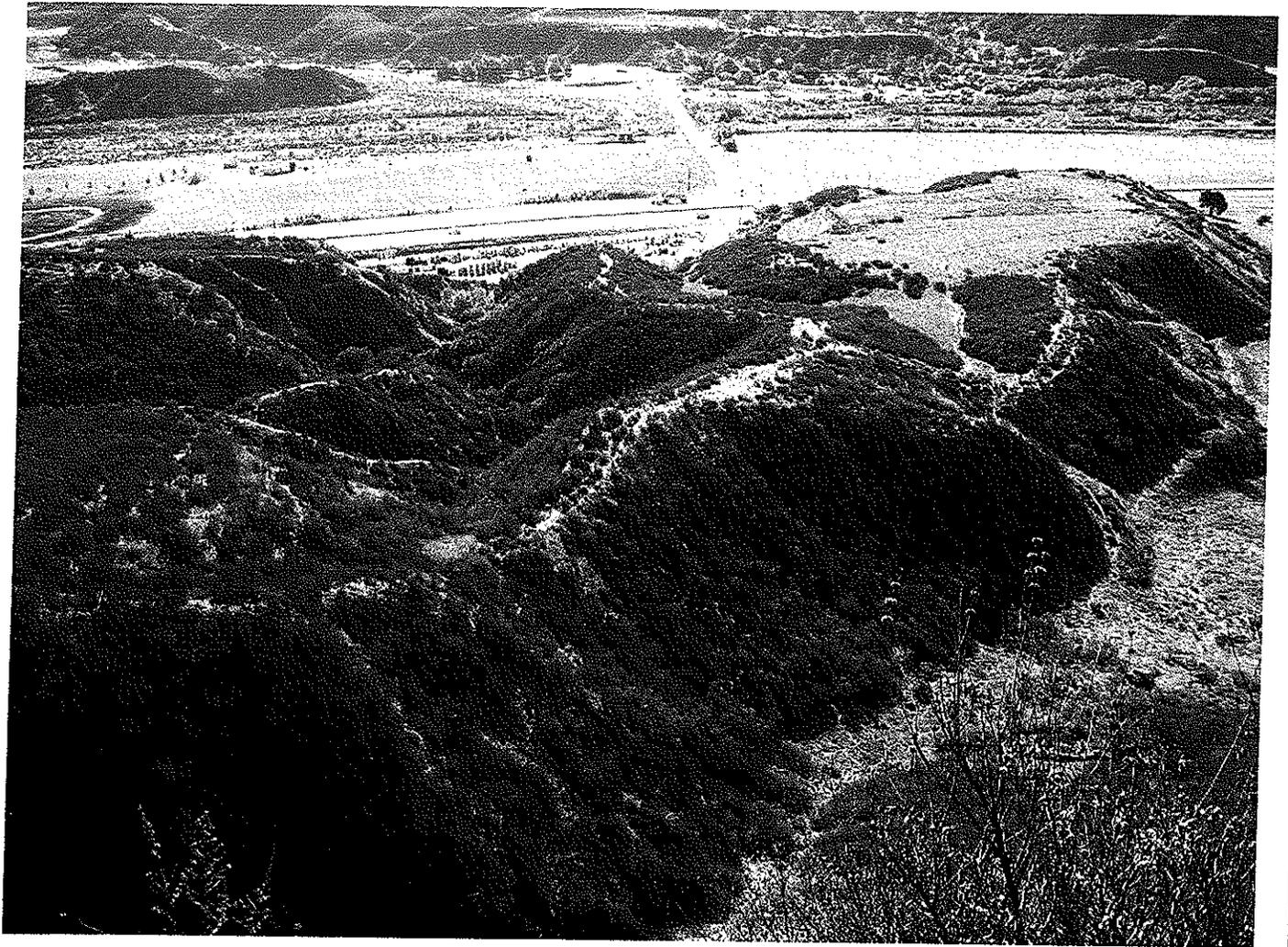


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**EIP**  
ASSOCIATES

APPENDIX C PHOTO 2  
**View Looking Northeast**

Castaic Biological Assessment



Not to Scale

SOURCE: EIP Associates



10661-00

**EIP**  
ASSOCIATES

APPENDIX C PHOTO 3  
**View Looking Southwest**

Castaic Biological Assessment

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*TREES, etc, Oak Tree Report*



TREES, etc.

# OAK TREE REPORT

## **Vesting Tentative Tract 53933**

The Old Road, Castaic  
Los Angeles County, Ca 91384

for

**Bahram Safavi**  
P.O. Box 34898  
Los Angeles, Ca 90034

by

***TREES, etc.***

[a division of RDI & Associates, Inc.]

P.O. Box 4583

Thousand Oaks, Ca 91359

E-Mail: [treesetc.richard@verizon.net](mailto:treesetc.richard@verizon.net)

Phone: 805-558-TREE (8733)

Fax: 805-493-8332

RDI Project No. 526-1-04  
Original Date: February 17, 2004  
1<sup>st</sup> Revision Date: June 18, 2008

## Revised OAK TREE REPORT

VTT 53933, Castaic, Ca

RDI Project No. 526-1-04

The following are our field observations (of January 19 & 21, 2004 and May 26, 2008) & recommendations pertinent to the 24 Oak trees at (on-property) & 9 Oak adjacent (off-property) to the above-mentioned site. This proposed residential & commercial project is bordered on the easterly side by The Old Road, south of Parker Road, in the Castaic area of Los Angeles County, Ca ["The Thomas Guide 2008 – Los Angeles & Ventura Counties street guide" page 4369 // section H-7].

This report is prepared in accordance with Section 22.56.2050 of the Los Angeles County "Oak Tree Permit Regulations (adopted September 13, 1988)" relating to the "Oak Tree Preservation Guidelines". It shall be the policy of Los Angeles County to require the preservation of all Oak trees unless compelling reasons justify the removal of such trees. The policy shall apply to the removal, pruning, cutting and/or the encroachment into the Protected Zone of Oak trees. The Los Angeles County Fire Department – Forestry Division (LACoFD-FD) shall have the primary & overall responsibility to administer, evaluate and monitor this policy. No person, partnership, firm, corporation, government agency, or other legal entity shall cut, prune, relocate, endanger or damage any tree protected by ordinance on any public or private land within the unincorporated areas of Los Angeles County except in accordance with the conditions of a valid Oak Tree Permit issued by Los Angeles County pursuant to the provisions of Section 22.56.2050.

Included within this report are the following: three (3) **OAK TREE PHOTOGRAPHS (on-property proposed removals only)** sheets [printed on both sides], three (3) **TREE EVALUATIONS (on-property Oaks only)** sheets, three (3) **TREE CANOPY MEASUREMENTS (on-property Oaks)** sheets, one (1) **TREE EVALUATIONS (off-property Oaks)** sheet, one (1) **TREE CANOPY MEASUREMENTS (off-property Oaks)** sheet, two (2) **COMPATIBLE NATIVE PLANTS W/IN OR AROUND OAK TREE DRIPLINES (CNPS)** sheets, and one (1) **TREE LOCATION MAP** (derived from the '80 scale' "Vesting Tentative Map", as produced by SR Consultants West, Inc., dated May 21, 2008). It should be noted, that the trees on the enclosed **TREE LOCATION MAP** are only approximated as to their field locations.

### Plan Review

1. On the date of our 'most current' field review we found 24 "of-size" Coast Live Oak (*Quercus agrifolia*) trees on site & 9 Coast Live Oaks around (within 200') the site.
2. Pursuant to the enclosed **TREE LOCATION MAP**, the following is proposed:

#### Tree No(s).      Disposition//Requested Encroachment

- |        |  |
|--------|--|
| 1 to 5 | <b>SAVES</b> = these 5 Coast Live Oaks, located within 'Open Space Lot 72' shall be saved. Depending on the exact location of Oak #5, it may be encroached upon from adjacent project grading. |
| 6 & 7  | <b>Removals</b> = these 2 Coast Live Oaks, located in the "graded slope" above Lot 36 shall be removed for project construction. See the photos of these trees within this report.             |
| 8      | <b>Remove</b> = this Coast Live Oak, located in the "graded slope" below Lot 44 shall be removed for project construction. See the photo of this tree within this report.                      |

**Revised OAK TREE REPORT**

VTT 53933, LACo, Ca

RDI Project No.: 526-1-04

Page 2 of 6

Tree No(s).      Disposition//Requested Encroachment

- 9 to 11      Removals = these 3 Coast Live Oaks, located in the "graded slope" below Lot 6 shall be removed for project construction. See the photos of these trees within this report.
- 12 to 15      Removals = these 4 Coast Live Oaks, located in the 'Commercial Lot 75' shall be removed for project construction. See the photos of these trees within this report.
- 16      Remove = this Coast Live Oak, located in the "graded slope" below Lot 2 shall be removed for project construction. See the photo of this tree within this report.
- 17 to 19      **SAVES** = these 3 Coast Live Oaks, located within 'Open Space Lot 73' shall be saved. Depending on the exact location of these Oaks, they may be encroached upon from adjacent project grading.
- 20 & 21      Removals = these 2 Coast Live Oaks, located in the "graded slope" between the 'Commercial Lot 75' & 'The Old Road' shall be removed for project construction. See the photos of these trees within this report.
- 22 to 24      **SAVES** = these 3 Coast Live Oaks, located within 'Open Space Lot 73' shall be saved. Depending on the exact location of these Oaks, they may be encroached upon from adjacent project grading.
- OP-1 to OP-9      **SAVES** = these 9 'off-property' Coast Live Oaks, located to the south & west of this parcel shall be saved. Depending on the exact location of Oak #OP-9, it may be encroached upon from adjacent project grading. Oaks #Op-1 & #OP-5 are Heritage Oaks.

In summary, the following is proposed:

Total quantity of Oaks that were inventoried =	33 (including 9 off-property Oaks)
SAVES =	20 (numbered: 1-5, 17-19, 22-24 & OP1-OP9)
Removals =	13 (numbered: 6-16, 20 & 21)

**Field Observations**

1. In our first Oak Tree Report (dated February 17, 2004) for this project, we covered 28 Oaks (26 Coast Live Oaks & 2 Scrub Oaks [*Quercus* sp.]). Since that time this project, as well as this area, have experience a few major fires. This explains why the difference in overall tree locations & types.
2. The trees are inventoried as to their specie, health & aesthetic considerations. This inventory was reviewed in accordance with presently accepted industry procedures, which are of macro-visual observations only. No extensive microbiological, soil-root excavations, upper crown examination, nor internal tree investigations were conducted.
3. This project's on-property trees were tagged with rectangular (3/4"x3") metal tags with numbers written in black on them. The report's inventoried off-property trees were not tagged, but are only map numbered & approximately located.

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### 4. Definitions:

- A. This inventory includes the measuring of trunk diameters of 8" & larger for a single trunk and 12" in diameter & larger for a multiple trunk (when the two largest trunks are added together) at 4½' above existing grade. It should be noted that these dimensions might change in the next growing season(s) following our initial field measurements.
- B. The "dripline" or "canopy spread" is defined as the outermost edge of the tree's canopy when viewed from above. These measurements were taken at a minimum of four compass directions (north, south, east & west). The dripline is measured in feet. If one or more sides is measured as "0" feet, this means that there is no canopy at that/those location(s). It should be noted that these dimensions might change in the next growing season(s) following our initial field measurements.
- C. The "Protected Zone" is defined as the area at least 5' beyond the dripline or 15' from the trunk, whichever distance is greater, when viewed from above.
- D. A "Heritage Oak" in Los Angeles County is any Oak tree that has at least one trunk that is at least 36" in diameter. It is also any Oak tree having a significant historical or have cultural importance to the community, not withstanding that the tree diameter is less than 36" (as identified officially by the local Los Angeles County Resource Conservation District).

### Tree Replacement Program

1. This project shall plant 15-gallon specimen "natural growing" trees as mitigation "replacements" for each approved removal on a 2:1 ratio. Therefore, this project shall plant a minimum of twenty-six (26) 15-gallon specimen "natural growing" trees as mitigation "replacements".
2. The above noted trees shall be planted in the "open space" areas of this project. See the enclosed **TREE LOCATION MAP** for the approximate locations of these mitigation trees (labeled as "Oak Tree Planting Mitigation Area").

### Tree Care & Maintenance

1. No "new" landscape, irrigation lines, utility lines and/or grade changes shall be designed and/or installed within the dripline and/or Protected Zones of any on-site native Oak trees, unless approved by the Los Angeles County Fire Department – Forestry Division (LACoFD-FD). If planting is necessary or the leaf litter is removed, the following is recommended:
  - A. Plant Material – only drought tolerant plantings should be used. All plantings should be compatible with the on-site native Oak trees. See the enclosed list "Native Plants Compatible within or around the Oak tree driplines" for some of these plants.

If additional plants are desired around the Oak trees, then use "acceptable" natives & follow these guidelines:

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1. Plant no closer than 10' from any tree trunk.
  2. Plant 1-gallon specimens or smaller, as these plants will establish faster than larger containers.
  3. Use only native backfill with no amendments.
  4. Mulch with an insect/disease free material as needed (minimum) 2" thick, to cover the soil for better water retention, to assist in lessening compaction, and for supplying organic material.
  5. Water only once per week (or when necessary) by using a drip, or similar, irrigation system to a 3' depth. Place the emitters (min. 3/plant) at the edge of the rootball. After the 1<sup>st</sup> year move the emitters 12" away from their original locations. After the 3<sup>rd</sup> year move them another 12" out. By the 4<sup>th</sup> year, the system may be removed or shut-off.
- B. Irrigation – spray-type irrigation systems should not be used within the driplines and/or Protected Zones. The irrigation systems should not spray onto the tree trunks and/or within 5' of the tree trunks or exposed roots. A continuously wet condition in this area favors unfavorable disease organisms to form, such as Avocado Root Rot (*Phytophthora cinnamomi*) and/or Oak Root Fungus (*Armillaria mellea*).
- C. Resistant Plant Varieties – avoid plants that are susceptible to either Avocado Root Rot or Oak Root Fungus.
2. Natural rainfall should be sufficient to provide enough water for the Oak trees. Oaks in landscape areas will usually receive enough water from the adjacent & nearby plantings.
    - A. Watering – if it is needed in addition to the natural rainfall, a water probe should first be used to help determine the need. Watering may be accomplished by using a "Ross Root Feeder", a low volume soaker hose, drip systems, etc. The water should percolate through the entire root area & the surrounding soil to a 5' depth. Water as necessary, but generally not in the summer time.
    - B. Fertilization – can generally be applied when the tree is being watered. A total of 0.75 lbs. of actual nitrogen (N) per inch of trunk diameter per year (basic "rule of thumb") is adequate. All fertilizer applications should be based on the most current soil analysis for correct rates. Fertilizing should only be done in the late spring. Fertilizer may be broadcast or applied through a deep-root watering system, depending on the specific tree & site conditions.
  3. The "bare" areas within the driplines and/or Protected Zones of this on-site or "over-hanging" or within 50' of approved grading/construction of the site's (native Oak) trees should be covered with an insect & disease free organic mulch. This is done to help alleviate compaction. Compaction is the compression of the soil from walking or equipment uses. When it occurs under or around the tree the roots may be adversely affected. The tree growth may be stunted. All compaction created shall be remedied as soon as possible. The following should alleviate compaction from occurring:

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- A. Mulching – place a 2"-4" layer of a light fluffy (insect/disease free) mulch around the tree beginning 6" from the trunk & extending to about 10' outside of the dripline. Mulch can consist of walnut shells, shredded bark or leaf litter. The mulch size shall be at least 1"-2" in size.
  - B. Grade changes – of as little of 6", within the dripline, can have a negative affect to the trees. It is important that the natural drainage patterns be maintained to help prevent water from "ponding" at the base of the tree trunk. The natural trunk flare should always be visible.
  - C. Aeration – is the ventilation of the root system, which can be very beneficial in compacted areas. To alleviate a compaction problem, hand-dug holes of 6" dia. by 24" deep by 24" on-center to about 10' outside of the dripline. Fill the holes with natural organic matter (leaf litter). This material will decompose & will produce a year-around source of fertilizer for the tree.
4. Most Oak trees require little or no live wood pruning within their canopies. No major structural pruning shall be allowed. A qualified arborist under the review of *RDI & Associates, Inc. (dba TREES, etc.)* shall complete all dead wood removal and/or pruning.
- A. Dead wood pruning removal – is the removal of dead tissue, no matter the size, is an acceptable practice. All pruning should follow the standards as set forth by the International Society of Arboriculture (ISA).
  - B. Live wood pruning removal – live branches that are considered to be unsafe due to decay; branches with cavities, cracks, fire damaged, diseased or infested with insects; branches that are physically imbalanced; especially branches with the above noted problems that are over 2" in diameter should be considered for removal. All pruning should follow the standards as set forth by the ISA.
  - C. Cavities & hollows – should be kept free of loose debris, soil & plants. Some contain decayed wood, which should be treated by a qualified arborist only. Concrete or other similar materials should not be used to seal or fill in cavities or hollows. Cavities or hollows may be covered with screening to prevent debris build-up.
  - D. Wound Sealants – pruning wounds should not be sealed with any type of "pruning wound sealing compounds". Over time, these materials crack & can create entry points for diseases and/or insects. Wounds will heal properly if pruned correctly.

### Specific & Overall Recommendations

1. The 'saved' native Oak trees within 50' from proposed construction shall be fenced with a temporary chainlink (or similar) protective fence at their driplines or Protected Zones (or at the location of approved encroachment) prior to the start of any on-site grading. This fencing shall remain intact until this Consulting Arborist and/or LACoFD-FD allows it to be removed or relocated.

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2. If necessary, all footing excavations within the driplines and/or Protected Zones shall be dug by hand work only, to a maximum depth of 5' (or to a depth that CAL-OSHA, OSHA or local codes allow). If any roots are encountered, they shall be cleanly excised (& not sealed). Any excavation below the "approved" depth may be done with acceptable machinery.
3. It is anticipated that no other on-site (native Oak) trees shall be encroached upon within their driplines and/or Protected Zones, other than what is being requested. But, depending on the exact locations of Oaks numbered: 5, 17-19, 22-24 & OP-9, they may be encroached upon from adjacent project grading.
4. No 'over-excavation' outside of any cut and/or fill slopes ("tops" or "toes") for the proposed construction shall occur within the dripline and/or Protected Zone of any on-site native Oak trees, unless required by the project's structural engineer, and approved by Los Angeles County.
5. All work, to this project's native Oak trees, shall be in accordance with LACo 'Oak Tree Ordinance' and tree policies.
6. Prior to the completion of this project, **RDI & Associates, Inc. (dba TREES, etc.)** shall certify in a 'letter of compliance', that the 'Oak Tree Ordinance' and all concerned tree policies have been adhered to.
7. Copies of this report and the 'Oak Tree Ordinance' shall be maintained on site during all project construction.

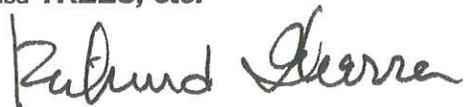
**NOTICE of DISCLAIMER** = Opinions given in this report are those of **RDI & Associates, Inc. (dba TREES, etc.)**, and are derived from current professional standards based on visual recordings at the time of inspection. This visual record does not include aerial or subterranean inspections, and therefore may not reveal existing hidden hazards. Records may not remain accurate after inspection due to changeable deterioration of the inventoried plant material. **RDI & Associates, Inc. (dba TREES, etc.)**, provides no warranty regarding errors of omission resulting from the lack of communication of facts available only to the requester of this report which are expressed or implied as to the fitness of the urban forests for safe uses. **RDI & Associates, Inc. (dba TREES, etc.)** has no past, present or future interest in this property or the subject trees. This report may not be reproduced without the expressed written permission of **RDI & Associates, Inc. (dba TREES, etc.)**. Any change or alteration to this report invalidates the entire report.

If you have any further questions, please do not hesitate to call **RDI & Associates, Inc. (dba TREES, etc.)**.

Sincerely,

**RDI & Associates, Inc.**

dba **TREES, etc.**



Richard Ibarra, President  
CONSULTING ARBORIST  
(OAK TREE CONSULTANT)

526otr-1[b]

# OAK TREE PHOTOGRAPHS

[on-property proposed removals only]

[printed on both sides of sheets]



**Trees 6 & 7**



**Tree 8**



**Tree 9**



**Tree 10**



**Tree 11**



**Tree 12**



**Tree 13**



**Trees 14 & 15**



**Tree 16**



**Tree 20**



**Tree 21**

# TREE EVALUATIONS

[on-property Oaks only]

The inventory Health & Aesthetic Ratings of the trees are explained in the following:

The Health of the trees was visually determined from the following macroscopic inspection of signs and symptoms of disease.

- A. Excellent (31 to 35 points) - This tree is a healthy & vigorous tree characteristic of its species and free of any visible signs of disease or pest infestation.
- B. Good (26 to 30 points) - This tree is a healthy & vigorous tree. However, there are minor visible signs of disease and pest infestation.
- C. Fair (16 to 25 points) - This tree is healthy in overall appearance, but there is a normal amount of disease and/or pest infestation.
- D. Poor\* (11 to 15 points) - This tree is characterized by exhibiting a greater degree of disease and/or pest infestation or structural instability than normal and appears to be in a state of decline.
- E. Very Poor\* (6 to 10 points) - This tree exhibits extensive signs of dieback.
- F. Dead\* (0 points) - This tree exhibits no signs of life at the time of field evaluation.

\* A tree rating of "D" and lower is in low vigor and naturally a meaningful level of recovery is doubtful. Removal should be considered if it is within the proposed development.

The Aesthetic quality of the trees was visually determined from the following overall inspection of appearance.

- A. Excellent - This tree is visually symmetrical, having the ideal form and appearance for the species.
- B. Good to Fair - This tree, though non-symmetrical, has an appealing form for the species with very little dieback of foliage or twigs/branches.
- C. Poor - This tree is non-symmetrical for the species with an unappealing form and/or has much dieback of foliage and twigs/branches.
- D. Very Poor - This tree has few, if any, positive characteristics and may detract from the beauty of the landscape.

## TREE EVALUATIONS

Inspection Date (Project No.) 5-26-03 (626-16-0387)

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TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	1	2	3	4	5	6	7	8	9	10
FACTORS	POINTS											
<b>CROWN DEVELOPMENT</b>												
Well Balanced	5 points						X		X	X		
Lacking Natural Symmetry	3 points		X	X	X						X	X
Lacking a Full Crown	1 point					X		X				
<b>TRUNK CONDITION</b>												
Sound & Solid	5 points		X	X			X			X		X
Section of Bark Missing:												
Less Than 1/4 Around	4 points											
1/4 to 1/2 Around	3 points											
1/2 or More Around	2 points											
Stump with New Basal Growth	1 point											
Extensive Decay or Hollow Trunk	0 points				X	X		X	X		X	
<b>BRANCH STRUCTURE</b>												
No Defects	5 points											
Dieback (Limited)	4 points											
Few Structurally Dead or Broken Branches	3 points		X	X	X		X		X	X	X	X
Many Structurally Dead or Broken Branches	1 point					X		X				
<b>TWIG GROWTH</b>												
Typical for Species & Age	5 points		X	X	X		X		X	X	X	X
Less Than 1/2 Normal	3 points											
Growth Greatly Reduced	1 point					X		X				
<b>FOLIAGE</b>												
Normal Size & Color	5 points											
Minor Deficiency Symptoms	3 points		X	X	X		X		X	X	X	X
Major Deficiency Symptoms	1 point					X		X				
<b>INSECTS &amp; DISEASES</b>												
No Insects or Diseases Apparent	5 points											
Few Controllable Insects/Diseases Apparent	3 points		X	X	X	X	X	X	X	X	X	X
Severe Infestation	1 point											
<b>ROOTS</b>												
No Root Problems Apparent	5 points											
Minor Root Problems	3 points		X	X	X	X	X	X	X	X	X	X
Severe Root Problems	1 point											
<b>TOTAL POINTS</b>			25	25	20	10	21	10	22	21	20	25
<b>Aesthetic Grade</b>			C	C	C	D	B	D	B	B	C	C

**ADDITIONAL COMMENTS**

QA = Quercus agrifolia  
 IF = In fill  
 BC = Branch Cavities  
 B = Borers  
 WP = Water pocket

22.5" x 45"	IF, BC, B, Termites, QA	11.5" x 9" x 25"	WP, IF, QA	28" x 40"	BC, IF, B, QA	20" x 17" x 15"	BC, B, Main trunk fallen, QA	14" x 2" x 13" B.S"	3.5" x 30" WP, IF, QA	16.5" x 10" x 25"	BC, B, IF, QA	12.5" x 25"	IF, QA	27" x 23" x 45"	WP, B, Exudations, QA	16.5" x 24" x 8" x 50"	IF, WP, BC, Bees, QA	12" x 17" x 3" x 35"	IF, BC, B, WP, QA
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## TREE EVALUATIONS

Inspection Date (Project No.) 5-26-08 (626-15-0387)

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TOTAL POINTS	CLASS	GRADE	TREE NUMBER										
31 to 35	Excellent	A	(1)	12	13	14	15	16	17	18	19	20	
26 to 30	Good	B											
16 to 25	Fair	C											
11 to 15	Poor	D											
6 to 10	Very Poor	E											
0	Dead	F											
FACTORS			POINTS										
<b>CROWN DEVELOPMENT</b>													
Well Balanced	5 points			X			X						
Lacking Natural Symmetry	3 points		X		X	X		X			X	X	
Lacking a Full Crown	1 point								X	X			
<b>TRUNK CONDITION</b>													
Sound & Solid	5 points		X	X	X	X		X	X	X		X	
Section of Bark Missing:													
Less Than 1/4 Around	4 points												
1/4 to 1/2 Around	3 points												
1/2 or More Around	2 points												
Stump with New Basal Growth	1 point												
Extensive Decay or Hollow Trunk	0 points						X				X		
<b>BRANCH STRUCTURE</b>													
No Defects	5 points												
Dieback (Limited)	4 points												
Few Structurally Dead or Broken Branches	3 points		X	X	X	X	X	X			X	X	
Many Structurally Dead or Broken Branches	1 point								X	X			
<b>TWIG GROWTH</b>													
Typical for Species & Age	5 points		X	X	X	X	X	X			X	X	
Less Than 1/2 Normal	3 points												
Growth Greatly Reduced	1 point								X	X			
<b>FOLIAGE</b>													
Normal Size & Color	5 points												
Minor Deficiency Symptoms	3 points		X	X	X	X	X	X			X	X	
Major Deficiency Symptoms	1 point								X	X			
<b>INSECTS &amp; DISEASES</b>													
No Insects or Diseases Apparent	5 points												
Few Controllable Insects/Diseases Apparent	3 points		X	X	X	X	X	X	X	X	X	X	
Severe Infestation	1 point												
<b>ROOTS</b>													
No Root Problems Apparent	5 points												
Minor Root Problems	3 points		X	X	X	X	X	X	X	X	X	X	
Severe Root Problems	1 point												
<b>TOTAL POINTS</b>			25	21	25	25	22	25	15	15	20	25	
<b>Aesthetic Grade</b>			C	B	C	C	B	C	D	D	C	C	
<b>ADDITIONAL COMMENTS</b>			8" x 17" x 26" x 5" 3" x 10" x 22" x 5" IF, QA	21.5" x 19" x 45" 13" WP, 13" BC, 13" IF, QA	0" x 7" x 8" x 6" x 5" QA 4" x 2" x 3" x 3" x 2" IF, QA	25.5" x 45" BC, B QA	18" x 25" BC, B, IF QA	16" x 11.5" x 30" IF, WP, BC, B QA	10" x 19" x 20" BC, L, IF QA	16" x 19" x 20" L, BC, IF QA	26" x 20" BC, IF QA	24" x 17" x 20" IF, BC QA	

QA = Quercus agrifolia  
 IF = Infill  
 B = Borers  
 BC = Branch Cavities  
 WP = Water pocket  
 L = Leaning

## TREE EVALUATIONS

Inspection Date (Project No.) 5-26-08 (626-16-0387)

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TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	Z1	Z2	Z3	Z4							
FACTORS	POINTS												
<b>CROWN DEVELOPMENT</b>													
Well Balanced	5 points												
Lacking Natural Symmetry	3 points		X	X	X								
Lacking a Full Crown	1 point	X											
<b>TRUNK CONDITION</b>													
Sound & Solid	5 points		X		X								
Section of Bark Missing:													
Less Than 1/4 Around	4 points												
1/4 to 1/2 Around	3 points												
1/2 or More Around	2 points												
Stump with New Basal Growth	1 point												
Extensive Decay or Hollow Trunk	0 points	X		X									
<b>BRANCH STRUCTURE</b>													
No Defects	5 points												
Dieback (Limited)	4 points												
Few Structurally Dead or Broken Branches	3 points		X	X	X								
Many Structurally Dead or Broken Branches	1 point	X											
<b>TWIG GROWTH</b>													
Typical for Species & Age	5 points		X	X	X								
Less Than 1/2 Normal	3 points												
Growth Greatly Reduced	1 point	X											
<b>FOLIAGE</b>													
Normal Size & Color	5 points												
Minor Deficiency Symptoms	3 points		X	X	X								
Major Deficiency Symptoms	1 point	X											
<b>INSECTS &amp; DISEASES</b>													
No Insects or Diseases Apparent	5 points												
Few Controllable Insects/Diseases Apparent	3 points	X	X	X	X								
Severe Infestation	1 point												
<b>ROOTS</b>													
No Root Problems Apparent	5 points												
Minor Root Problems	3 points	X	X	X	X								
Severe Root Problems	1 point												
<b>TOTAL POINTS</b>		10	25	20	25								
<b>Aesthetic Grade</b>		D	C	C	C								

**ADDITIONAL COMMENTS**

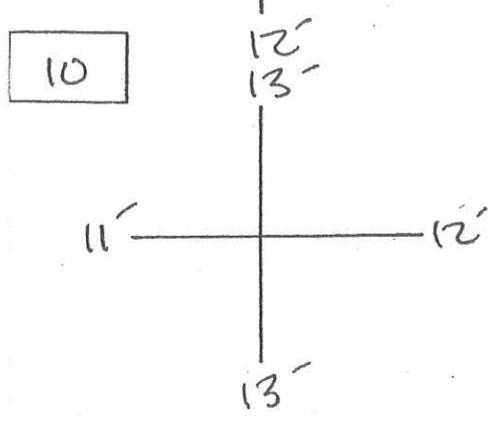
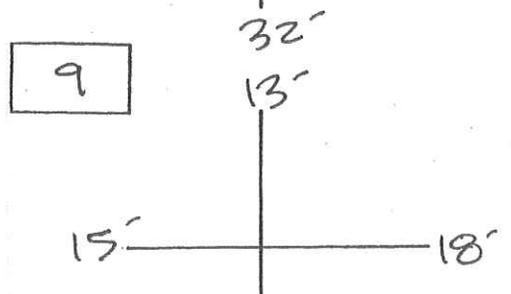
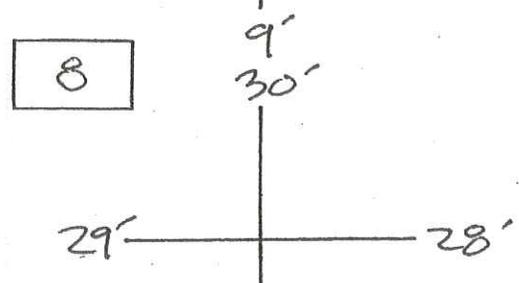
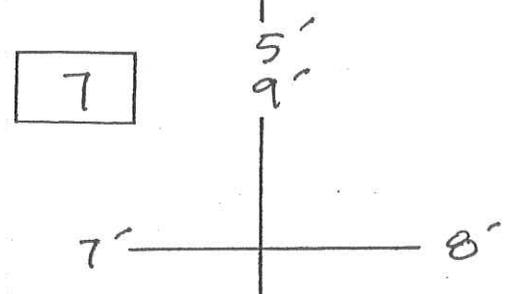
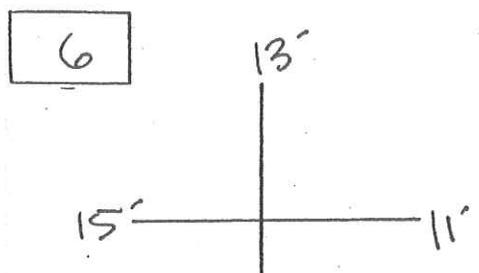
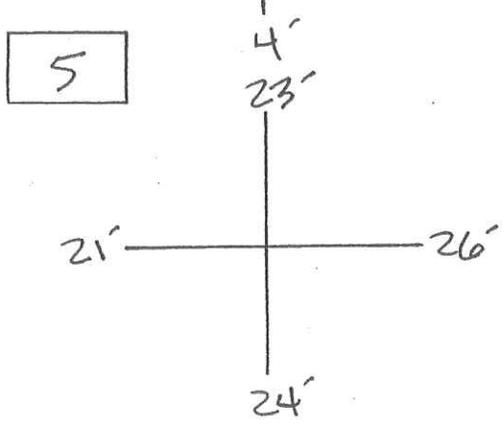
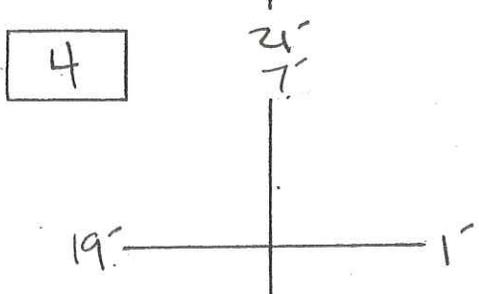
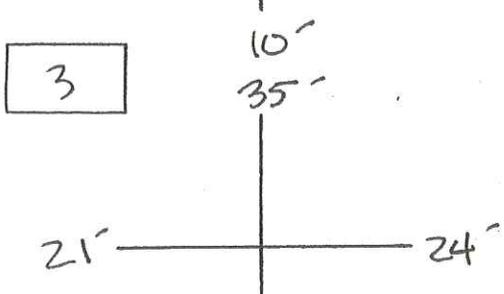
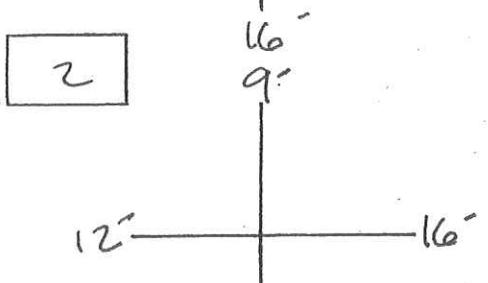
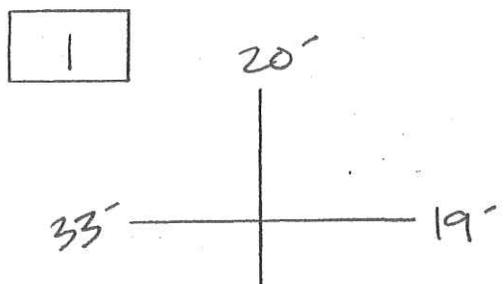
QA = Quercus agrifolia  
 IF = In fill  
 BC = Branch Cavities  
 SS = Stump Sprout  
 B = Barers

19" 18" 16" x 20" QA  
 IF, BC  
 11" 10" 9" 2x6" 2x5" 3x4" QA  
 2x2" x 18" IF, SS, QA  
 21" x 30" QA  
 B, IF, BC  
 11" 9" 8" 5" x 30" QA  
 IF

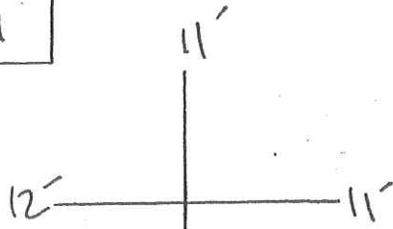
# TREE CANOPY MEASUREMENTS

[on-property Oaks]

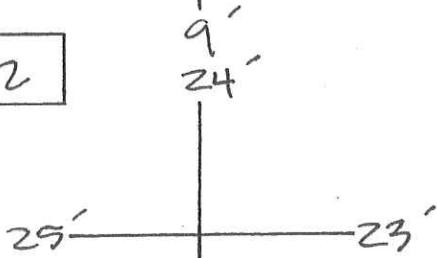
[four-point driplines (north, south, east & west) measured in feet]



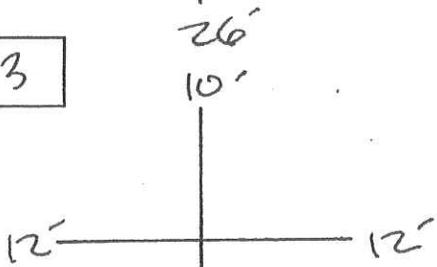
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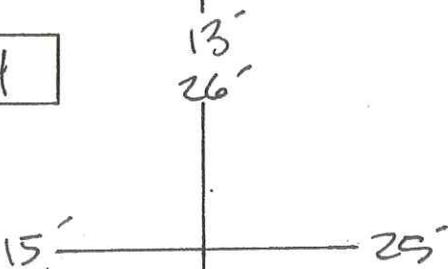
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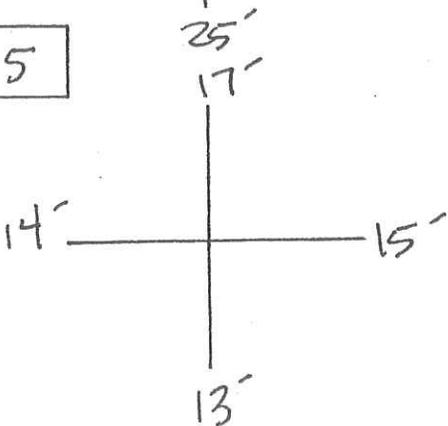
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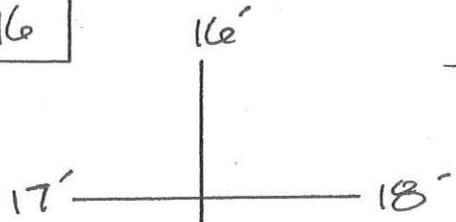
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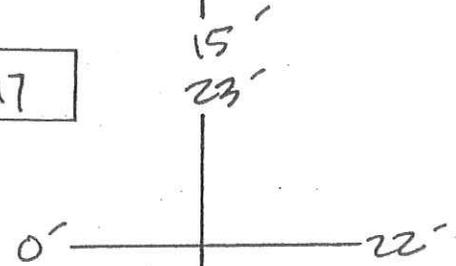
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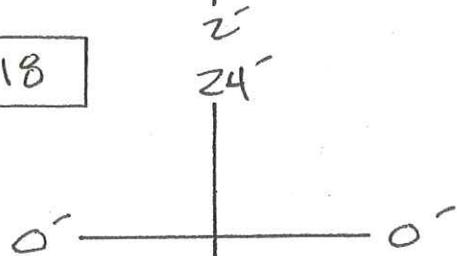
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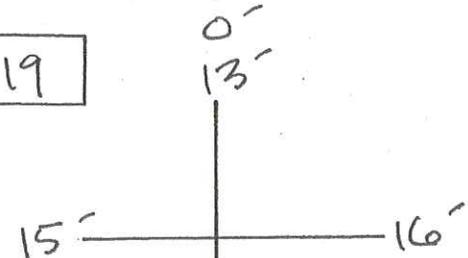
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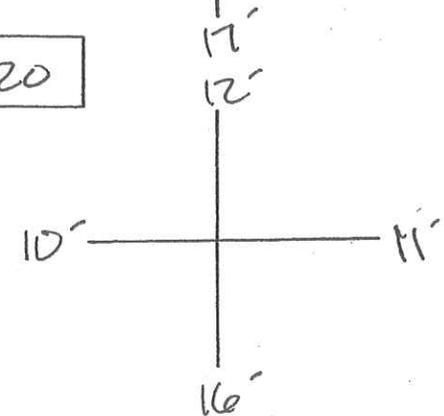
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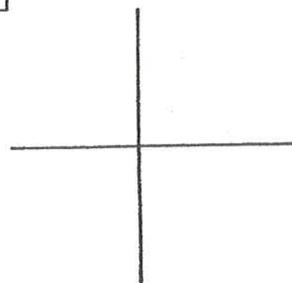
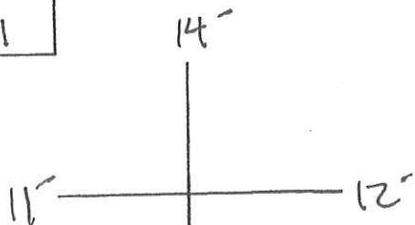
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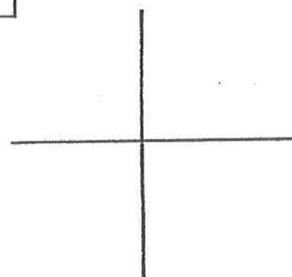
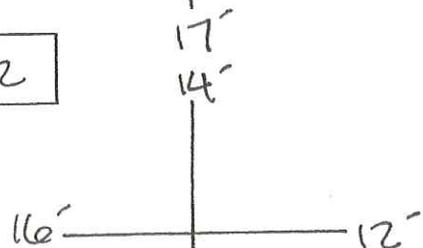
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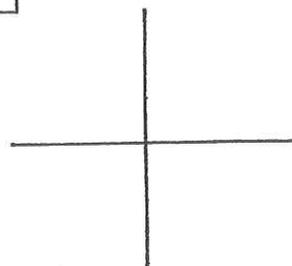
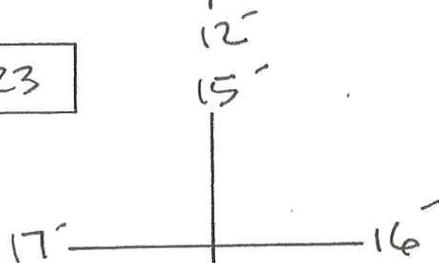
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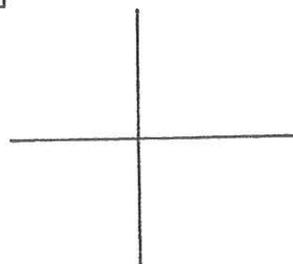
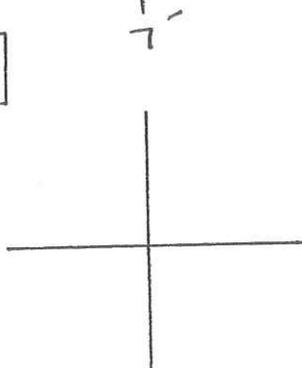
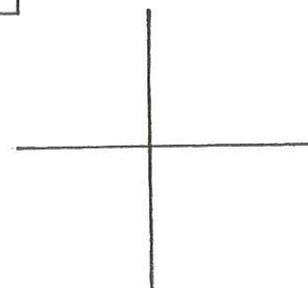
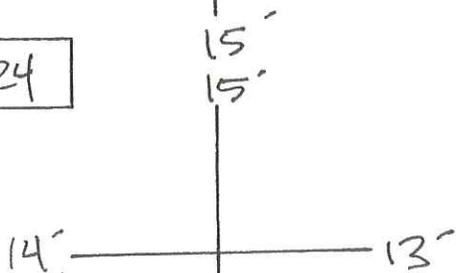
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23



24



# TREE EVALUATIONS

## [off-property Oaks]

The inventory Health & Aesthetic Ratings of the trees are explained in the following:

The Health of the trees was visually determined from the following macroscopic inspection of signs and symptoms of disease.

- A. Excellent (31 to 35 points) - This tree is a healthy & vigorous tree characteristic of its species and free of any visible signs of disease or pest infestation.
- B. Good (26 to 30 points) - This tree is a healthy & vigorous tree. However, there are minor visible signs of disease and pest infestation.
- C. Fair (16 to 25 points) - This tree is healthy in overall appearance, but there is a normal amount of disease and/or pest infestation.
- D. Poor\* (11 to 15 points) - This tree is characterized by exhibiting a greater degree of disease and/or pest infestation or structural instability than normal and appears to be in a state of decline.
- E. Very Poor\* (6 to 10 points) - This tree exhibits extensive signs of dieback.
- F. Dead\* (0 points) - This tree exhibits no signs of life at the time of field evaluation.

\* A tree rating of "D" and lower is in low vigor and naturally a meaningful level of recovery is doubtful. Removal should be considered if it is within the proposed development.

The Aesthetic quality of the trees was visually determined from the following overall inspection of appearance.

- A. Excellent - This tree is visually symmetrical, having the ideal form and appearance for the species.
- B. Good to Fair - This tree, though non-symmetrical, has an appealing form for the species with very little dieback of foliage or twigs/branches.
- C. Poor - This tree is non-symmetrical for the species with an unappealing form and/or has much dieback of foliage and twigs/branches.
- D. Very Poor - This tree has few, if any, positive characteristics and may detract from the beauty of the landscape.

## TREE EVALUATIONS

Inspection Date (Project No.) 5-26-08 (626-16-0887)

Page 1/1

TOTAL POINTS	CLASS	GRADE
31 to 35	Excellent	A
26 to 30	Good	B
16 to 25	Fair	C
11 to 15	Poor	D
6 to 10	Very Poor	E
0	Dead	F

		TREE NUMBER	OP 1	OP 2	OP 3	OP 4	OP 5	OP 6	OP 7	OP 8	OP 9
FACTORS	POINTS										
<b>CROWN DEVELOPMENT</b>											
Well Balanced	5 points		X					X	X	X	X
Lacking Natural Symmetry	3 points			X	X	X	X				
Lacking a Full Crown	1 point										
<b>TRUNK CONDITION</b>											
Sound & Solid	5 points		X	X	X	X	X	X	X	X	X
Section of Bark Missing:											
Less Than 1/4 Around	4 points										
1/4 to 1/2 Around	3 points										
1/2 or More Around	2 points										
Stump with New Basal Growth	1 point										
Extensive Decay or Hollow Trunk	0 points										
<b>BRANCH STRUCTURE</b>											
No Defects	5 points										
Dieback (Limited)	4 points										
Few Structurally Dead or Broken Branches	3 points		X	X	X	X	X	X	X	X	X
Many Structurally Dead or Broken Branches	1 point										
<b>TWIG GROWTH</b>											
Typical for Species & Age	5 points		X	X	X	X	X	X	X	X	X
Less Than 1/2 Normal	3 points										
Growth Greatly Reduced	1 point										
<b>FOLIAGE</b>											
Normal Size & Color	5 points										
Minor Deficiency Symptoms	3 points		X	X	X	X	X	X	X	X	X
Major Deficiency Symptoms	1 point										
<b>INSECTS &amp; DISEASES</b>											
No Insects or Diseases Apparent	5 points										
Few Controllable Insects/Diseases Apparent	3 points		X	X	X	X	X	X	X	X	X
Severe Infestation	1 point										
<b>ROOTS</b>											
No Root Problems Apparent	5 points										
Minor Root Problems	3 points		X	X	X	X	X	X	X	X	X
Severe Root Problems	1 point										
<b>TOTAL POINTS</b>		27	25	25	25	25	27	27	27	27	27
<b>Aesthetic Grade</b>		B	C	C	C	C	B	B	B	B	B

**ADDITIONAL COMMENTS**

QA = Quercus agrifolia  
H = Heritage

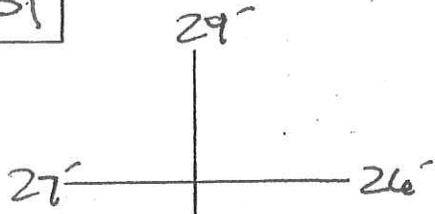
18" x 45" H	QA	15" x 35" QA	17" x 40" QA	15" x 10" x 45" QA	57" x 45" H	29" x 35" QA	27" x 35" QA	21" 17" 16" 15" x 30" QA	20" 18" x 30" QA
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# TREE CANOPY MEASUREMENTS

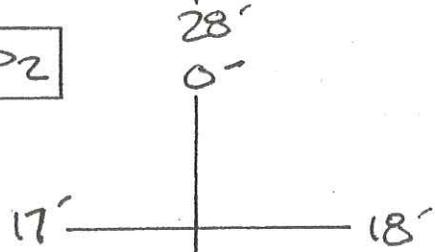
[off-property Oaks]

[four-point driplines (north, south, east & west) measured in feet]

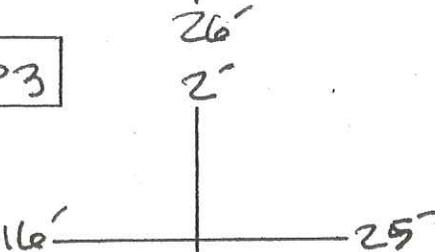
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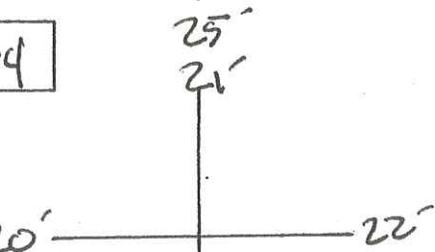
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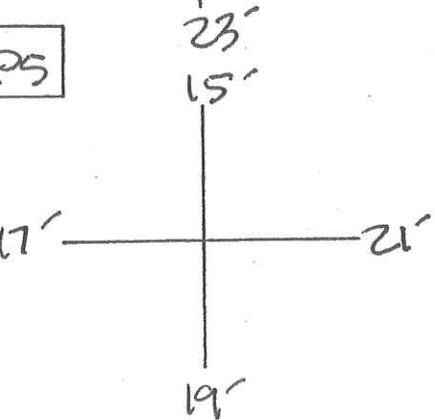
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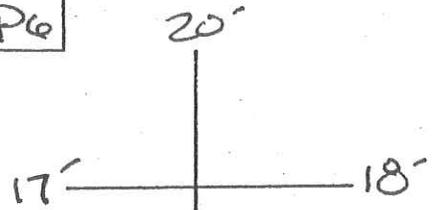
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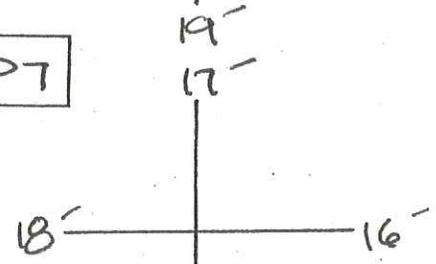
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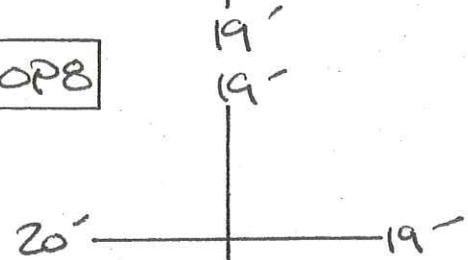
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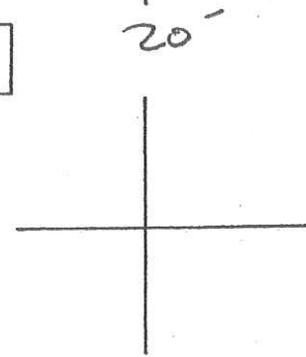
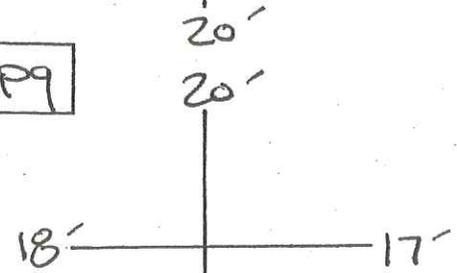
OP7



OP8



OP9



**COMPATIBLE  
NATIVE PLANTS  
w/in or AROUND  
OAK TREE  
DRIPLINES**

[CNPS]

## Compatible Native Plants w/in or around Oak tree driplines (CNPS)

<u>Scientific Name</u>	<u>Type</u>	<u>Common Name</u>
<i>Achillea millefolium</i>	p	Common Yarrow ***
<i>Adenostoma fasciculatum</i>	s	Chamise ***
<i>Agrostis diegoensis</i>	pg	San Diego Bent Grass
<i>Amorpha californica</i>	s	False Indigo
<i>Artemisia californica</i>	s	California Sagebrush
<i>Asclepias eriocarpa</i>	ph	Indian Milkweed
<i>Baccharis pilularis</i> "Twin Peaks"	gc/s	Coyote Bush ***
<i>Baccharis salicifolia</i>	s	Summer Holly
<i>Bloomeria crocea</i>	ph	Golden Stars
<i>Brodiaea pulchella</i>	b	Blue Dicks ***
<i>Bromus carinatus</i>	pg	California Brome
<i>Bromus pseudolaevipes</i>	pg	Woodland Brome
<i>Calandrina ciliata menziesii</i>	a	Red Maids
<i>Calochortus albus</i>	b	White Globe Lily ***
<i>Calochortus catalinae</i>	b	Catalina Mariposa Lily ***
<i>Calochortus clavatus</i>	b	Yellow Mariposa Lily ***
<i>Ceanothus</i> spp.	gc/s	Ceanothus ***
<i>Cercis occidentalis</i>	s	Western Redbud ****
<i>Cercocarpus betuloides</i>	s	Mountain Mahogany
<i>Clarkia bottae</i>	a	Clarkia ***
<i>Clarkia unguiculata</i>	a	Elegant Clarkia ***
<i>Collinsia heterophylla</i>	a	Chinese Houses
<i>Delphinium parryi</i>	ph	Parry's Larkspur
<i>Delphinium patens</i>	ph	Hound's Tongue
<i>Diplacus (Mimulus) hybrids</i>	s	Monkey Flower
<i>Dodecatheon clevelandii</i>	ph	Shooting Star
<i>Dryopteris arguta</i>	f	Downy Wood Fern
<i>Dudleya cymosa</i>	ph	Lax Dudleya ***
<i>Dudleya lanceolata</i>	ph	Lance Live-Forever ***
<i>Dudleya pulverulenta</i>	ph	Chalk Dudleya ***
<i>Elymus condensatus</i>	pg	Giant Wild Rye
<i>Elymus glaucus</i>	pg	Western Rye Grass
<i>Elymus triticoides</i>	pg	Creeping Wild Rye
<i>Encelia californica</i>	s	California Bush Sunflower ***
<i>Erigeron elongatum</i>	ph/s	Wand Buckwheat ***
<i>Erigeron fasciculatum</i>	s	California Buckwheat ***
<i>Eschscholzia californicum</i>	p	California Poppy ***
<i>Eschscholzia caespitosa</i>	a	Collarless Poppy ***
<i>Gnaphalium californicum</i>	ph	California Everlasting
<i>Grindelia robusta</i>	ph	Gum Plant
<i>Heteromeles arbutifolia</i>	s	Toyon, Christmas Berry ***
<i>Isomeris arborea</i>	s	Bladderpot ***
<i>Juglans californica</i>	t	Southern California Black Walnut
<i>Keckeilla (Penstemon) cordifolia</i>	s	Honeysuckle Penstemon
<i>Lasthenia chrysostoma</i>	a	Gold Fields
<i>Lathyrus laetiflorus</i>	v	Wild Sweet Pea
<i>Layia platyglossa campenstris</i>	a	Tidy Tips
<i>Lupinus longiflorus</i>	ph	Bush Lupine ***
<i>Lupinus succulentus</i>	a	Succulent Lupine ***
<i>Malosma laurina</i>	s	Laurel Sumac
<i>Melica imperfecta</i>	pg	Chaparral Melica
<i>Muhlenbergia rigens</i>	g	Snowy Deergass ****
<i>Nemophila menziesii</i>	a	Baby-Blue-Eyes
<i>Orthocarpus densiflorus</i>	a	Owl's Clover

## Compatible Native Plants w/in or around Oak tree driplines (CNPS)

<u>Scientific Name</u>	<u>Type</u>	<u>Common Name</u>
<i>Orthocarpus purpurascens</i>	a	Owl's Clover
<i>Pellaea mucronata</i>	f	Bird's Foot Fern
<i>Penstemon centranthifolius</i>	p	Scarlet Bugler **
<i>Penstemon heterophyllus</i>	p	Foothill Penstemon **
<i>Pityrogramma triangularis</i>	f	California Goldback Fern
<i>Platystemon californicum</i>	a	Cream Cups
<i>Polypody californicum</i>	f	California Polypody
<i>Potentilla glandulosa</i>	ph	Sticky Cinquefoil
<i>Prunus ilicifolia</i>	s	Hollyleaf Cherry ****
<i>Quercus agrifolia</i>	t	Coast Live Oak
<i>Quercus dumosa</i>	s	Scrub Oak
<i>Quercus lobata</i>	t	Valley Oak
<i>Quercus wizlizenii</i>	t	Interior Live Oak
<i>Rhamnus californica</i>	s	California Coffeeberry ****
<i>Rhamnus crocea</i>	s	Redberry ****
<i>Rhus ovata</i>	s	Sugar Bush ***
<i>Rhus trilobata</i>	s	Squaw Bush ***
<i>Ribes aureum</i>	s	Golden Current ****
<i>Ribes californicum</i>	s	Hillside Current ****
<i>Ribes malvaceum</i>	s	Chaparral Current ****
<i>Ribes speciosum</i>	s	Fuchsia-Flowering Gooseberry ****
<i>Salvia apiana</i>	s	White Sage ***
<i>Salvia columbariae</i>	a	Chia ***
<i>Salvia mellifera</i>	s	Black Sage ***
<i>Salvia spathacea</i>	ph	Hummingbird Sage ***
<i>Sambucus mexicana</i>	s/t	Mexican Elderberry
<i>Satureja douglasii</i>	ph	Yerba Buena
<i>Scophularia californica</i>	ph	California Figwort
<i>Scutellaria tuberosa</i>	ph	Skull Cap
<i>Sidalcea malvaeflora</i>	ph	Common Checkerbloom
<i>Sisyrinchium bellum</i>	ph	Blue-Eyed Grass *****
<i>Solanum xantii</i>	ph	Purple Nightshade
<i>Stipa cernua</i>	pg	Spear Grass ***
<i>Stipa lepida</i>	pg	Needlegrass ***
<i>Stipa pulchra</i>	pg	Purple Needlegrass ***
<i>Symphoricarpos</i> spp.	s	Snowberry ****
<i>Thalictrum polycarpum</i>	ph	Meadow Rue
<i>Umbellularia californica</i>	s	California Bay Laurel ****
<i>Viola pedunculata</i>	a	Johnny Jump-Up
<i>Zauschneria californica</i>	a/s	California Fuchsia ***
<i>Zigadenus fremontii</i>	b	Star Lily

### Notes:

- \* Water monthly when young.
- \*\*\* Full Sun (tolerates west and south exposures).
- \*\*\*\*\* Full Shade or Morning Sun.

- \*\* Needs no summer watering, unless otherwise indicated.
- \*\*\*\*\* Protect from afternoon Sun (partial Shade).

a Annual	b Bulb
f Fern	gc Groundcover
pg Perennial Grass	ph Perennial Herb
s Shrub	su Succulent
v Vine	t Tree

None of the above noted species should be planted within five (5) feet of the tree trunk.  
 The above noted plants will do best if given a thorough deep watering 2 to 3 times during the growing season.

# **Appendix F**

---

*Traffic and Circulation Study*



# COUNTY OF LOS ANGELES

## DEPARTMENT OF PUBLIC WORKS

*"To Enrich Lives Through Effective and Caring Service"*

900 SOUTH FREMONT AVENUE  
ALHAMBRA, CALIFORNIA 91803-1331  
Telephone: (626) 458-5100  
www.ladpw.org

DONALD L. WOLFE, Director

ADDRESS ALL CORRESPONDENCE TO:  
P.O. BOX 1460  
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE  
REFER TO FILE: T-4

September 6, 2006

Mr. Richard L. Pool  
Associated Transportation Engineers  
100 North Hope Avenue, Suite 4  
Santa Barbara, CA 93111

Dear Mr. Pool:

**LAKE VIEW ESTATES  
TENTATIVE TRACT NO. 53933  
CONDITIONAL USE PERMIT NO. 03304  
TRAFFIC IMPACT STUDY (JULY 25, 2006)  
UNINCORPORATED CASTAIC AREA**

As requested, we have reviewed the above-mentioned document. The Lake View Estates project is located along The Old Road west of the Golden State (I-5) Freeway, approximately ¼ mile south of Parker Road in the unincorporated County of Los Angeles area of Castaic.

The Lake View Estates project includes the subdivision of a vacant 47.25 acre site, as well as the development of 70 single-family detached housing units, and up to 90,000 square feet of office/professional business space. The proposed project is estimated to generate approximately 1,698 vehicle trips daily, with 210 and 206 vehicle trips generated during the a.m. and p.m. peak hours, respectively.

We generally agree with the study that the traffic generated by this project will significantly impact the following intersections. The following recommended mitigation measures shall be the sole responsibility of the project to be installed concurrently with the construction of the project's internal street improvements.

### The Old Road at Parker Road

East approach: One left-turn lane and one shared through/right-turn lane instead of one shared through/left-/right-turn lane.

**FILE COPY**

The Old Road at A Street (Project Access)

North approach: One left-turn lane and two through lanes instead of one through lane.

South approach: Two through lanes and one right-turn lane instead of one through lane. Detailed signing and striping plans must be prepared for these mitigation measures and submitted to Mr. Matthew Dubiel of our Land Development Review Section for review and approval prior to recordation of the tract map.

We also agree with the study that the project along with other related projects in the area will significantly impact the following intersections. The project shall pay its pro-rata share of the cost for the following recommended mitigation measures:

The Old Road at Sloan Canyon Road/Lake Hughes Road

East approach: One left-turn lane, one through lane, and one free right-turn lane instead of one left-turn lane, one through lane, and one right-turn lane.

West approach: One left-turn lane, one through lane, and one shared through/right-turn lane instead of one left-turn lane and one shared through/right-turn lane.

Install traffic signals (See Table 1).

The project's pro-rata share is 2.0 percent.

The Old Road at Parker Road

North approach: One left-turn lane, one through lane and one shared through/right-turn lane instead of one shared through/left-/right-turn lane.

South approach: One left-turn lane, one through lane and one shared through/right-turn lane instead of one shared through/left-/right-turn lane.

West approach: One left-turn lane and one shared through/right-turn lane instead of one shared through/left-turn lane and one right-turn lane.

Install traffic signals (See Table 1).

The project's pro-rata share is 24.3 percent.

Parker Road at Interstate 5 Southbound On Ramp

East approach: One left-turn lane and one through lane instead of one shared through/left-turn lane.

This improvement is included within the Castaic Bridge and Major Thoroughfare (B&T) District.

Interstate 5 Northbound Off Ramp at Ridge Route Road

East approach: Two through lanes instead of one through lane. This improvement is included within the Castaic B&T District.

Install traffic signals (See Table 1).

The projects pro-rata share is 7.4 percent.

The project shall enter into a secured agreement with this Department for the cost of the pro-rata shares of the recommended cumulative mitigation measures including the following traffic signals. The estimated pro-rata share amount for the traffic signals are shown on the following Table 1.

Intersection	Traffic Signal Cost	Developer Percent Share	Developer Cost*
The Old Rd. at Sloan Cyn. Rd./ Lake Hughes Rd.	\$287,500	2.0%	\$5,750
Parker Road at The Old Road	\$287,500	24.3%	\$69,863
I - 5 NB Off Ramp at Ridge Route Road	\$241,500	7.4%	\$17,871
<b>Total Developer Cost</b>			<b>\$93,484</b>

\* This amount is subject to adjustment based on the estimated cost of the traffic signal at the time this agreement is executed.

The project is within the Castaic B&T District. The project shall pay its share of the Castaic B&T fees.

We agree that the project will not have a significant impact on any Congestion Management Program monitored intersections, arterials, or freeway segments in the area.

Mr. Richard L. Pool  
September 6, 2006  
Page 4

A determination shall be made regarding whether the project has significant impact on the nearby freeways. Caltrans shall be consulted in order to select the methodology to use when determining the impact to the freeways, as well as to obtain their written concurrence with the California Environmental Quality Act (CEQA) level of significance determination. If Caltrans finds that the project has a CEQA significant impact on the freeways, Caltrans shall be requested to include the basis for this finding in their response. If fees are proposed to mitigate the freeway impact, Caltrans shall be requested to identify the specific project to which the fees will apply. These written comments from Caltrans shall be submitted to Public Works and included with the project environmental document.

If you have any further questions regarding the review of this document, please contact Mr. Patrick Arakawa of our Traffic Studies Section at (626) 300-4867.

Very truly yours,

DONALD L. WOLFE  
Director of Public Works



WILLIAM J. WINTER  
Assistant Deputy Director  
Traffic and Lighting Division

JC:cn  
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cc: Department of Regional Planning (Koutnik)

bc: Construction (Adhami)  
Land Development (Witler, Wong)  
Traffic and Lighting (Chon)

DEPARTMENT OF TRANSPORTATION  
DISTRICT 7, REGIONAL PLANNING  
IGR/ORQA BRANCH  
100 SO. MAIN ST.  
LOS ANGELES, CA 90012  
PHONE (213) 897-6836  
FAX (213) 897-1337  
E-Mail: Nerses.Yerjanian@dot.ca.gov



*Flex your power!  
Be energy efficient!*

Ms. Christina Tran  
Department of Regional Planning  
County of Los Angeles  
320 West Temple Street  
Los Angeles, CA. 90012

IGR/CEQA # 050960NY  
TS/Lake View Estate Project  
LA/5/59.0

November 16, 2005

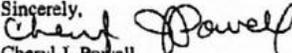
Dear Ms. Tran:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Lake View Estates Project (70 SF Residential Units & 90,000 SF Commercial/Industrial) development.

Based on our review of the information received, we agree to the fair share contribution by the developers on page 25 and 26 of the Traffic Study report and expect the County to collect and set aside the funds for the recommended improvements to mitigate the traffic impacts.

We will contact you further should we identify any issues that should be brought to your attention.

If you have any questions, please call Mr. Yerjanian at (213)897-6536 and refer to IGR/CEQA # 050960NY.

Sincerely,  
  
Cheryl J. Powell  
IGR/CEQA Branch Chief  
Regional Transportation Planning  
District 7

**DEPARTMENT OF TRANSPORTATION**

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*Flex your power!  
Be energy efficient!*

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IGR/CEQA # 081102/NY  
TS & Fair Share Contribution/Lake View Estate Project  
LA/5/59.0

November 6, 2008

Dear Mr. Arakawa;

Caltrans has received a copy of Revised/Updated Traffic Study for the Lake View Estates (70 SF Residential Units & 90,000 SF Commercial/Industrial) development project provided by Rincon Consultants, Inc. for final review and comments.

Based on current review of the information received and the previous comments made (November 16, 2005) on the reference project. We agree to the fair share contribution of **7.4 %** towards the construction/installation of new Traffic Signal at the intersection of I-5 NB Off Ramp at Ridge Route Road by the developers. We further acknowledge the fair share amount calculated/shown in Table 1, on your letter of response dated September 6, 2006 to Mr. Richard L. Pool of Associated Transportation Engineers.

County of Los Angeles should collect and set aside the funds for the recommended improvements to mitigate the traffic impacts.

If you have any questions, please call Mr. Nerses Armand Yerjanian at (213) 897-6536 and refer to IGR/CEQA # 081102NY.

Sincerely,

Elmer P. Alvarez  
IGR/CEQA Branch Chief  
Regional Transportation Planning



# ASSOCIATED TRANSPORTATION ENGINEERS

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Richard L. Pool, P.E.  
Scott A. Schell, AICP

July 25, 2006

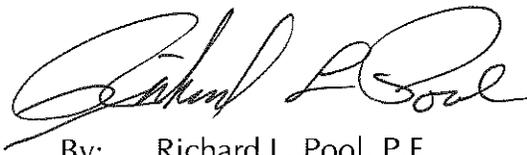
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## **REVISED TRAFFIC AND CIRCULATION STUDY FOR THE LAKE VIEW ESTATES PROJECT, CASTAIC, LOS ANGELES COUNTY, CALIFORNIA**

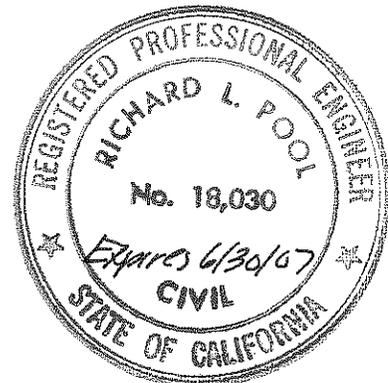
Associated Transportation Engineers (ATE) has prepared the following revised traffic and circulation study for the Lake View Estates Project (Los Angeles County Project No. 03-304), located in the Castaic area of Los Angeles County. The revised study incorporates the comments provided by Los Angeles County staff on the original study submitted in August 2005, and March 2006. It is our understanding that the study will be incorporated into the EIR being prepared by Rincon Consultants for the project.

We appreciate the opportunity to assist you with the project.

Associated Transportation Engineers



By: Richard L. Pool, P.E.  
President



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#### 4.10.1 Introduction

The following section presents the traffic, circulation and parking analysis prepared by ATE for the Lake View Estates Project. The study provides information relative to existing, Year 2008, and cumulative traffic conditions in the project study-area. The study identifies potential roadway and intersection impacts based on Los Angeles County thresholds and provides feasible mitigation measures for impacted facilities. A review of the circulation and access plan proposed for the project is also provided.

#### 4.10.2 Project Description

The project site is located west of The Old Road and south of Parker Road in the unincorporated community of Castaic within Los Angeles County. Figure 4.10-1 shows the project location within the Castaic area. The project consists of 70 single family dwelling units and up to 90,000 square feet of office/professional business space. Access to the site is proposed via a new roadway connection to The Old Road. Frontage improvements would include the widening of The Old Road to conform to the roadway realignment project currently under design by the County for the roadway. Figure 4.10-2 illustrates the tentative tract map and The Old Road widening along the project's frontage. The project is scheduled to be completed in 2008.

#### 4.10.3 Traffic Scenarios

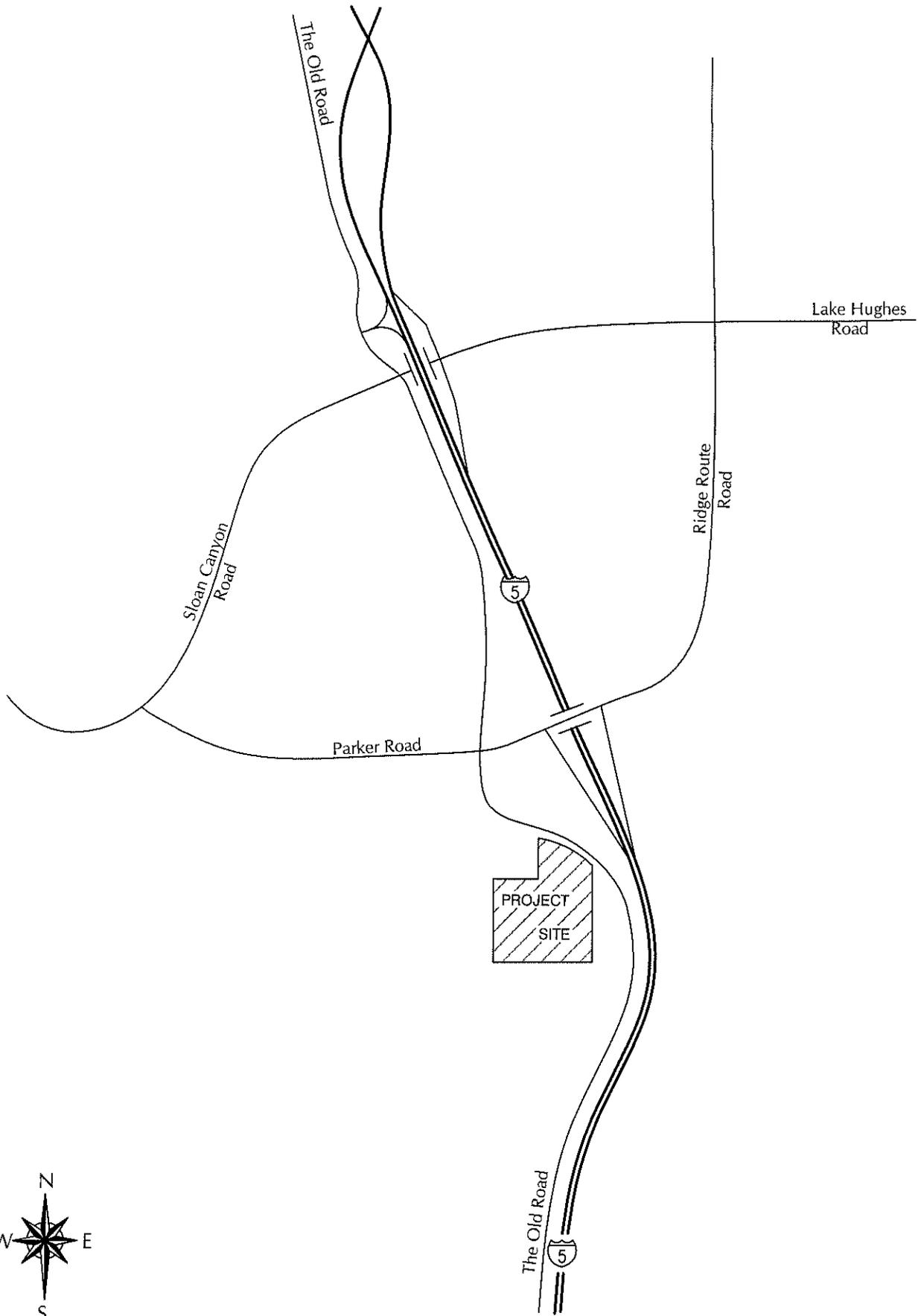
**a. Traffic Scenarios.** The Los Angeles County analysis methodologies were used in this study to assess the project's potential impacts. The traffic scenarios required are summarized in the County's Traffic Impact Analysis Report Guidelines<sup>1</sup>, and are listed below:

- (a) Existing traffic;
- (b) Existing traffic plus ambient growth to the year the project will be completed (pre-project);
- (c) Traffic in (b) plus project;
- (d) Traffic in (c) with the proposed mitigation measures (if necessary);
- (e) Traffic in (c) plus the cumulative traffic of other known developments; and
- (f) Traffic in (e) with the proposed mitigation measures (if necessary).

The County requires that potential project-specific impacts are determined by comparing traffic scenario (c) to traffic scenario (b). Potential cumulative impacts are determined by comparing Traffic scenario (e) to traffic scenario (b).

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<sup>1</sup> Traffic Impact Analysis Report Guidelines, County of Los Angeles, 1997.



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EXISTING STREET NETWORK/PROJECT SITE LOCATION

FIGURE 4.10 - 1



#### 4.10.4 Setting

a. **Existing Street Network.** Figure 4.10-1 shows the study-area street network and the following text provides a brief description of the roadways that were identified by County staff for analysis in the traffic study.

U.S. Interstate 5 (I-5) is a major north-south interstate commuter and transportation route used for international and interstate travel and movements of goods. Within Los Angeles County it extends from the Orange County line to the Kern County line and is known as either the Santa Ana or the Golden State Freeway. The freeway contains eight travel lanes in the Castaic area. Regional access to the project area is provided via the interchange with Sloan Canyon Road-Lake Hughes Road and the half-diamond interchange with Parker Road. The on- and off-ramp intersections with Interstate 5 in the study-area are currently controlled by stop-signs.

Parker Road extends in an east-west direction from Sloan Canyon Road to Interstate 5. This 2-lane collector provides a connection between the residential areas located west of I-5 and the freeway, and the commercial uses east of the I-5. The Parker Road/The Old Road intersection is controlled by stop signs on all approaches.

The Old Road is classified by the County as a Secondary Highway with a right-of-way of 80 feet. It extends as a frontage arterial parallel to Interstate 5 from Valencia Boulevard in Santa Clarita until it terminates north of Victoria Road in Castaic. The roadway contains two travel lanes between Hillcrest Parkway and Lake Hughes Road. South of Hillcrest Parkway the roadway widens to four travel lanes. The posted speed limit is 55 mph between Parker Road and State Route 126, except for the segment just north of the project site, where the roadway contains a horizontal S-curve and the advisory speed of 30 mph. Access to the site is proposed via one access road on The Old Road located approximately 0.2 miles south of Parker Road.

b. **Roadway Network Improvements.** Several roadway and intersection improvements that would affect traffic flows within the Castaic area are proposed or under design. The following text summarizes these projects.

Interstate 5/Hasley Canyon Road Interchange. Caltrans and the Los Angeles County have developed an improvement project for the I-5/Hasley Canyon Road interchange, which is located approximately 1.5 miles south of the Lake View Estates site. The improvements include replacing the Hasley Canyon Road overcrossing, modifying the existing ramps and widening the local roads to accommodate the future traffic volumes resulting from residential and commercial growth north of State Route 126, such as the Valencia Commerce Center and the Newhall Ranch. The project is expected to be funded by The Los Angeles Metropolitan Transportation Authority (MTA) and the County Bridge and Thoroughfare District (B&T) funds. No implementation schedule is currently available.

The Old Road. The County has developed a project to improve the Old Road from Hillcrest Parkway to the I-5 Southbound Ramps/The Old Road intersection just north of Lake Hughes Road. The project includes the realignment and widening of the roadway to four travel lanes and a median two-way left-turn lane. The widened roadway segment would connect to the existing four-lane segment that extends from State Route 126 to Hillcrest Parkway. County staff have indicated that the project is currently under preliminary design. Figures showing the preliminary roadway design are included in the Technical Appendix. Within the study-area, the widening would result in modification of the intersections with Parker Road (widened northbound and southbound approaches) and Sloan Canyon Road (widened northbound and eastbound approaches). Construction would be facilitated as frontage improvement projects by future developments along The Old Road and through funding by Caltrans and the Castaic Bridge and Thoroughfare District (B&T)<sup>2</sup> funds. Diagrams showing these improvements are included in the Technical Appendix.

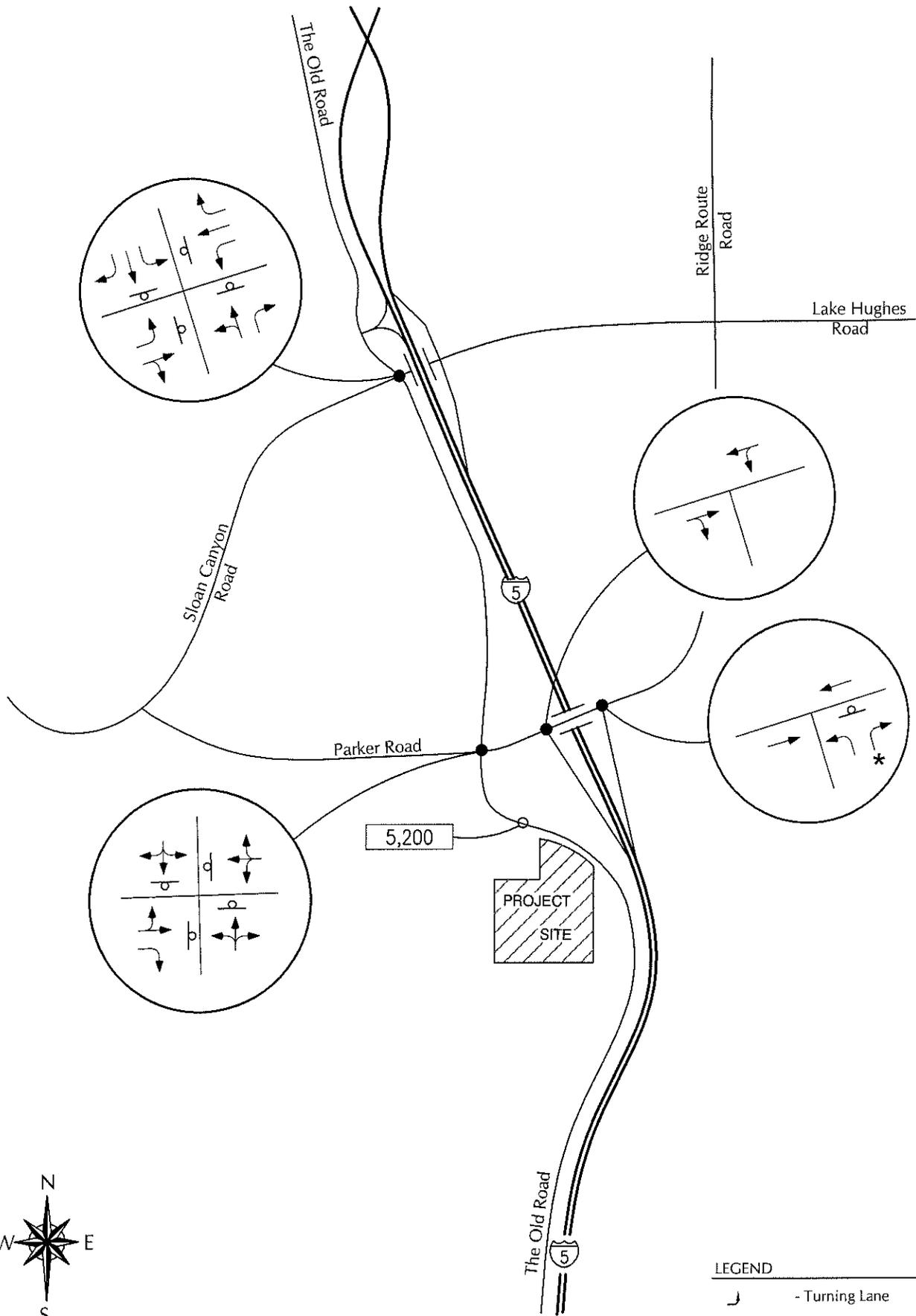
**c. Existing Traffic Volumes and Levels of Service.** Because traffic flow on urban street networks is most restricted at intersections, a detailed analysis of traffic conditions must examine the operational characteristics of critical intersections during peak flow periods. In rating an intersection's operating condition, "Levels of Service" (LOS) A through F are used, with LOS A indicating very good operations and LOS F indicating poor operations (more complete definitions are contained in the Technical Appendix for reference).

Figure 4.10-3 shows the location, control and lane configuration of the intersections that were identified by County staff for inclusion in the study. A.M. and P.M. peak hour turning counts were collected at the study-area intersections in March of 2005 and are included in the Technical Appendix for reference. The existing A.M. and P.M. peak hour traffic volumes are illustrated in Figure 4.10-4. The County requires that the *Intersection Capacity Utilization* (ICU) method must be used to analyze signalized or unsignalized intersections. The unsignalized intersections included in this study are therefore analyzed using the ICU method. However, County staff recommended that the level of service calculation worksheets using the *Highway Capacity Manual* (HCM) methodology for stop controlled intersections be kept in the report. The HCM worksheets are therefore included in the Technical Appendix for review.

Table 4.10-1 lists the existing A.M. and P.M. peak hour levels of service for the study-area intersections. Level of service calculation worksheets are included in the Technical Appendix for reference.

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<sup>2</sup> Report on the Castaic Bridge and Major Thoroughfare Construction Fee District,  
Department of Public Works, County of Los Angeles, October 1991.



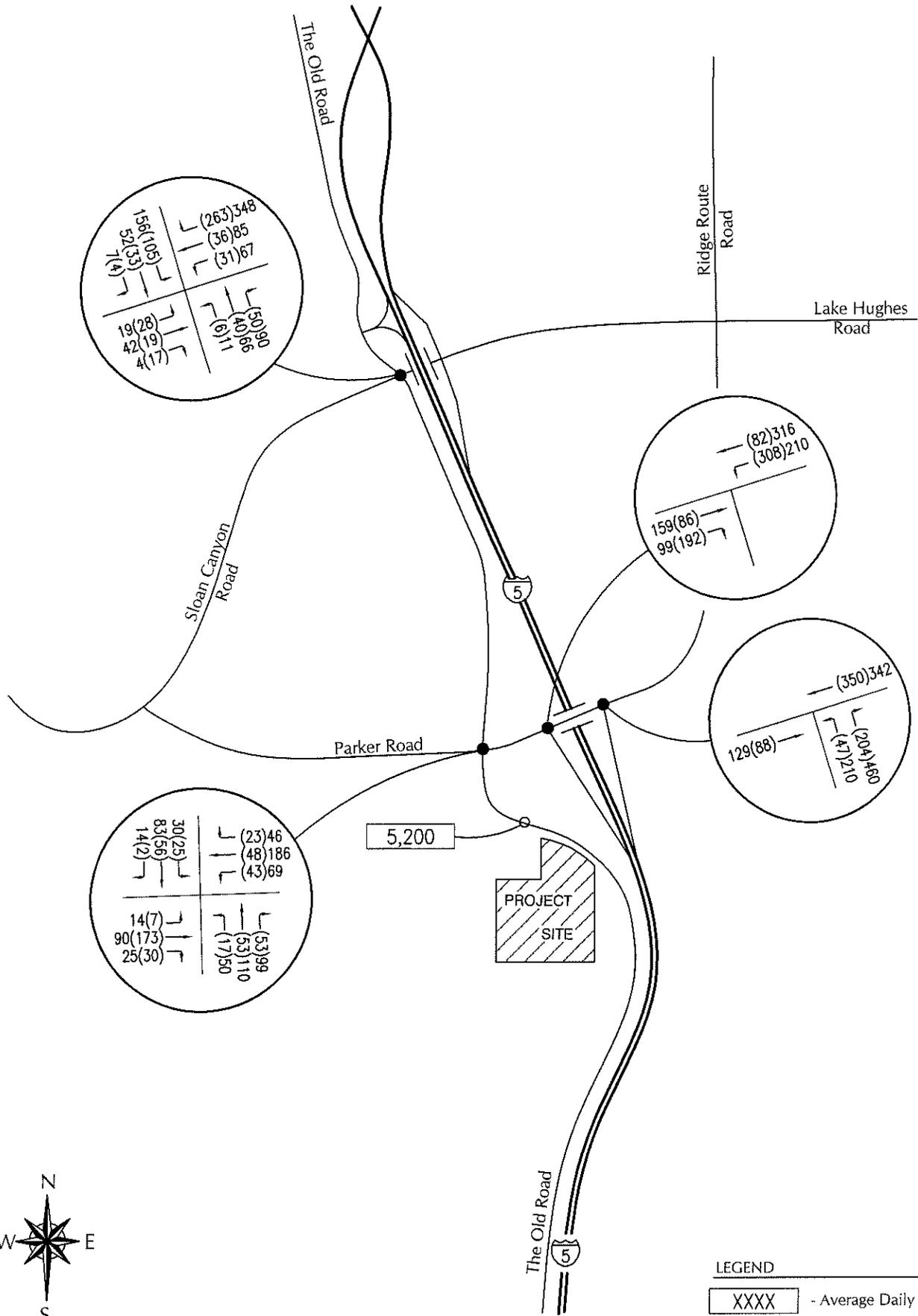
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STUDY-AREA INTERSECTION GEOMETRIES

FIGURE 4.10 - 3



**LEGEND**

XXXX - Average Daily Traffic

(XX)XX - (A.M.) P.M. Peak Hour Volume

J - Traffic Direction

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**EXISTING TRAFFIC VOLUMES**

FIGURE 4.10 - 4

**Table 4.10-1  
Existing A.M. and P.M. Peak Hour  
Intersection Levels of Service**

<b>Intersection</b>	<b>Control</b>	<b>Existing A.M. Peak Hour ICU/LOS</b>	<b>Existing P.M. Peak Hour ICU/LOS</b>
The Old Road/Sloan Canyon Road	All-Way Stop	0.31/LOS A	0.38/LOS A
The Old Road/Parker Road	All-Way Stop	0.36/LOS A	0.59/LOS A
I-5 Southbound On-Ramp/Parker Road	Yield	0.47//LOS A	0.57/LOS A
I-5 Northbound Off-Ramp/Ridge Route Road	One-Way Stop	0.45/LOS A	0.31/LOS A

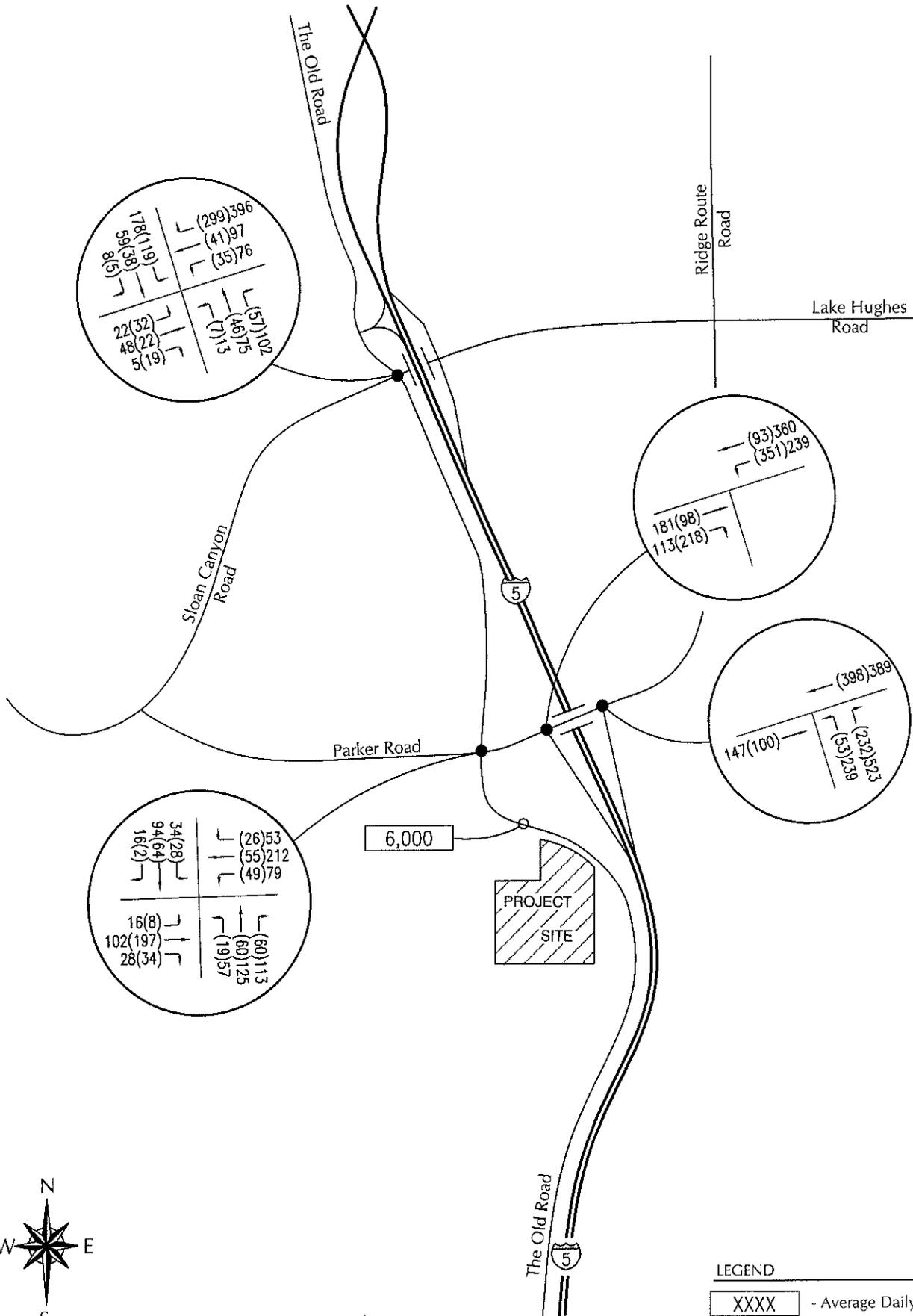
Table 4.10-1 indicates that the study-area intersections currently operate at LOS A during the A.M. and P.M. peak hours when calculated using the ICU method.

#### **4.10.5 Year 2008 Traffic Volumes and Levels of Service**

The project is expected to be occupied in the Year 2008. Traffic volumes for the Year 2008 were developed using the County's ambient growth rate for the Castaic area, which is 4.6% per year. This rate accounts for area wide increase in traffic due to the combined effect of continuing development, intensification of existing developments, and other factors. The resulting Year 2008 traffic volumes are illustrated in Figure 4.10-5.

Levels of service were calculated for the study-area intersection assuming the Year 2008 traffic conditions. Table 4.10-2 shows the level of service calculation results. Worksheets showing the level of service calculations are included in the Technical Appendix.

Table 4.10-2 indicates that the study-area intersections would operate at LOS B or better during the A.M. and P.M. peak hours under Year 2008 conditions. These values are acceptable based on the County's LOS D standard.



LEGEND

- XXXX - Average Daily Traffic
- (XX)XX - (A.M.) P.M. Peak Hour Volume
- └ - Traffic Direction

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YEAR 2008 TRAFFIC VOLUMES

FIGURE 4.10 - 5

**Table 4.10-2  
Year 2008 A.M. and P.M. Peak Hour  
Intersection Levels of Service**

Intersection	Year 2008 A.M. Peak Hour ICU/LOS	Year 2008 P.M. Peak Hour ICU/LOS
The Old Road/Sloan Canyon Road	0.34/LOS A	0.42/LOS A
The Old Road/Parker Road	0.40/LOS A	0.66/LOS B
I-5 Southbound On-Ramp/Parker Road	0.52/LOS A	0.63/LOS B
I-5 Northbound Off-Ramp/Ridge Route Road	0.49/LOS A	0.49/LOS A

**4.10.6 Impact Analysis**

**a. Impact Criteria.** The County of Los Angeles impact thresholds were applied to the study-area intersections. The traffic impact thresholds are discussed below.

County of Los Angeles Significant Impact Threshold: Adverse impacts are generated when traffic generated by a project considered alone or cumulative with other related projects, when added to existing traffic volumes, exceeds certain capacity thresholds for an intersection or roadway. For intersections, the impact is considered significant if the project related increase in the volume to capacity (V/C) ratio equals or exceeds the threshold shown in Table 4.10-3.

**Table 4.10-3  
County of Los Angeles Intersection Impact Threshold**

Pre-project Intersection LOS	Pre-project V/C	Project V/C Increase
LOS C	0.71-0.80	0.04 or more
LOS D	0.81-0.90	0.02 or more
LOS E/F	0.91 or more	0.01 or more

County staff have indicated that if the pre-project level of service is below LOS C, the volume-to capacity ratio to which the project related increase should be compared to is LOS C (V/C 0.71).

The project's impact on two-lane roadways should also be analyzed if those two-lane roadways are used for access. LOS service analysis contained in the Highway Capacity Analysis (Chapter 8, Two-Lane Highways) should be used to evaluate the project's impact. The project proposes

to have access on The Old Road, which is currently a two-lane facility. However, the realignment project for the segment of The Old Road adjacent the site includes widening of the roadway to four travel lanes. The traffic study does therefore not contain a two-lane roadway analysis.

**b. Project Impacts and Mitigation Measures.** Trip generation estimates were calculated for the project and potential traffic impacts were reviewed. The following text presents the results of the project-specific impact analyses, identifies the significance of project traffic impacts, and recommends mitigation measures where required.

Project Trip Generation. Trip generation estimates for the project were calculated using rates presented in the Institute of Transportation Engineers (ITE) Trip Generation Manual<sup>3</sup> for single family detached housing (ITE land use #210) and office park (ITE land use #750). The trip generation estimates, which were reviewed by County staff, are summarized in Table 4.10-4.

**Table 4.10-4  
Project Trip Generation**

Land Use	Size	Average Daily		A.M. Peak Hour		P.M. Peak Hour	
		Rate	Trips	Rate	Trips	Rate	Trips
Single Family Detached Housing	70 Units	9.57	670	0.75	53	1.01	71
Office Park	90 KSF <sup>a</sup>	11.42	<u>1,028</u>	1.74	<u>157</u>	1.50	<u>135</u>
<b>TOTAL</b>			<b>1,698</b>		<b>210</b>		<b>206</b>

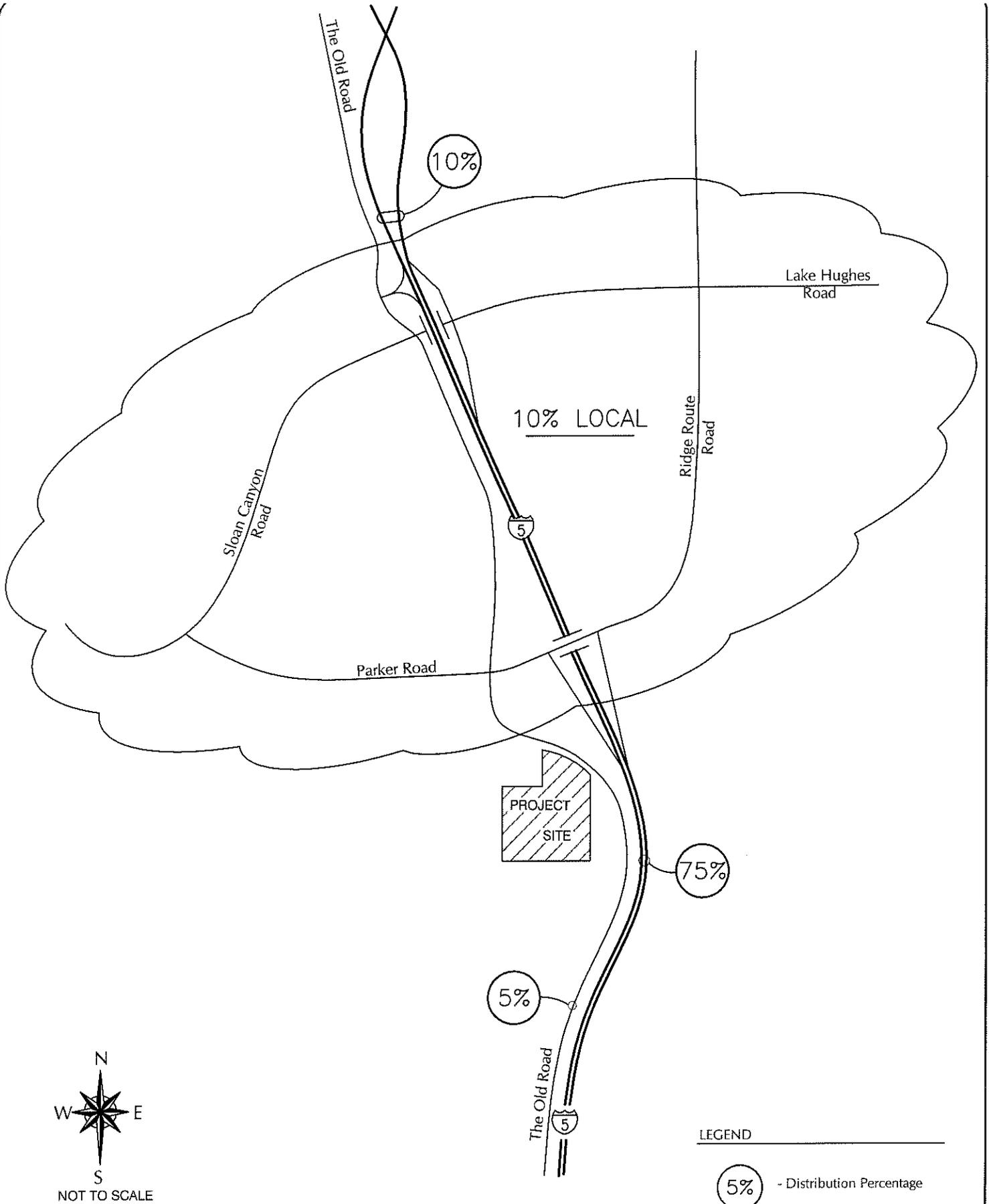
<sup>a</sup> KSF = 1,000 S.F.

The trip generation data in Table 4.10-4 indicates that the Lake View Estates Project would generate 1,698 ADT, with 210 trips in the A.M. peak hour and 206 trips in the P.M. peak hour.

Trip Distribution and Assignment. Trip distribution percentages were developed based on the location of the project, the location of the residential and commercial land uses in the Castaic area, the future trip distribution percentages for the Castaic region contained in Appendix B of the MTA 2004 CMP document<sup>4</sup>, and the existing traffic distribution on the Interstate 5 ramps with Parker Road and Sloan Canyon Road, as measured by Caltrans. The project trip distribution percentages, which were reviewed by County staff, are shown in Table 4.10-5 and Figure 4.10-6. The trip distribution percentages at the study-area intersections are shown in Figure 4.10-7.

<sup>3</sup> Trip Generation, Institute of Transportation Engineers, 7<sup>th</sup> Edition, 2003.

<sup>4</sup> 2004 Congestion Management Program for the Los Angeles County, County of Los Angeles Metropolitan Transportation Authority, 2004.



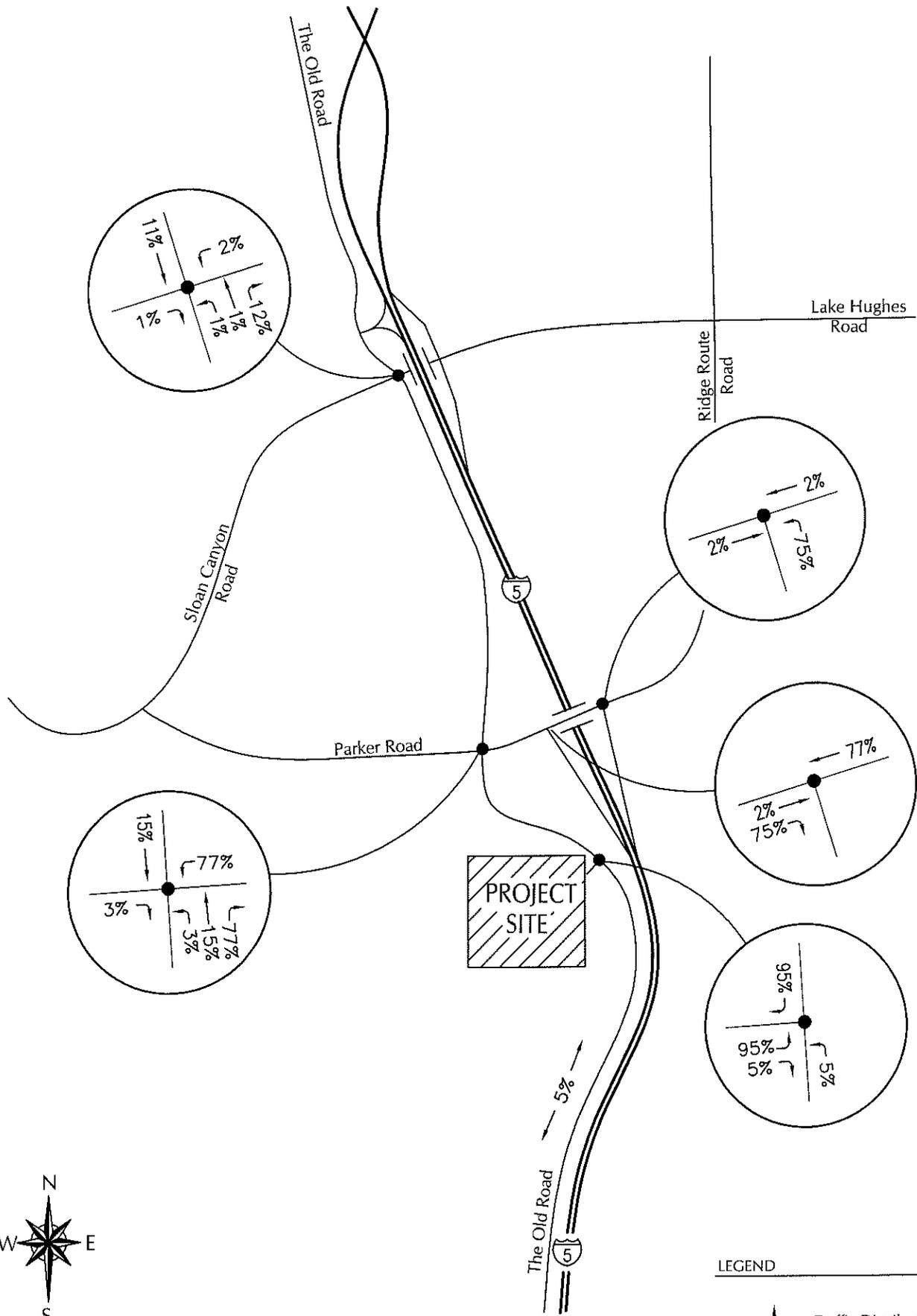
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PROJECT TRIP DISTRIBUTION PERCENTAGES

FIGURE 4.10 - 6



LEGEND

5% ↘ - Traffic Distribution Percentages

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PROJECT TRIP DISTRIBUTION PERCENTAGES - INTERSECTIONS

FIGURE 4.10 - 7

**Table 4.10-5  
Project Trip Distribution**

<b>Origin/Destination</b>	<b>Direction</b>	<b>Percent</b>
Interstate 5	North	10%
	South	75%
The Old Road	South	5%
Local Castaic Area	North	10%
<b>Total</b>		<b>100%</b>

The project-added traffic was assigned to the study-area street network. Figure 4.10-8 illustrates the project-added traffic volumes and Figure 4.10-9 illustrates the Year 2008 + project traffic volumes.

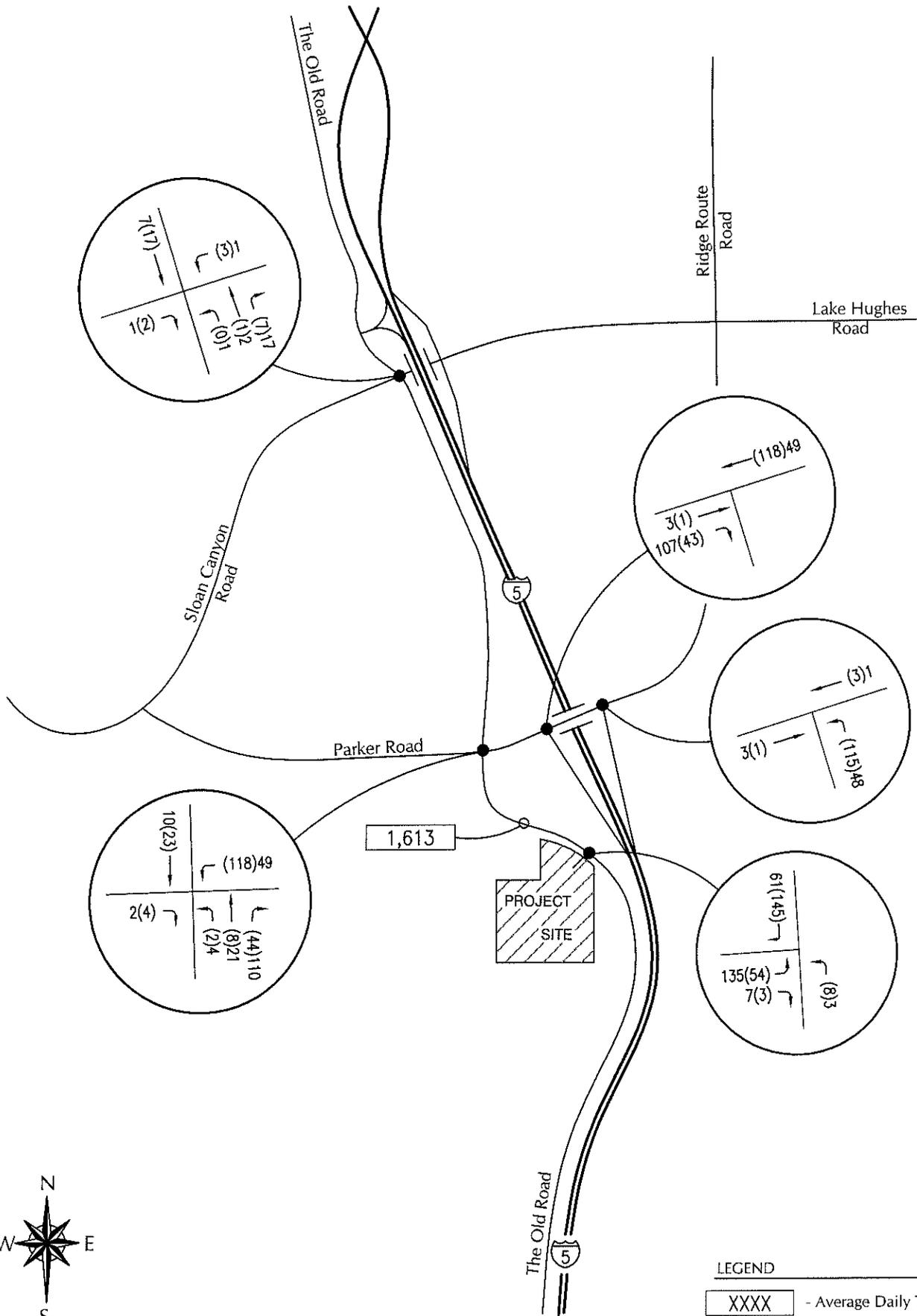
Intersection Operations. Levels of service for the study-area intersections were calculated assuming Year 2008 + project traffic conditions and potential impacts were identified based on the County's threshold criteria. Tables 4.10-6 and 4.10-7 compare the Year 2008 and Year 2008 + Project A.M. and P.M. peak hour levels of service, respectively.

**Impact T-1 Development of the Lake View Estates Project will result in the addition of 210 A.M. and 206 P.M. peak hour trips. These traffic additions would result in a Class II (significant but mitigable) impact at The Old Road/Parker Road intersection.**

**Table 4.10-6  
Year 2008 + Project A.M. Peak Hour  
Intersection Levels of Service**

<b>Intersection</b>	<b>ICU / LOS</b>		<b>Project - Added</b>	
	<b>Year 2008</b>	<b>Year 2008 + Project</b>	<b>V/C Increase<sup>1</sup></b>	<b>Impact<sup>1</sup></b>
The Old Rd/Sloan Canyon Rd	0.34/LOS A	0.34/LOS A	0.00	No
The Old Rd/Parker Rd	0.40/LOS A	0.50/LOS A	0.00	No
I-5 SB On-Ramp/Parker Rd	0.52/LOS A	0.61/LOS B	0.00	No
I-5 NB Off-Ramp/Ridge Route Rd	0.49/LOS A	0.50/LOS A	0.00	No

<sup>1</sup> V/C increase and impact determined by comparing the Year 2008 + Project V/C ratio to pre-project baseline of V/C 0.71.



LEGEND

- XXXX - Average Daily Traffic
- (XX)XX - (A.M.) P.M. Peak Hour Volume
- └ - Traffic Direction

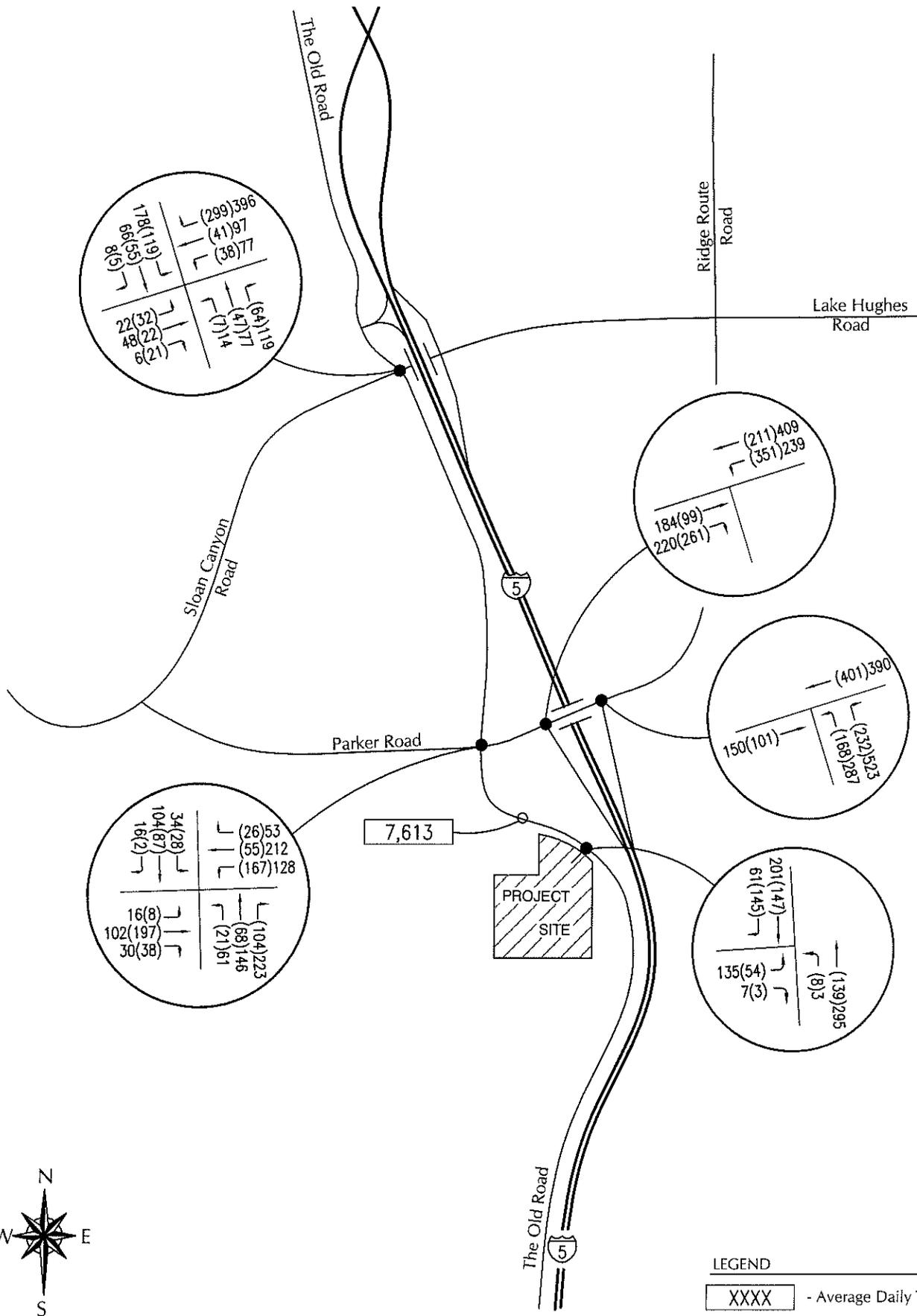
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PROJECT-ADDED TRAFFIC VOLUMES

FIGURE 4.10 - 8



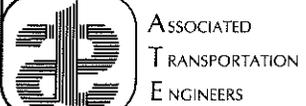
**LEGEND**

XXXX - Average Daily Traffic

(XXXX) - (A.M.) P.M. Peak Hour Volume

└─┘ - Traffic Direction

PROJECT #05024



YEAR 2008 + PROJECT TRAFFIC VOLUMES

FIGURE 4.10 - 9

**Table 4.10-7  
Year 2008 + Project P.M. Peak Hour  
Intersection Levels of Service**

Intersection	Delay / LOS		Project - Added	
	Year 2008	Year 2008 + Project	V/C Increase <sup>1</sup>	Impact <sup>1</sup>
The Old Rd/Sloan Canyon Rd	0.42/LOS A	0.42/LOS A	0.00	No
The Old Rd/Parker Rd	0.66/LOS B	0.78/LOS C	<b>0.12</b>	<b>Yes</b>
I-5 SB On-Ramp/Parker Rd	0.63/LOS B	0.71/LOS C	0.00	No
I-5 NB Off-Ramp/Ridge Route Rd	0.49/LOS A	0.50/LOS A	0.00	No

<sup>1</sup> V/C increase and impact determined by comparing the Year 2008 + Project V/C ratio to pre-project baseline of V/C 0.71.

The level of service data contained in Tables 4.10-6 and 4.10-7 indicate that the project would generate an impact at The Old Road/Parker Road intersection during the P.M. peak hour by adding V/C 0.12 (compared to the pre-project baseline of V/C 0.66), which exceeds the county's threshold of V/C 0.04 for intersections operating at LOS C.

**Mitigation T-1      Widening of the westbound approach to provide a left-turn lane and a shared through/right-turn lane would reduce the project's impact at The Old Road/Parker Road intersection to a level of insignificance, thereby mitigating the project's impact.**

The existing westbound approach (eastern leg of the intersection) should be widened to provide a separate left-turn lane and a shared through/right-turn lane. These improvements would result in LOS B operations during the P.M. peak hour, thereby mitigating the project's impact. A feasibility study for this improvement has been submitted to the Los Angeles County Department of Public Works. The project will be responsible for the cost of the widening construction. It is noted that widening of this approach is included in the Castaic B & T District project for the intersection, and the project may therefore be eligible for traffic fee credits for the costs of the improvement.

Traffic Signal Warrant Analysis. County staff have indicated that traffic signal warrants have to be completed for impacted intersections to determine the need for a signal. County staff also indicated that signal warrants should be evaluated with pre-project volumes to determine if a fair share payment is required. Table 4.10-8 summarizes the results of the signal warrant analysis for Year 2008 without project conditions at The Old Road/Parker Road intersection. Traffic signal warrant worksheets are included in the Technical Appendix. The County's traffic study guidelines stipulate that the need for a traffic signal should be evaluated based on *Warrant 3 - Peak Hour* and the *Estimated Average Daily Traffic* values contained in *Table 4C-101 of the MUTCD 2003 Caltrans Supplement*<sup>7</sup>.

<sup>7</sup> MUTCD 2003 Caltrans Supplement, May, 2004.

The traffic signal warrant data in Table 4.10-8 shows that the Year 2008 without project traffic volumes would satisfy *Warrant 3 - Peak Hour* and the *Estimated Average Daily Traffic* in Table 4C-101. In addition, the Year 2008 without project traffic volumes would satisfy *Warrant 1 - Eight-Hour Vehicular Volume* and *Warrant 2 - Four-Hour Vehicular Volume*.

**Table 4.10-8**  
**The Old Road/Parker Road Intersection**  
**Signal Warrant Analysis - 2008 Volumes (w/o Project)**

Warrant #	Type	Warrant Satisfied
1	Eight-Hour Vehicular Volume	Yes
2	Four-Hour Vehicular Volume	Yes
3	Peak Hour	Yes
4	Pedestrian Volume	No
5	School Crossing	N/A
6	Coordinated Signal System	No
7	Crash Warrant	No Data
8	Roadway Network	No
Table 4C-101	Average Traffic Estimate Form	Yes

The traffic signal warrant analysis completed for The Old Road/Parker Road intersection indicates that the Year 2008 without project traffic volumes would satisfy *Warrant 1 - Eight-Hour Vehicular Volume*, *Warrant 2 - Four-Hour Vehicular Volume*, *Warrant 3 - Peak Hour*, and the *Estimated Average Daily Traffic* in Table 4C-101. This indicates that a signal is warranted under Year 2008 without project conditions. Because signals are warranted without project traffic, the project will be required to contribute a proportional share (24.3%) towards the cost of the signal installation. Year 2008 without project signal warrants are located in the technical appendix.

**c. Frontage Improvements.** The project is required to provide right-of-way dedication and frontage improvements on The Old Road along the site's northeastern boundary. Improvements would be consistent with the realignment and widening project for the roadway under design by the County. The Old Road currently contains two travel lanes and a shoulder on the west side, and an asphalt curb and a fence on the east side. The frontage improvements include provision of 80 feet of right-of-way and construction of two travel lanes in each direction, a 10-foot wide median, a bike lane and an eight-foot sidewalk on the west side, and a bike lane and a four-foot sidewalk on the east side.

The project will provide a 200-foot northbound left-turn lane, which will be accommodated by the median on The Old Road, and a 200-foot southbound right-turn lane at the intersection of The Old Road with "A" Street, the project access road. The project is forecast to generate 145 right-turns and 8 left-turns during the A.M. peak hour, and 61 right-turns and 3 left-turns during the P.M. peak hour. The length of the northbound left-turn lane is adequate to provide storage for the forecast left-turn volumes. Additional left-turn storage can be attained by reducing the taper length from 100 feet to 60 feet, thus adding 40 feet to the left-turn lane. The right-turn movement from The Old Road into "A" Street would be unrestricted provided that the radius of the curb return is sufficient to accommodate turning movements of a 65-foot semi-truck (Caltrans Design Vehicle), so vehicles would not back up behind a truck. If the taper on the right-turn lane is also reduced from 100 feet to 60 feet, the storage length would be 140 feet. This length would be sufficient to accommodate the forecast peak hour volumes.

**d. Site Access and Sight Distance Analysis.** The following section discusses the project's connection to The Old Road and includes a sight distance analysis for the "A" Street/The Old Road intersection.

Site Access. Access to the site is proposed via an access road ("A" Street) on The Old Road located approximately 0.2 miles south of Parker Road. "A" Street would contain 46 feet of pavement, which is sufficient width for one inbound lane and separate outbound turning lanes at its connection with The Old Road. The Old Road would contain two travel lanes in each direction and separate turning lanes at the "A" Street intersection. The project would provide right-of-way dedication for the southbound right-turn lane on The Old Road.

Levels of service for the The Old Road/"A" Street intersection were calculated using the ICU method and the Highway Capacity Manual (HCM) methodology<sup>6</sup> with a stop sign on the "A" Street approach. The calculations indicate that the intersection would operate at LOS B or better during the peak hours with Year 2008 + project traffic and LOS C or better with cumulative + project traffic.

The need for a traffic signal at this location was evaluated based on the warrants contained in the *MUTCD 2003 Caltrans Supplement*. The analysis found that the Year 2008 + project and cumulative + project traffic volumes do not satisfy any of the traffic signal warrants.

Sight Distance. The stopping sight distance and corner sight distance standards contained in the *Caltrans' Highway Design Manual*<sup>7</sup> were applied to the The Old Road/"A" Street intersection assuming the posted speed limit on The Old Road, which is 55 mph. It is noted that the prevailing speed on The Old Road north of the project site is lower than 55 mph because of the horizontal S-curve in the roadway segment. The advisory speed limit on this segment is 30 mph.

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<sup>6</sup> Highway Capacity Manual, Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 2000.

<sup>8</sup> Highway Design Manual, Caltrans, Fifth Edition, 2001.

The stopping sight distance and corner sight distance at "A" Street were measured using the site plan provided by the applicant. The sight distance standards and the sight distance provided at the intersection are summarized in Table 4.10-9 and Figure 4.10-10.

**Table 4.10-9  
The Old Road/"A" Street  
Sight Distance Analysis**

Direction	Stopping Sight Distance Standard	Stopping Sight Distance Provided	Corner Sight Distance Standard	Corner Sight Distance Provided
From "A" St. to the North	505 feet	> 505 feet	610 feet	610 feet
From "A" St. to the South	505 feet	> 505 feet	610 feet	> 610 feet

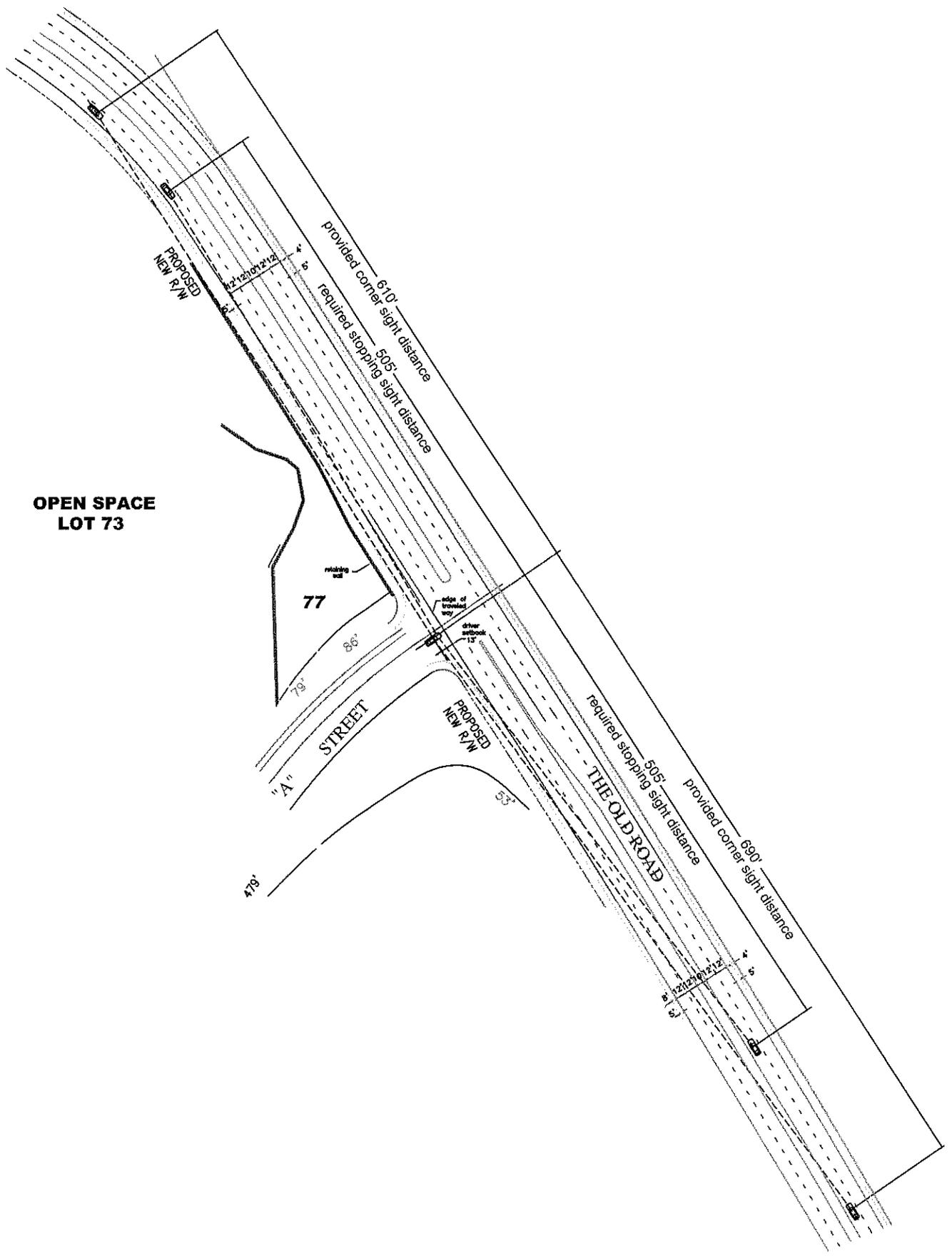
Values based on Caltrans sight distance criteria and speed limit of 55 mph.

The data in Table 4.10-9 indicates that both the stopping sight distance and corner sight distance requirements at The Old Road/"A" Street intersection are satisfied .

**e. Circulation and Parking.** The following section discusses the project's circulation and parking plan and provides improvement recommendations

Circulation. The on-site circulation plan consists of two collector roads, a local residential roadway and four cul-de sacs. "A" street, collector road with a 66 foot right-of-way, extends south from The Old Road and provides direct access via driveways to the office buildings. "A" street narrows to a collector street with a 64 foot right-of-way adjacent the residential area approximately 650 feet south from its connection with The Old Road. It provides access to two clusters of residential units via 58-foot wide cul-de sacs. Access to the remaining residential units is proposed via "D" Street, a 60-foot wide local street and two cul-de-sacs that extend off "D" Street. The street widths shown on the site plan conform those required by the County's Subdivision Ordinance. The proposed street lay-out would accommodate the forecast traffic volumes.

The site plan does not indicate how access is provided to the three commercial lots proposed on the site. The ultimate site plan will show the geometry of the commercial driveways and their connection to "A" Street. The access driveway to Lot 77, located on the northwest corner of the The Old Road/"A" Street intersection, should be located in westernmost boundary of the lot to maximize the distance between the driveway and the intersection. The driveways that would provide access to office buildings proposed on Lots 75 and 76, which are located north and south of "A" Street, should be aligned.



**OPEN SPACE  
LOT 73**

**77**

**"A" STREET**

**THE OLD ROAD**



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**THE OLD ROAD/"A" STREET SIGHT DISTANCE DIAGRAM**

**FIGURE 4.10-10**

The roadway sections shown on the site plan indicate that sidewalks would be constructed along all on-site streets, thus providing for unrestricted pedestrian circulation within the project site. The site plan also shows a sidewalk along The Old Road. The The Old Road realignment and widening project will extend the sidewalk from the site's northernmost boundary and connect to the existing sidewalk adjacent the condominium site that borders the Lake View Estates site. This would provide for continuous pedestrian connection between the project and Parker Road.

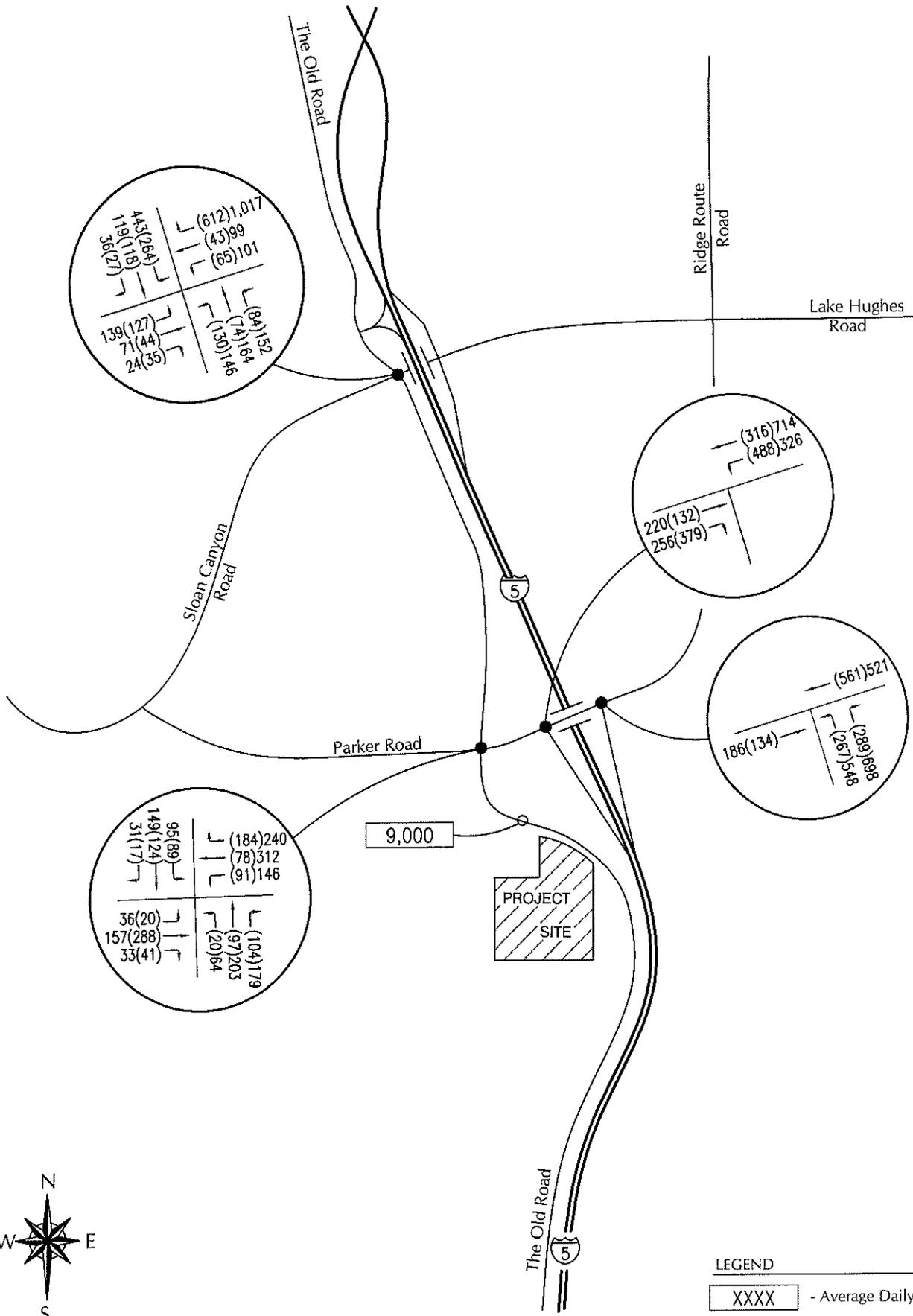
Parking. The County of Los Angeles zoning ordinance minimum requirement for single family residence( R-1) is two covered spaces per unit. The parking supply requirement for non-medical office uses is one space per 400 s.f. of office space. Based on these requirements, the project should provide 2 covered spaces per residential unit and a total of 225 parking spaces for the three office buildings (90,000 s.f.).

**f. Cumulative Project Impacts.** The cumulative analysis presented in this section forecasts future traffic volumes based on a list of approved and pending projects located in the study-area. The following text outlines the methodologies used to forecast the cumulative traffic volumes.

Cumulative Projects Trip Generation and Distribution. An updated list of approved and pending projects provided by the County's Department of Regional Planning and approved by County Traffic Studies Section staff was used to develop the cumulative traffic forecasts. The approved and pending projects list and graphics showing the location of each cumulative project are included in the Technical Appendix. Trip generation estimates for the cumulative projects that would add traffic to the study-area intersections were developed using the rates contained in ITE's Trip Generation Manual. A worksheet showing the trip generation estimates is also included in the Technical Appendix. The data contained in the trip generation worksheet indicates that the approved and pending projects would generate 46,234 ADT, 3,778 A.M. peak hour trips, and 4,613 P.M. peak hour trips.

The peak hour trips generated by the approved and pending projects were assigned to the study-area street network according to methodologies contained in existing environmental documents and distribution data contained in the LA County CMP. Once distributed, A.M. and P.M. peak hour trips generated by the cumulative projects were assigned to the study-area intersections, as illustrated in Figure 4.10-11. Figure 4.10-12 shows the cumulative + project volumes.

Cumulative + Project Intersection Levels of Service. The cumulative + project A.M. and P.M. peak hour levels of service were calculated for the study-area intersections based on the traffic forecasts illustrated in Figure 4.10-12 and compared to the Year 2008 (Pre-project) levels of service to determine potential cumulative impacts. It is noted that several improvement projects are currently under design or proposed that would affect the study-area network. The Castaic B&T Fee District outlines improvements and estimates project costs for The Old Road and the Parker Road Interchange. However, due to the uncertainty of the implementation schedule, these improvements were not assumed in the cumulative analysis. Tables 4.10-10 and 4.10-11 summarize the results of these calculations.



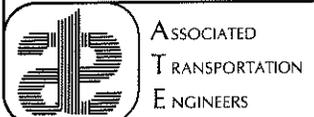
**LEGEND**

XXXX - Average Daily Traffic

((XX)XX) - (A.M.) P.M. Peak Hour Volume

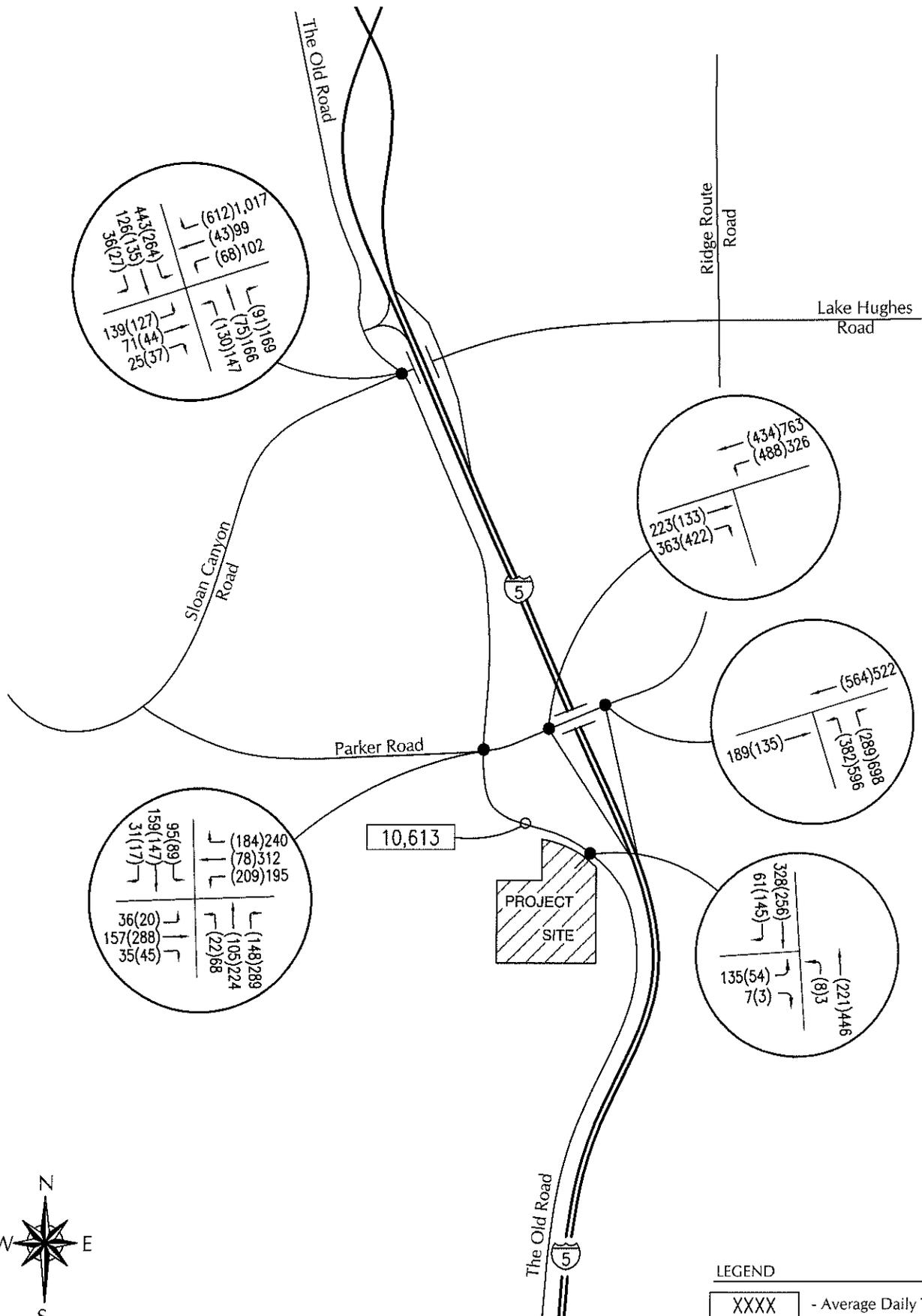
J - Traffic Direction

PROJECT #05024



CUMULATIVE TRAFFIC VOLUMES

FIGURE 4.10 - 11



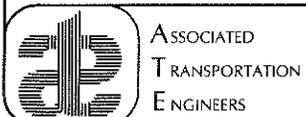
LEGEND

XXXX - Average Daily Traffic

(XXXX) - (A.M.) P.M. Peak Hour Volume

↵ - Traffic Direction

PROJECT #05024



ASSOCIATED  
TRANSPORTATION  
ENGINEERS

CUMULATIVE + PROJECT TRAFFIC VOLUMES

FIGURE 4.10 - 12

**Impact T-2** Development of the Lake View Estates Project would generate cumulative impacts (Class II) at two intersections during the A.M. peak hour and four intersections during the P.M. peak hour.

**Table 4.10-10  
Cumulative + Project A.M. Peak Hour  
Intersection Levels of Service**

Intersection	ICU / LOS		Cumulative - Added	
	Year 2008 (Preproject)	Cumulative + Project	V/C Increase <sup>1</sup>	Impact <sup>1</sup>
The Old Rd/Sloan Canyon Rd	0.34/LOS A	0.79/LOS C	N/A	No
The Old Rd/Parker Rd	0.40/LOS A	0.92/LOS E	<b>0.21</b>	<b>Yes</b>
I-5 SB On-Ramp/Parker Rd	0.52/LOS A	0.92/LOS E	<b>0.21</b>	<b>Yes</b>
I-5 NB Off-Ramp/Ridge Route Rd	0.49/LOS A	0.69/LOS B	N/A	No

<sup>1</sup> V/C increase and impact determined by comparing the cumulative + project V/C ratio to the baseline pre-project V/C (V/C 0.71).

Tables 4.10-9 indicates that the project would generate cumulative impacts during the A.M. peak hour at The Old Road/Parker Road intersection and the I-5 Southbound On-Ramp/Parker Road intersection.

**Table 4.10-11  
Cumulative + Project P.M. Peak Hour  
Intersection Levels of Service**

Intersection	Delay / LOS		Cumulative - Added	
	Year 2008 (Preproject)	Cumulative + Project	Volume Increase <sup>1</sup>	Impact <sup>1</sup>
The Old Rd/Sloan Canyon Rd	0.42/LOS A	1.08/LOS F	<b>0.66</b>	<b>Yes</b>
The Old Rd/Parker Rd	0.66/LOS B	1.23/LOS F	<b>0.52</b>	<b>Yes</b>
I-5 SB On-Ramp/Parker Rd	0.63/LOS B	1.06/LOS F	<b>0.35</b>	<b>Yes</b>
I-5 NB Off-Ramp/Ridge Route Rd	0.49/LOS A	0.80/LOS C	<b>0.09</b>	<b>Yes</b>

<sup>1</sup> V/C increase and impact determined by comparing the cumulative + project V/C ratio to the baseline pre-project V/C (V/C 0.71).

Tables 4.10-10 indicates that the project would generate cumulative impacts during the P.M. peak hour at all four study-area intersections during the P.M. peak hour.

Traffic Signal Warrant Analysis. Traffic signal warrants were completed for the impacted intersections to determine the need for a signal at these locations. The County's traffic study guidelines stipulate that the need for a traffic signal should be evaluated based on the MUTCD 2003 Caltrans Supplement's *Warrant 3 - Peak Hour* and the *Estimated Average Daily Traffic* values contained in *Table 4C-101* of the MUTCD. Table 4.10-12 summarizes the results of the signal warrant analyses completed for the four study-area intersections. The traffic signal warrants are included in the Technical Appendix.

**Table 4.10-12  
Cumulative + Project Conditions  
Traffic Signal Warrant Analysis**

Intersection	Warrant 3 - A.M. Peak Hour	Warrant 3 - P.M. Peak Hour	Estimated ADT Values
The Old Rd/Sloan Canyon Rd	N/A	Satisfied	Satisfied
The Old Rd/Parker Rd	Satisfied	Satisfied	Satisfied
I-5 SB On-Ramp/Parker Rd	Satisfied	Satisfied	Satisfied
I-5 NB Off-Ramp/Ridge Route Rd	N/A	Satisfied	Satisfied

N/A: not applicable - no impact.

Mitigations. This section outlines the mitigation measures developed for the cumulative impacts identified in this study. The mitigated intersection levels of service and the project's proportionate share to the improvements are shown in Tables 4.10-13 and 4.10-14. The project's proportionate share was determined using the County's *Project Percentage Share* formula (see Technical Appendix for calculations). The mitigated intersection geometries are shown in Figure 4.10-13.

**Mitigation T-2a**     **The Old Road/Sloan Canyon Road:** In addition to the intersection improvements included in the Castaic B&T Fee District program, the westbound approach would need to be modified to provide a free right-turn lane and traffic signals would need to be installed to meet County thresholds. The payment of the Castaic B&T Fee District fees and payment of the proportionate share of 2% of the cost of the additional improvements would mitigate the project's cumulative impact.

Table 4.10-12 indicates that the cumulative + project traffic volumes satisfy *Warrant 3 - Peak Hour* and the *Estimated Average Daily Traffic* criteria at The Old Road/Sloan Canyon Road intersection. The traffic volumes would also satisfy *Warrant 1 - Eight Hour Vehicular Volume* and *Warrant 2 - Four Hour Vehicular Volume*. This data, and the stop controlled (HCM) level of service calculations, which show that the intersection would operate at LOS F, indicate the need for a future signal at this location.

The programmed realignment and widening project for The Old Road includes the widening of the northbound and eastbound approaches of the intersection, as shown in the improvement plan for The Old Road contained in the Technical Appendix.

Implementation of a signal and the improvements currently programmed by the County would result in LOS D operations during the P.M. peak hour. Additionally, the westbound approach would need a channelizing island to create a free right-turn lane which would direct traffic towards the south bound I-5 on-ramp. This geometry is outlined in the table below.

**The Old Road/Sloan Canyon Road Intersection  
Mitigated Geometry**

Scenario	Northbound	Southbound	Eastbound	Westbound	Control
Existing Geometry	L T R	L T R	L TR	L T R	Stop Signs
The Old Rd Widening Geometry	L T R	L T R	L T TR	L T R	Stop Signs
Cumulative Mitigated Geometry	L T R	L T R	L T TR	L T FR	Signal

FR = Free Right

With the revised geometry and the traffic signal, the intersection would operate at LOS A in the A.M. peak hour and LOS B (V/C 0.66) in the P.M. peak hour. The project would contribute to the improvements through payment of the required fees as stipulated in the Castaic B&T Fee District, and its fair-share payment (2%) for the installation of the traffic signal and modification to the westbound approach.

**Mitigation T-2b**      **The Old Road/Parker Road intersection: The following improvements would be required at this intersection to mitigate cumulative impacts: construct Castaic B & T district improvements and restripe the eastbound approach to provide a left -turn lane and a shared through/right-turn lane. The payment of the Castaic B&T Fee District fees and payment of the proportionate share of 24.3% of the cost of the additional restriping improvement would mitigate the project’s cumulative impact. It is noted that these improvements are in addition to the project-specific mitigation measures outlined in Mitigation T-1.**

The Castaic B&T programmed realignment and widening project for The Old Road includes the widening of the northbound and southbound approaches to provide a left-turn lane, a through lane and a shared through/right-turn lane. In addition, the eastbound approach on Parker Road would need to be restriped to provide a left-turn lane and a through/right-turn lane to mitigate the identified cumulative impact.

Implementation of the cumulative mitigation measures listed above, in combination with the project-specific mitigation measures listed previously (see Mitigation T-1) would result in LOS A during the A.M. peak hour and LOS B during the P.M. peak hour, thereby mitigating the projects cumulative impact. The following table summarizes the mitigated intersection geometry.

**The Old Road/Parker Road Intersection  
Mitigated Geometry**

Scenario	Northbound	Southbound	Eastbound	Westbound	Control
Existing Geometry	LTR	LTR	LT R	LTR	Stop Signs
With 2008 Mitigations	LTR	LTR	LT R	<b>L TR</b>	<b>Signal</b>
The Old Rd Widening Geometry	<b>L T TR</b>	<b>L T TR</b>	LT R	L TR	Signal
Cumulative Mitigated Control	L T TR	L T TR	<b>L TR</b>	L TR	Signal

The project would contribute to the improvements through payment of the required fees as stipulated in the Castaic B&T Fee District, and its proportional share payment (24.3%) for the restriping of the eastbound approach.

**Mitigation T-2c**      **I-5 Southbound On-Ramp/Parker Road intersection: The Parker Road Interchange Project contained in the Castaic B&T Fee District would result in LOS B during the P.M. peak hour, which meets County thresholds. The payment of the Castaic B&T Fee District fees would mitigate the project’s cumulative impact.**

Table 4.10-12 indicates that the cumulative + project traffic volumes satisfy *Warrant 3 - Peak Hour* and the *Estimated Average Daily Traffic* criteria at the intersection. It is noted that the MUTCD stipulates that *Warrant 3 - Peak Hour* shall be applied only “in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.” This condition would not apply to the

intersection. A review of the additional traffic signal warrants indicated that the cumulative + project traffic would only satisfy *Warrant 2 - Four Hour Vehicle Warrant*. Based on the warrant guidelines and conditions provided in the *MUTCD* and the *MUTCD 2003 Caltrans Supplement*, the satisfaction of one applicable warrant and the criteria in *Table 4C-101* does not justify installation of a signal.

It is also noted that the levels of service of this unsignalized intersection were calculated using the ICU method. Levels of service calculations using the HCM delay calculation methodology, which is recommended by Caltrans, indicate that the unsignalized intersection would operate at LOS B during both peak hours with cumulative + project traffic.

The Castaic B&T Fee District project for the Parker Road Interchange (Exhibit D, Proposed Improvement IV) includes the following improvements. A copy of the fee district document is included in the Technical Appendix.

- Widening of the existing Parker Road Bridge over Interstate 5.
- Widening of the existing northbound off-ramp and southbound on-ramp.

The bridge currently contains two lanes. The widening of the overcrossing would provide sufficient pavement width for at least three lanes. The geometry at the Southbound On-Ramp can then be changed to a separate eastbound left-turn and a separate through lane. This geometry would provide for LOS B during the A.M. peak hour and LOS A during the P.M. peak hour, thereby mitigating the project's cumulative impact to a level of insignificance. It is noted that the interchange improvements would likely widen the bridge to more than three lanes and that the on-ramp would be widened. The ultimate improvements are expected to result in better operations than the mitigated levels of service listed above. The project would contribute to the improvements through payment of the required fees as stipulated in the Castaic B&T Fee District document.

**Mitigation T-2d**      **I-5 Southbound Off-Ramp/Parker Road intersection: In addition to the The Parker Road overcrossing widening project contained in the Castaic B&T Fee District, the intersection would need to be signalized to meet County thresholds. The payment of the Castaic B&T Fee District fees and payment of the proportionate share of 7.4% of the cost of the traffic signal would mitigate the project's cumulative impact**

Table 4.10-12 indicates that the cumulative + project traffic volumes satisfy *Warrant 3 - Peak Hour* and the *Estimated Average Daily Traffic* criteria at The I-5 Northbound Off-Ramp/Parker Road intersection. The traffic volumes would also satisfy *Warrant 1 - Eight Hour Vehicular Volume* and *Warrant 2 - Four Hour Vehicular Volume*. In addition, the stop controlled (HCM) level of service calculations show that the intersection would operate at LOS F. This data indicates the need for a signal at this location.

As discussed previously, the Parker Road Interchange project included in the Castaic B&T Fee District include the widening of the existing Parker Road Bridge over Interstate 5 and the widening of the northbound off-ramp and southbound on-ramp. The widening of the overcrossing would provide sufficient pavement width for at least three lanes. A review of the volumes indicates that the capacity

of the intersection would improve during both the A.M. and P.M. peak hour by providing an additional westbound lane. The inner westbound lane could be a dedicated left-turn lane for the Southbound On-Ramp intersection.

This geometry would provide for LOS B during the P.M. peak hour, thereby mitigating the project’s cumulative impact to a level of insignificance. It is noted that the interchange improvements would likely widen the bridge to more than three lanes and that the off-ramp would be widened. The ultimate improvements are expected to result in better operations than the mitigated levels of service listed above. The project would contribute to the improvements through payment of the required fees as stipulated in the Castaic B&T Fee District and its proportionate share payment for the traffic signal installation.

**Table 4.10-13  
Cumulative + Project A.M. Peak Hour  
Mitigated Intersection Levels of Service**

Intersection	A.M. Peak Hour		
	Cumulative + Project	Mitigated Cum + Project	Proportionate Share
The Old Rd/Parker Rd	0.92/LOS E	0.57/LOS A	24.3% <sup>1</sup>
I-5 SB On-Ramp/Parker Rd	0.92/LOS E	0.65/LOS B	N/A <sup>2</sup>

<sup>1</sup> Average percentage of A.M. and P.M. peak hours.

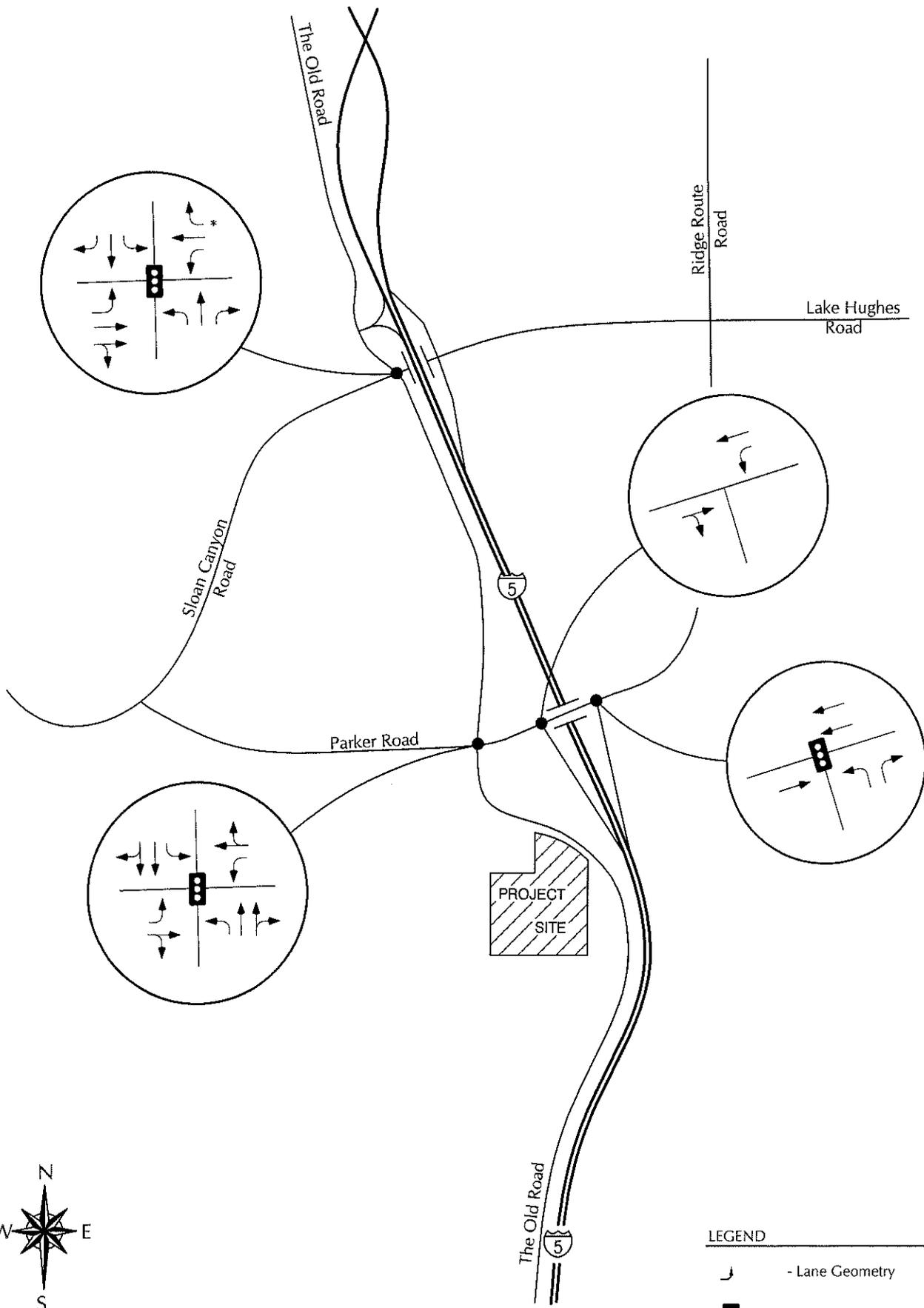
<sup>2</sup> Not applicable ; project would pay required Castaic B&T Fee District fees

**Table 4.10-14  
Cumulative + Project P.M. Peak Hour  
Mitigated Intersection Levels of Service**

Intersection	P.M. Peak Hour		
	Cumulative + Project	Mitigated Cum + Project	Proportionate Share
The Old Rd/Sloan Canyon Rd	1.02/LOS F	0.74/LOS C	2.0%
The Old Rd/Parker Rd	1.23/LOS F	0.69/LOS B	24.3% <sup>1</sup>
I-5 SB On-Ramp/Parker Rd	1.06/LOS F	0.58/LOS A	N/A <sup>2</sup>
I-5 NB Off-Ramp/Ridge Rte Rd	0.80/LOS C	0.64/LOS B	7.4%

<sup>1</sup> Average percentage of A.M. and P.M. peak hours.

<sup>2</sup> Not applicable ; project would pay required Castaic B&T Fee District fees



- LEGEND**
- Lane Geometry
  - Signal
  - Free Right-Turn Lane



PROJECT #05024



ASSOCIATED  
TRANSPORTATION  
ENGINEERS

STUDY-AREA INTERSECTION - MITIGATED GEOMETRIES

FIGURE 4.10 - 13

#### 4.10.7 Congestion Management Program Impact Analysis

As required by the Congestion Management Program (CMP), a *Traffic Impact Assessment* (TIA) was prepared to determine the potential impacts at designated monitoring locations on the CMP highway system. The analysis has been prepared according to the procedures outlined in Appendix D of the County's CMP document. The level of service (LOS) standard in Los Angeles County is LOS E, except where the base year LOS is worse than LOS E. In such case, the base year LOS is the standard.

Intersections: The CMP guidelines require that intersection monitoring locations must be examined if the proposed project would add 50 PHT or more during the A.M. or P.M. peak hour at a CMP monitoring location. None of the study-area intersections are included in the CMP monitoring network. Therefore, no further review of potential impacts to CMP intersections is required.

Freeway Segments: The CMP guidelines require that freeway monitoring locations must be examined if the proposed project would add 150 PHT or more (in either direction) during the A.M. or P.M. peak hour. As shown Figure 4.10-8, the project would add a maximum of 115 PHT to Interstate 5 in the northbound direction and 107 PHT in the southbound direction. No further review of potential impacts to CMP freeway segments is required.

In addition to the CMP analysis above, a *Traffic Impact Study* (TIS) was prepared for the segments of Interstate 5 adjacent the project site based on the level of service methodologies and criteria contained in Caltrans' traffic impact guidelines<sup>8</sup>. The TIS is summarized below. Worksheets showing the freeway segment level of service calculations are contained in the Technical Appendix.

The segment of Interstate 5 south of Parker Road currently carries 88,000 ADT, with 8,500 PHT during the peak hour<sup>9</sup>. The segment of Interstate 5 north of Parker Road carries 80,000 ADT, with 7,500 PHT during the peak hour. These traffic volumes equate to LOS B or better operations.

Year 2008 + Project Conditions. Freeway segment levels of service were calculated assuming the existing + ambient growth + project traffic volumes. The ambient growth factor was developed using the County's ambient growth rate for the Castaic area (4.6% per year) up to the Year 2008, when the project would be occupied. The segment of Interstate 5 south of Parker Road would carry 101,400 ADT, with 9,800 PHT during the peak hour. The segment of Interstate 5 north of Parker Road would carry 91,000 ADT, with 8,500 PHT during the peak hour. These volumes equate to LOS C or better operations.

Cumulative and Cumulative + Project Conditions. Cumulative freeway traffic volume forecast were developed based on the list of approved and pending projects located in the study-area. The approved and pending projects description, location and trip generation were previously discussed in the cumulative analysis contained in this report. The segment of Interstate 5 south of Parker Road would

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<sup>8</sup> Guide for the Preparation of Traffic Impact Studies, Caltrans, 2002,

<sup>9</sup> 2004 Traffic Volumes on California State Highways, Caltrans, 2005.

carry 141,300 ADT, with 13,700 PHT during the peak hour. The segment of Interstate 5 north of Parker Road would carry 121,900 ADT, with 11,400 PHT during the peak hour. These volumes indicate that both the analyzed freeway segments would operate at LOS D under cumulative conditions with or without the project, which is acceptable based on the Los Angeles County CMP standard.

###

#### **4.10.8 Reference and Persons Contacted**

##### **Associated Transportation Engineers**

Richard L. Pool, P.E., Principal Engineer  
Scott A. Schell, AICP, Principal Transportation Planner  
Dan Dawson, Supervising Transportation Planner  
Dennis Lammers, Transportation Planner  
Andrew Orfila, Transportation Planner

##### **References**

Traffic Impact Analysis Report Guidelines, County of Los Angeles, 1997.

Report on the Castaic Bridge and Major Thoroughfare Costruction Fee District, Department of Public Works, County of Los Angeles, 1991.

Trip Generation, Institute of Transportation Engineers, 7th Edition, 2003.

2004 Congestion Management Program for Los Angeles County, Los Angeles County Metropolitan Transportation Authority, 2004.

Highway Capacity Manual, Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 2000.

Manual on Uniform Traffic Control Devices 2003, Caltrans Supplement, May, 2004.

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

Highway Design Manual, Caltrans, Fifth Edition, 2001.

2004 Traffic Volumes on California State Highways, Caltrans, 2005.

##### **Persons Contacted**

Arakawa, Patrick, Traffic and Lighting, Public Works Department, County of Los Angeles.  
Tadrous, Marian, Traffic and Lighting, Public Works Department, County of Los Angeles.  
Hilliard, Gary, Traffic and Lighting, Public Works Department, County of Los Angeles.  
Diaz, Rick, Traffic and Lighting, Public Works Department, County of Los Angeles.  
Richards, Sam, Land Development Review, Public Works Department, County of Los Angeles.

#### 4.10.9 Technical Appendix

##### Contents:

LEVEL OF SERVICE DEFINITIONS

ROADWAY AND INTERSECTION TURNING VOLUME COUNTS

THE OLD ROAD REALIGNMENT AND WIDENING PROJECT DIAGRAMS

CASTAIC B&T DISTRICT IMPROVEMENTS

APPROVED AND PENDING PROJECTS LIST AND LOCATION MAPS

APPROVED AND PENDING PROJECTS TRIP GENERATION WORKSHEET

TRAFFIC SIGNAL WARRANT WORKSHEETS

CUMULATIVE IMPACT FAIR SHARE CALCULATION WORKSHEETS

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

Reference 1 The Old Road/Sloan Canyon Road

Reference 2 The Old Road/Parker Road

Reference 3 I-5 Southbound On-Ramp/Parker Road

Reference 4 I-5 Northbound Off-Ramp/Ridge Route Road

Reference 5 The Old Road/"A" Street

UNSIGNALIZED (HCM) INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

FREEWAY LEVEL OF SERVICE CALCULATION WORKSHEETS

**LEVEL OF SERVICE DEFINITIONS**

### Signalized Intersection Level of Service Definitions

LOS	Delay	V/C Ratio	Definition
A	< 10.0	< 0.60	Progression is extremely favorable. Most vehicles arrive during the green phase. Many vehicles do not stop at all.
B	10.1 - 20.0	0.61 - 0.70	Good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20.1 - 35.0	0.71 - 0.80	Only fair progression, longer cycle lengths, or both, result in higher cycle lengths. Cycle lengths may fail to serve queued vehicles, and overflow occurs. Number of vehicles stopped is significant, though many still pass through intersection without stopping.
D	35.1 - 55.0	0.81 - 0.90	Congestion becomes more noticeable. Unfavorable progression, long cycle lengths and high v/c ratios result in longer delays. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55.1 - 80.0	0.91 - 1.00	High delay values indicate poor progression, long cycle lengths and high v/c ratios. Individual cycle failures are frequent
F	> 80.0	> 1.00	Considered unacceptable for most drivers, this level occurs when arrival flow rates exceed the capacity of lane groups, resulting in many individual cycle failures. Poor progression and long cycle lengths may also contribute to high delay levels.

<sup>a</sup> Average control delay per vehicle in seconds.

### Unsignalized Intersection Level of Service Definitions

The HCM<sup>1</sup> uses *control delay* to determine the level of service at unsignalized intersections. Control delay is the difference between the travel time actually experienced at the control device and the travel time that would occur in the absence of the traffic control device. Control delay includes deceleration from free flow speed, queue move-up time, stopped delay and acceleration back to free flow speed.

LOS	Control Delay Seconds per Vehicle
A	< 10.0
B	10.1 - 15.0
C	15.1 - 25.0
D	25.1 - 35.0
E	35.1 - 50.0
F	> 50.0

<sup>1</sup> Highway Capacity Manual, National Research Board, 2000



**ROADWAY AND INTERSECTION TURNING VOLUME COUNTS**

# Mitron Systems Volume Count Report

Site Name THE OLD RD s/o PARKER RD  
 Jurisdiction  
 Study Type Volume (th1)  
 Location Code 328055  
 Location North  
 Direction 3/29/2005  
 Date  
 Real Time 15:53  
 Start Date 3/29/2005  
 Start Time 16:00  
 Sample Time 00:15  
 Operator Number 1  
 Machine Number 3

Tuesday, March 29, 2005

HR	03-29-05 (Ch1)				
	Total	00-15	15-30	30-45	45-00
16	188	40	34	58	54
17	180	41	50	48	53
18	165	47	43	34	42
19	101	29	20	28	24
20	53	15	20	19	7
21	44	15	11	8	10
22	30	13	4	6	7
23	21	4	8	7	4
00	13	0	4	3	1
01	1	1	0	0	0
02	6	3	0	3	2
03	1	1	0	0	0
04	6	3	2	2	1
05	11	2	2	3	4
06	39	12	4	11	12
07	74	15	15	27	17
08	130	23	30	34	49
09	178	41	42	40	55
10	189	45	52	57	44
11	169	41	39	38	51
12	163	54	47	26	36
13	221	53	51	56	61
14	160	48	44	48	29
15	104	53	44	41	48
	2358	Total			

AM Peak Hour Start 09:45  
 AM Peak Hour Total 201  
 AM Peak Hour Factor 88.15 %  
 PM Peak Hour Start 13:00  
 PM Peak Hour Total 221  
 PM Peak Hour Factor 90.67 %

HR	03-30-05 (Ch1)				
	Total	00-15	15-30	30-45	45-00
16	203	43	55	42	63
17	219	68	68	47	48
18	167	51	44	33	39
19	100	27	20	33	11
20	74	18	23	16	17
21	44	13	7	10	14
22	42	15	14	9	4
23	26	10	5	6	3
00	7	1	0	2	4
01	3	2	0	0	1
02	3	2	1	0	0
03	5	0	1	2	2
04	13	3	5	0	5
05	14	0	5	4	5
06	39	8	8	10	13
07	83	13	15	19	26
08	138	26	18	38	67
09	185	43	50	50	42
10	215	63	40	53	62
11	181	42	54	48	39
12	205	64	52	55	48
13	245	53	75	68	65
14	175	61	48	44	38
15	178	58	37	49	51
	2865	Total			

AM Peak Hour Start 10:00  
 AM Peak Hour Total 218  
 AM Peak Hour Factor 86.61 %  
 PM Peak Hour Start 13:00  
 PM Peak Hour Total 240  
 PM Peak Hour Factor 78.95 %

HR	03-31-05 (Ch1)				
	Total	00-15	15-30	30-45	45-00
16	200	36	42	66	68
17	216	62	48	54	62
18					
19					
20					
21					
22					
23					
00					
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
	416	Total			

AM Peak Hour Start  
 AM Peak Hour Total  
 AM Peak Hour Factor  
 PM Peak Hour Start 10:30  
 PM Peak Hour Total 232  
 PM Peak Hour Factor 87.88 %

# Mitron Systems Volume Count Report

Site Name THE OLD ROAD s/o PARKER RD  
 Jurisdiction  
 Study Type Volume (2-way)  
 Location Code 32805  
 Location South  
 Direction 3/29/2005  
 Date  
 Real Time 16:53  
 Start Date 3/29/2005  
 Start Time 16:00  
 Sample Time 00:15  
 Operator Number 1  
 Machine Number 3

Tuesday, March 29, 2005

HR	03-29-05 (Ch2(1-1))				
	Total	00-15	15-30	30-45	45-00
16	216	62	48	48	60
17	217	50	58	52	67
18	228	64	52	58	54
19	188	51	37	47	33
20	97	29	32	19	18
21	77	25	23	15	14
22	52	14	13	16	9
23	44	2	5	18	14
00	24	7	8	3	6
01	15	2	5	5	3
02	7	1	2	0	4
03	15	2	8	2	5
04	18	1	4	9	4
05	37	3	11	8	15
06	127	24	32	38	33
07	125	20	23	34	42
08	132	30	28	39	35
09	144	20	41	31	44
10	162	38	37	45	41
11	158	40	34	38	46
12	193	46	41	52	44
13	178	39	30	47	58
14	175	31	43	54	48
15	171	40	43	43	45
	2771	Total			

AM Peak Hour Start 09:45  
 AM Peak Hour Total 188  
 AM Peak Hour Factor 88.87 %  
 PM Peak Hour Start 17:15  
 PM Peak Hour Total 231  
 PM Peak Hour Factor 90.23 %

HR	03-30-05 (Ch2(2-1))				
	Total	00-15	15-30	30-45	45-00
16	219	53	58	58	60
17	221	50	60	47	69
18	178	53	40	48	38
19	149	43	43	42	21
20	94	22	16	30	27
21	63	16	18	7	20
22	60	21	20	9	10
23	33	9	11	7	6
00	24	7	8	3	6
01	12	5	4	2	1
02	4	2	1	0	1
03	6	1	1	2	2
04	27	2	3	19	9
05	63	6	14	12	22
06	111	14	25	35	37
07	138	28	33	33	42
08	144	32	39	41	32
09	154	37	37	46	34
10	145	28	38	43	36
11	154	38	38	42	40
12	178	41	44	49	44
13	163	47	46	32	44
14	177	42	50	39	49
15	171	40	44	49	38
	2676	Total			

AM Peak Hour Start 07:45  
 AM Peak Hour Total 164  
 AM Peak Hour Factor 81.87 %  
 PM Peak Hour Start 16:30  
 PM Peak Hour Total 223  
 PM Peak Hour Factor 92.82 %

HR	03-31-05 (Ch2(2-1))				
	Total	00-15	15-30	30-45	45-00
16	169	56	39	48	48
17	215	56	44	46	69
18					
19					
20					
21					
22					
23					
00					
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
	404	Total			

AM Peak Hour Start  
 AM Peak Hour Total  
 AM Peak Hour Factor  
 PM Peak Hour Start 17:00  
 PM Peak Hour Total 215  
 PM Peak Hour Factor 77.00 %

ALL TRAFFIC RESOURCES  
5312 W AVE L-14

QUARTZ HILL, CA 93536  
(661) 718-8226

File Name : THE OLD RD & LK HUGHES  
Site Code : 03290503  
Start Date : 3/31/2005  
Page No : 1

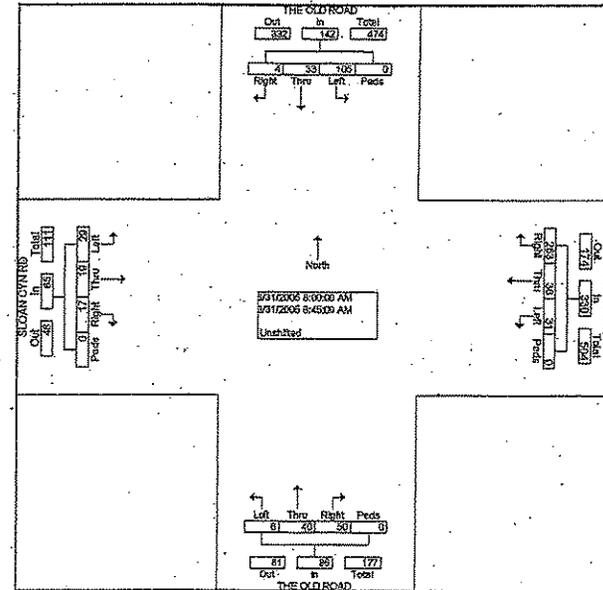
Start Time	THE OLD ROAD From North				LAKH HUGHES RD From East				THE OLD ROAD From South				SLOAN CYN RD From West				In Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
07:00 AM	0	8	21	0	54	1	4	0	2	5	4	0	1	6	9	0	116
07:15 AM	0	12	16	0	72	3	9	0	6	5	0	0	1	3	3	0	130
07:30 AM	4	6	30	0	71	8	9	0	5	3	0	0	3	6	4	0	159
07:45 AM	2	11	28	0	69	7	9	0	11	7	3	0	8	10	9	0	110
Total	6	37	95	0	266	20	31	0	24	21	7	0	8	25	25	0	569
08:00 AM	1	6	23	0	74	9	10	0	13	7	2	0	4	4	6	0	159
08:15 AM	0	6	27	0	45	6	5	0	6	1	1	0	7	3	7	0	108
08:30 AM	1	10	27	0	66	8	8	0	18	14	1	0	7	3	8	0	171
08:45 AM	2	11	28	0	78	13	8	0	19	18	2	0	5	9	8	0	195
Total	4	33	105	0	263	36	31	0	50	40	6	0	17	19	28	0	633
04:00 PM	5	12	34	0	97	17	12	0	16	12	2	0	9	8	5	0	223
04:15 PM	0	7	41	0	74	12	13	0	8	12	1	0	2	5	5	0	180
04:30 PM	3	14	50	0	65	19	22	0	25	12	5	0	3	10	6	0	234
04:45 PM	3	15	31	0	97	23	23	0	22	7	3	0	3	10	2	0	239
Total	11	48	156	0	333	71	70	0	71	43	11	0	11	33	18	0	576
05:00 PM	3	14	39	0	71	20	15	0	26	15	1	0	1	17	5	0	225
05:15 PM	0	9	24	0	79	23	19	0	21	13	5	0	3	12	3	0	213
05:30 PM	2	12	42	0	97	23	10	0	24	18	4	0	0	8	3	0	243
05:45 PM	2	17	31	0	101	19	23	0	19	22	1	0	0	5	6	0	266
Total	7	52	156	0	349	85	67	0	90	66	11	0	4	42	19	0	947
Grand Total	26	170	512	0	1210	212	199	0	235	170	35	0	40	119	96	0	3025
Approach %	3.9	23.9	72.1	0.0	74.6	13.1	12.3	0.0	53.4	38.6	8.0	0.0	15.7	46.9	37.4	0.0	
Total %	0.9	5.6	16.9	0.0	40.0	7.0	6.6	0.0	7.8	5.6	1.2	0.0	1.3	3.9	3.1	0.0	

ALL TRAFFIC RESOURCES  
5312 W AVE L-14

QUARTZ HILL, CA 93536  
(661) 718-8226

File Name : THE OLD RD & LK HUGHES  
Site Code : 03290503  
Start Date : 3/31/2005  
Page No : 2

Start Time	THE OLD ROAD From North				LAKH HUGHES RD From East				THE OLD ROAD From South				SLOAN CYN RD From West				In Total						
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds							
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																							
Intersection	08:00 AM																						
Volume	4	33	105	0	142	263	96	31	0	330	50	42	6	0	96	17	19	29	0	63	633		
Percent	2.8	23.2	73.9	0.0	78.7	10.9	9.4	0.0	0.0	52.1	41.7	6.3	0.0	26.2	29.2	44.6	0.0						
Volume	08:45	2	11	28	0	41	78	13	8	0	99	13	18	2	0	33	5	9	8	0	32	195	
Peak Factor	08:45 AM	2	11	28	0	41	08:45 AM	78	13	8	0	08:30 AM	18	14	1	0	08:45 AM	5	9	8	0	22	0.813
High Int																							
Volume																							
Peak Factor																							



ALL TRAFFIC RESOURCES

5312 W AVE L-14

QUARTZ HILL, CA 93536

(661) 718-8226

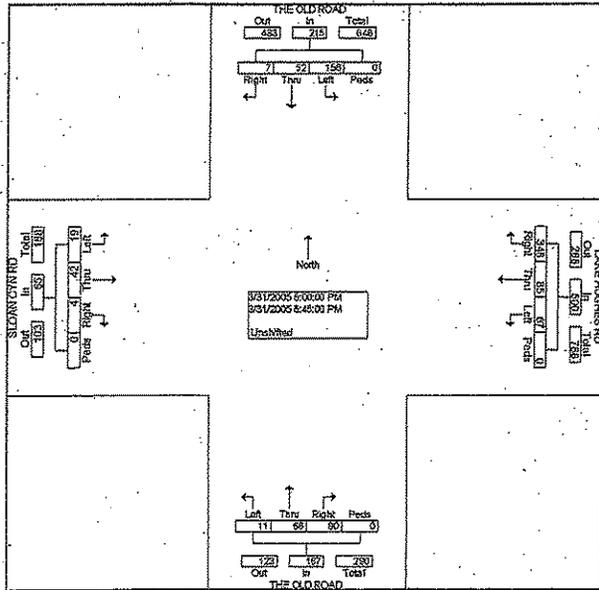
File Name : THE OLD RD & LK HUGHES

Site Code : 03290503

Start Date : 3/31/2005

Page No : 3

Start Time	THE OLD ROAD From West					LARGE HUGHES RD From East					THE OLD ROAD From South					SLOAN CYN RD From West					Int. Total				
	Right	Thru	Left	Peak	App. Total	Right	Thru	Left	Peak	App. Total	Right	Thru	Left	Peak	App. Total	Right	Thru	Left	Peak	App. Total					
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																									
Junction: 05:00 PM																									
Volume	7	52	156	0	215	348	35	67	0	500	90	66	11	0	167	4	42	19	0	65	0	0	0	0	0
Percent	3.3	24.2	72.6	0.0		69.6	17.0	13.4	0.0		53.9	39.3	6.6	0.0		6.2	64.6	29.2	0.0						
05:45 Volume	2	17	51	0	70	101	19	23	0	143	19	22	1	0	42	0	5	6	0	.11					
Peak Factor																									
05:45 PM	0.768					0.874					0.500					0.150					0.707				
05:45 PM	2	17	51	0	70	101	19	23	0	143	24	18	4	0	46	1	17	5	0	.23					
Peak Factor																									



ALL TRAFFIC RESOURCES

5312 W AVE L-14

QUARTZ HILL, CA 93536

(661) 718-8226

File Name : THE OLD RD & PARKER

Site Code : 03290504

Start Date : 3/31/2005

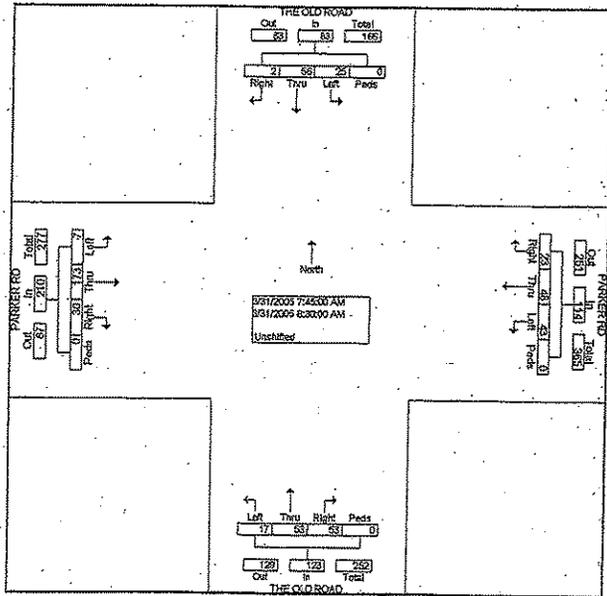
Page No : 1

Start Time	THE OLD ROAD From North					PARKER RD From East					THE OLD ROAD From South					PARKER RD From West					Int. Total
	Right	Thru	Left	Peak	App. Total	Right	Thru	Left	Peak	App. Total	Right	Thru	Left	Peak	App. Total	Right	Thru	Left	Peak	App. Total	
07:00 AM	1	11	3	0	15	4	13	8	0	25	5	14	2	0	21	5	42	0	0	47	
07:15 AM	2	15	6	0	23	3	7	8	0	18	10	7	4	0	21	8	35	1	0	44	
07:30 AM	2	11	7	0	20	3	7	10	0	20	13	5	6	0	24	5	49	2	0	56	
07:45 AM	1	16	6	0	23	5	10	7	0	22	18	14	6	0	38	10	57	0	0	67	
Total	7	53	22	0	82	15	37	33	0	85	46	40	18	0	104	28	189	3	0	219	
08:00 AM	0	15	4	0	19	6	11	9	0	26	11	10	4	0	25	6	38	5	0	49	
08:15 AM	0	10	5	0	15	2	17	18	0	37	11	8	3	0	22	7	35	2	0	44	
08:30 AM	1	15	10	0	26	10	10	9	0	29	13	21	4	0	38	7	42	0	0	49	
08:45 AM	1	12	6	0	19	9	13	9	0	31	18	25	4	0	47	9	38	4	0	51	
Total	2	52	25	0	79	27	51	45	0	123	53	64	15	0	132	29	154	11	0	194	
05:45 PM	4	17	10	0	31	9	37	21	0	77	17	19	12	0	48	7	21	4	0	32	
Total	4	17	10	0	31	9	37	21	0	77	17	19	12	0	48	7	21	4	0	32	
04:00 PM	7	19	15	0	41	13	38	10	0	61	16	20	14	0	50	5	23	5	0	33	
04:15 PM	5	15	10	0	30	10	31	22	0	63	19	20	17	0	56	5	19	6	0	30	
04:30 PM	11	23	9	0	43	5	36	12	0	53	42	23	11	0	76	7	22	7	0	36	
04:45 PM	3	18	6	0	27	11	47	28	0	76	31	30	9	0	70	7	15	4	0	26	
Total	26	75	31	0	132	39	152	78	0	269	108	99	51	0	258	24	79	22	0	125	
05:00 PM	4	17	3	0	24	12	45	7	0	64	22	27	10	0	59	7	21	3	0	31	
05:15 PM	4	21	9	0	34	8	46	17	0	71	22	24	19	0	65	3	33	6	0	42	
05:30 PM	3	27	7	0	37	15	48	17	0	80	24	29	18	0	71	8	21	1	0	30	
Grand Total	50	262	119	0	431	125	416	218	0	759	292	296	137	0	725	106	512	50	0	674	
Approach %	11.6	60.8	27.6	0.0		16.5	54.8	28.7	0.0		40.3	49.8	18.9	0.0		15.9	76.6	7.5	0.0		
Total %	1.9	10.1	4.6	0.0		4.8	16.1	8.4	0.0		11.5	11.5	5.3	0.0		4.1	19.9	1.9	0.0		

ALL TRAFFIC RESOURCES  
5312 W AVE L-14  
QUARTZ HILL, CA 93536  
(661) 718-8226

File Name : THE OLD RD & PARKER  
Site Code : 03290504  
Start Date : 3/31/2005  
Page No : 2

Start Time	THE OLD ROAD From North					PARKER RD From East					THE OLD ROAD From South					PARKER RD From West					Int. Total			
	Right	Thru	Left	Peds	APP. Total	Right	Thru	Left	Peds	APP. Total	Right	Thru	Left	Peds	APP. Total	Right	Thru	Left	Peds	APP. Total				
Peak Hour From 07:30 AM to 10:00 AM - Peak 1 of 1 Intersection: 07:45 AM																								
Volume	2	56	25	0	83	23	46	43	0	114	53	53	17	0	123	30	173	7	0	210	530			
Percent	2.4	67.5	30.1	0.0		20.3	42.1	37.7	0.0		43.1	43.1	13.8	0.0		14.3	82.4	3.3	0.0					
07:45 Volume	1	16	6	0	23	5	10	7	0	22	18	14	6	0	38	10	57	0	0	67	150			
Peak Factor																						0.883		
High Int. 08:30 AM																								
Volume	1	15	10	0	26	08:15 AM	2	17	18	0	37	07:45 AM	16	14	6	0	36	07:45 AM	10	57	0	0	67	67
Peak Factor					0.728					0.770					0.800							0.724		

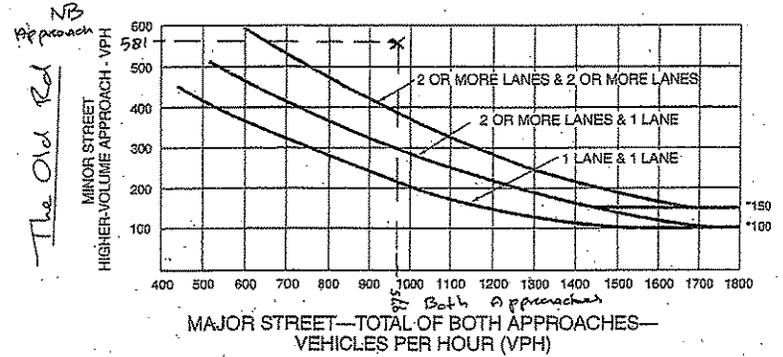


2003 Edition

The Old Rd / Parker Rd

Page 4C-7

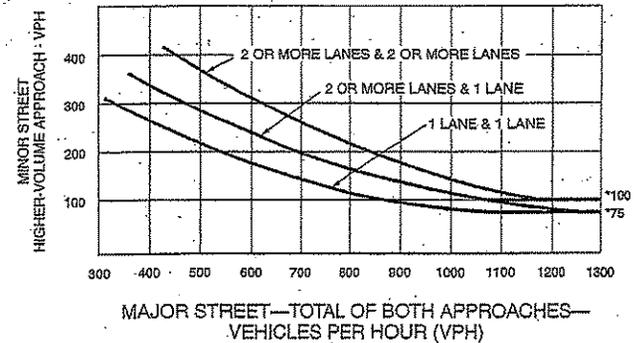
Figure 4C-3. Warrant 3, Peak Hour  
Cumulative + Proposed P.M. Peak Hour



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 km/h OR ABOVE 40 mph ON MAJOR STREET)



\*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Lake View 2510000 + 050000  
 YEAR 2008 + Project Traffic Volumes

MUTCD 2003 California Supplement

Ridge Rte Rd / US I5 NB Knrps

Reference 4 I-5 Northbound Off-Ramp/Ridge Route Road

Figure 4C-104 Traffic Signal Warrants Blank Sheet (Sheet 1 of 4)

DATE: 7/10/05

PROJECT: Ridge Rte Rd / US I5 NB Knrps

LOCATION: Ridge Rte Rd / US I5 NB Knrps

WARRANT TYPE:  1. Minimum Vehicular Volume

CONDITION A - Minimum Vehicular Volume

100% SATISFIED: YES  NO  NO DATA

80% SATISFIED: YES  NO

APPROACH	MINIMUM REQUIREMENTS (ABOVE SHOWN IN BRACKETS)			
	1	2	3	4
North Approach Ridge Rte Rd	1500	1500	1500	1500
West Approach US I5 NB	1500	1500	1500	1500
South Approach US I5 NB	1500	1500	1500	1500
East Approach US I5 NB	1500	1500	1500	1500

CONDITION B - Interruption of Continuous Traffic

100% SATISFIED: YES  NO  NO DATA

80% SATISFIED: YES  NO

APPROACH	MINIMUM REQUIREMENTS (ABOVE SHOWN IN BRACKETS)			
	1	2	3	4
North Approach Ridge Rte Rd	1500	1500	1500	1500
West Approach US I5 NB	1500	1500	1500	1500
South Approach US I5 NB	1500	1500	1500	1500
East Approach US I5 NB	1500	1500	1500	1500

COMBINATION OF CONDITIONS A & B

SATISFIED: YES  NO  N.A.

REQUIREMENT	WARRANT	SATISFIED
1. MINIMUM VEHICULAR VOLUME	1	YES <input type="checkbox"/> NO <input type="checkbox"/>
2. INTERRUPTION OF CONTINUOUS TRAFFIC	2	YES <input type="checkbox"/> NO <input type="checkbox"/>

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 2 of 4)

**WARRANT 2 - Four Hour Vehicular Volume**

SATISFIED\* YES  NO

Record hourly vehicular volumes for four hours.

APPROACH LANES	2 or More		Hour	
	One	More		
Both Approaches - Major Street				
Highest Approaches - Minor Street				

NO DATA

\*All plotted points fall above the curves in MUTCD Figure 4C-1 or 4C-2.

Yes  No

**WARRANT 3 - Peak Hour**

PART A or PART B SATISFIED YES  NO

PART A

(All parts 1, 2, and 3 below must be satisfied)

SATISFIED YES  NO

1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND
2. The volume on the same minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.

Yes  No

Yes  No

Yes  No

PART B

SATISFIED YES  NO

APPROACH LANES	2 or More		Hour	
	One	More		
Both Approaches - Major Street			500	500
Highest Approaches - Minor Street			168	287

The plotted points for vehicles per hour on major streets (both approaches) and the corresponding per hour higher volume vehicle minor street approach (one direction only) for one hour (any consecutive 15 minute period) fall above the applicable curves in MUTCD Figure 4C-3 or 4C-4.

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 3 of 4)

DATE: 5/17/04  
 COUNTY: 05  
 DISTRICT: 000  
 STATE: 05  
 FIRM: 0000  
 PROJECT: 00000000  
 SHEET: 00000000  
 MAPS: 00000000  
 WORKS: 00000000  
 PROJECT NO: 00000000  
 PROJECT NAME: 00000000  
 PROJECT ADDRESS: 00000000  
 PROJECT CITY: 00000000  
 PROJECT STATE: 00000000  
 PROJECT ZIP: 00000000  
 PROJECT COUNTY: 00000000  
 PROJECT DISTRICT: 00000000  
 PROJECT MAPS: 00000000  
 PROJECT WORKS: 00000000  
 PROJECT PROJECT NO: 00000000  
 PROJECT PROJECT NAME: 00000000  
 PROJECT PROJECT ADDRESS: 00000000  
 PROJECT PROJECT CITY: 00000000  
 PROJECT PROJECT STATE: 00000000  
 PROJECT PROJECT ZIP: 00000000  
 PROJECT PROJECT COUNTY: 00000000  
 PROJECT PROJECT DISTRICT: 00000000  
 PROJECT PROJECT MAPS: 00000000  
 PROJECT PROJECT WORKS: 00000000

**WARRANT 1 - Pedestrian Volume**

100% SATISFIED YES  NO

(All parts must be satisfied)

Hour	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12		
Minimum 100																										
Minimum 200																										
Minimum 300																										
Minimum 400																										
Minimum 500																										
Minimum 600																										
Minimum 700																										
Minimum 800																										
Minimum 900																										
Minimum 1000																										

AND the volume of pedestrian traffic during the hour is greater than 100 (100 ft) AND the volume of pedestrian traffic during the hour is greater than 200 (200 ft) AND the volume of pedestrian traffic during the hour is greater than 300 (300 ft) AND the volume of pedestrian traffic during the hour is greater than 400 (400 ft) AND the volume of pedestrian traffic during the hour is greater than 500 (500 ft) AND the volume of pedestrian traffic during the hour is greater than 600 (600 ft) AND the volume of pedestrian traffic during the hour is greater than 700 (700 ft) AND the volume of pedestrian traffic during the hour is greater than 800 (800 ft) AND the volume of pedestrian traffic during the hour is greater than 900 (900 ft) AND the volume of pedestrian traffic during the hour is greater than 1000 (1000 ft)

**WARRANT 5 - School Crossing**

SATISFIED YES  NO

(All parts must be satisfied)

Hour	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
Minimum 100																									
Minimum 200																									
Minimum 300																									
Minimum 400																									
Minimum 500																									
Minimum 600																									
Minimum 700																									
Minimum 800																									
Minimum 900																									
Minimum 1000																									

**WARRANT 6 - School Crossing**

SATISFIED YES  NO

(All parts must be satisfied)

AND the volume of pedestrian traffic during the hour is greater than 100 (100 ft) AND the volume of pedestrian traffic during the hour is greater than 200 (200 ft) AND the volume of pedestrian traffic during the hour is greater than 300 (300 ft) AND the volume of pedestrian traffic during the hour is greater than 400 (400 ft) AND the volume of pedestrian traffic during the hour is greater than 500 (500 ft) AND the volume of pedestrian traffic during the hour is greater than 600 (600 ft) AND the volume of pedestrian traffic during the hour is greater than 700 (700 ft) AND the volume of pedestrian traffic during the hour is greater than 800 (800 ft) AND the volume of pedestrian traffic during the hour is greater than 900 (900 ft) AND the volume of pedestrian traffic during the hour is greater than 1000 (1000 ft)

Figure 4C-101 Traffic Signal Warrants Worksheet (Sheet 4 of 4)

WARRANT 6 - Coordinated Signal System (All Parts Must Be Satisfied)		SATISFIED YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	FULFILLED	
1. 300m (1000ft)	N/A	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
2. For non-signalized streets or streets with one-way traffic, the distance to the adjacent signalized street shall be such that all necessary pedestrian and speed control will be provided. 3. On 2-way streets with adjacent signals, do not provide access to a local street and a parallel control proposed signals could constitute an aggressive signal display.			
WARRANT 7 - Crash Warrant (All Parts Must Be Satisfied)		SATISFIED YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
MINIMUM REQUIREMENTS	WARRANT	FULFILLED	
1. On Warrant 7	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
2. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
3. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
4. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
5. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
6. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
7. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
8. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
9. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
10. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
11. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
12. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
13. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
14. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
15. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
16. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
17. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
18. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
19. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
20. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
21. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
22. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
23. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
24. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
25. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
26. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
27. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
28. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
29. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
30. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
31. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
32. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
33. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
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37. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
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39. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
40. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
41. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
42. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
43. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
44. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
45. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
46. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
47. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
48. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
49. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
50. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
51. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
52. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
53. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
54. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
55. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
56. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
57. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
58. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
59. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
60. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
61. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
62. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
63. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
64. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
65. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
66. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
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68. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
69. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
70. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
71. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
72. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
73. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
74. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
75. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
76. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
77. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
78. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
79. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
80. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
81. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
82. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
83. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
84. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
85. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
86. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
87. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
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90. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
91. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
92. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
93. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
94. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
95. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
96. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
97. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
98. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
99. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
100. Signalized	Warrant 7 - Minimum 1000 ft	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	

N.S.

May 20, 2004

Figure 4C-3. Warrant 3, Peak Hour

Year 2008 + Project Volumes AM & PM

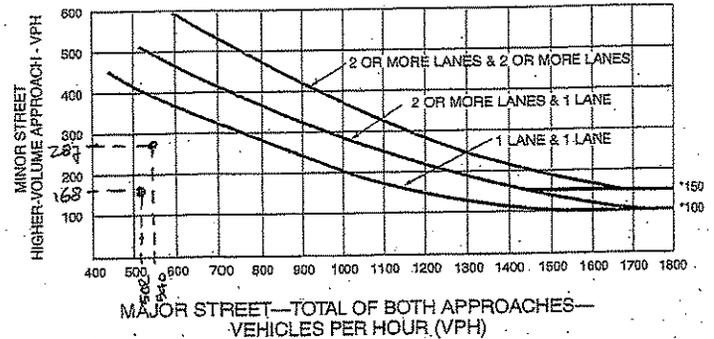
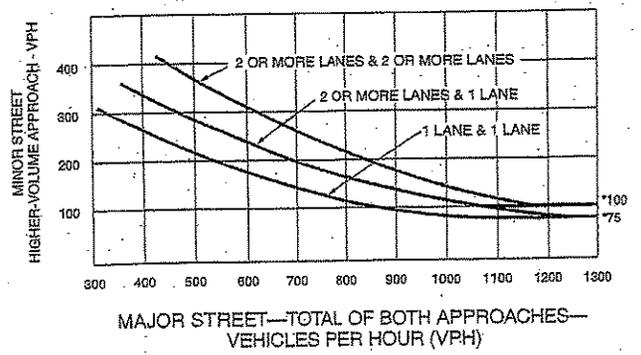


Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 45 km/h OR ABOVE 40 mph ON MAJOR STREET)



LYRKE VIEW RESIDENTS TUDMAN  
Ridge Rte Rd / I-5 NB off Rmp

MUTCD 2003 California Supplement

Cumulative + Paged PM Traffic Volumes

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 1 of 4)

DIST 07 LA IS 058  
CO RTE KPM  
CALC DL DATE 8/5/05  
CHK DATE

Major St \_\_\_\_\_ Critical Approach Speed 50 km/h  
Minor St \_\_\_\_\_ Critical Approach Speed 20 km/h

Critical speed of major street traffic > 54 km/h (40 mph)  RURAL (R)  
In built up area of isolated community of < 10,000 population   
 URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

Condition A - Minimum Vehicle Volume 100% SATISFIED YES  NO   
80% SATISFIED YES  NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				1	2 or More	Hour
	U	R	U	R			
Both Approaches - Major Street	300 (400)	350 (280)	600 (480)	420 (330)			
Highest Approaches - Minor Street	150 (120)	105 (84)	200 (160)	140 (112)			

NO DATA

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES  NO   
80% SATISFIED YES  NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				1	2 or More	Hour
	U	R	U	R			
Both Approaches - Major Street	750 (600)	825 (420)	900 (720)	630 (504)			
Highest Approaches - Minor Street	75 (60)	53 (42)	100 (80)	70 (56)			

NO DATA

Combination of Conditions A & B SATISFIED YES  NO

REQUIREMENT	WARRANT	✓	FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes <input type="checkbox"/> No <input type="checkbox"/>
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume SATISFIED\* YES  NO

Record hourly vehicular volumes for four hours.

APPROACH LANES	2 or More				Hour
	One	More	Hour	Hour	
Both Approaches - Major Street					
Highest Approaches - Minor Street					

NO DATA

\*All plotted points fall above the curves in MUTCD Figures 4C-1 or 4C-2 Yes  No

WARRANT 3 - Peak Hour PART A or PART B SATISFIED YES  NO

PART A SATISFIED YES  NO   
(All parts 1, 2, and 3 below must be satisfied)

- The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND Yes  No
- The volume on the same minor street approach equals or exceeds 160 vph for one moving lane of traffic or 150 vph for two moving lanes; AND Yes  No
- The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches. Yes  No

PART B SATISFIED YES  NO

APPROACH LANES	2 or More				Hour
	One	More	Hour	Hour	
Both Approaches - Major Street		X	711		
Highest Approaches - Minor Street		X	506		

LT

The plotted points for vehicles per hour on major streets (both approaches) and the corresponding per hour higher volume vehicle minor street approach (one direction only) for one hour (any consecutive 15 minute period) fall above the applicable curves in MUTCD Figure 4C-3 or 4C-4.

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 3 of 4)

07 14 IS 058  
 DIST CO RTE KPM  
 Major St: Ridge Rd  
 Minor St: I-5 NB off-ramp  
 CALC DL DATE 2/5/05  
 CHK DATE  
 Critical Approach Speed 50 km/h  
 Critical Approach Speed 80 km/h  
 Critical speed of major street > 64 km/h (40 mph)   
 in built up area of isolated community of < 10,000 population  }  
 RURAL (R)  
 URBAN (U)

WARRANT 4 - Pedestrian Volume (All Parts Must Be Satisfied) 100% SATISFIED YES  NO

Hours --->

Pedestrian Volume					Any hour > 100 Yes <input type="checkbox"/> No <input type="checkbox"/>
Adequate Crossing Gaps					OR 4 hours > 100 Yes <input type="checkbox"/> No <input type="checkbox"/>

AND < 60 gap/hr Yes  No  N.A.

AND, The distance to the nearest traffic signal along the major street is greater than 90m (300 ft) Yes  No

AND, The new traffic signal will not seriously disrupt progressive traffic flow in the major street. Yes  No

WARRANT 5 - School Crossing (All Parts Must Be Satisfied) SATISFIED YES  NO

Part A  
 Gap/Minutes and # of Children

Each of Two Hours --->					
Gaps vs Minutes	Minutes Children Using Crossing				
	Number of Adequate Gaps				

Gaps < Minutes SATISFIED YES  NO  N.A.

School Age Pedestrians Crossing Street Children > 20/hr SATISFIED YES  NO

Part B  
 Distance to Nearest Controlled Crossing

Is Nearest Controlled Crossing More Than 180 m (600 ft) away? SATISFIED YES  NO

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 4 of 4)

WARRANT 6 - Coordinated Signal System (All Parts Must Be Satisfied) SATISFIED YES  NO

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	FULFILLED
> 300 m (1000 ft)	N, N/A, m, S, N/A, m, E < 300 m, W > 300 m	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
On one way isolated streets or streets with one way traffic significance and adjacent signals are so far apart that necessary platooning and speed control would be lost.		
On 2-way streets where adjacent signals do not provide necessary platooning and speed control proposed signals could constitute a progressive signal system.		

WARRANT 7 - Crash Warrant (All Parts Must Be Satisfied) SATISFIED YES  NO

REQUIREMENTS	WARRANT	✓	FULFILLED
One Warrant Satisfied 80%	Warrant 1 - Minimum Vehicular Volume		
	OR Warrant 2 - Interruption of Continuous Traffic		Yes <input type="checkbox"/> No <input type="checkbox"/>
Signal Will Not Seriously Disrupt Progressive Traffic Flow			
Adequate Trial of Less Restrictive Remedies Has Failed to Reduce Accident Frequency			
Acc. Within a 12 Month Period Susceptible for Cor. & Involving Injury or ≥ \$500 Damage			
MINIMUM REQUIREMENTS	NUMBER OF ACCIDENTS		
5 or More			<input type="checkbox"/>

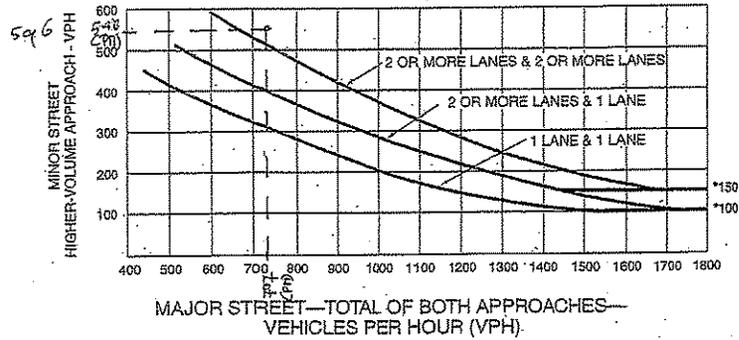
N.O DATA

WARRANT 8 - Roadway Network (All Parts Must Be Satisfied) SATISFIED YES  NO

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour > 1000 Veh/Hr		
	OR During Each of Any 5 Hrs. of a Sat. and/or Sun Veh/Hr		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
CHARACTERISTICS OF MAJOR ROUTES			
	MAJOR ST.	MINOR ST.	
Hwy. System Serving as Principal Network for Through Traffic	Yes	No	
Rural or Suburban Highway Outside Of, Entering, or Traversing a City	Yes	No	
Appears as Major Route on an Official Plan	No	Yes	
Any Major Route Characteristics Met, Both Streets <input type="checkbox"/> <input checked="" type="checkbox"/>			

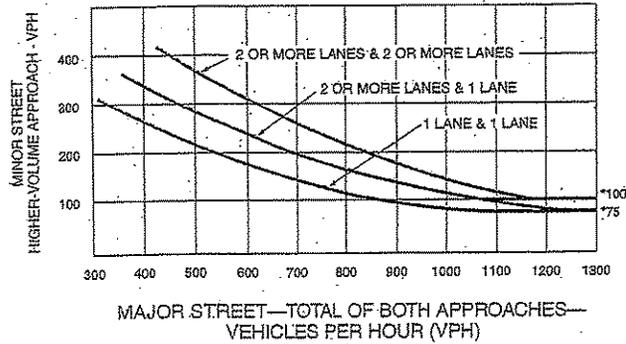
The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

I-5 NB off Ramp/Ridge Rd Page 4C-7  
 Figure 4C-3. Warrant 3, Peak Hour  
 Cum + Project A/T/P/T



\*Note: 160 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)  
 (COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 35 km/h OR ABOVE 40 mph ON MAJOR STREET)



\*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Reference 5 The Old Road/"A" Street

Lakeview East Canyon  
Cumulative + Project Traffic Volumes

The Old Rd/A Street

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 1 of 4)

07 LA DIST CO RTE KPM CALC DC DATE 8/5/03  
 CHK DATE  
 Major St: The Old Rd Critical Approach Speed km/h  
 Minor St: "A" St (Project Access) Critical Approach Speed km/h  
 Critical speed of major street traffic > 64 km/h (40 mph)  RURAL (R)  
 In built up area of isolated community of < 10,000 population  URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

Condition A - Minimum Vehicle Volume 100% SATISFIED YES  NO   
 80% SATISFIED YES  NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)		MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)		Hour								
	U	R	U	R	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	6-7
Both Approaches Major Street	500 (400)	350 (280)	800 (650)	420 (330)	680	649	744	770	688	671	836	852	
Highest Approaches Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	30	49	51	49	58	97	93	135	

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES  NO   
 80% SATISFIED YES  NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)		MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)		Hour								
	U	R	U	R	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	6-7
Both Approaches Major Street	780 (600)	525 (420)	900 (720)	530 (404)	680	649	744	770	688	671	836	852	
Highest Approaches Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	30	49	51	49	58	97	93	135	

Combination of Conditions A & B SATISFIED YES  NO

REQUIREMENT	WARRANT	✓	FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume

SATISFIED\* YES  NO

Record hourly vehicular volumes for four hours.

APPROACH LANES	One	2 or More	Hour			
			10-12	12-1A	1-1A	1A-3
Both Approaches - Major Street	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	744	770	836	852
Highest Approaches - Minor Street	<input checked="" type="checkbox"/>	<input type="checkbox"/>	51	49	93	135

\*All plotted points fall above the curves in MUTCD Figure 4C-1 or 4C-2.

Yes  No

WARRANT 3 - Peak Hour

PART A or PART B SATISFIED YES  NO

PART A

SATISFIED YES  NO

(All parts 1, 2, and 3 below must be satisfied)

- The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND
- The volume on the same minor street approach equals or exceeds 100 vph for one moving lane of traffic or 160 vph for two moving lanes; AND
- The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.

Yes  No

Yes  No

Yes  No

PART B

SATISFIED YES  NO

APPROACH LANES	One	2 or More	Hour			
			10-12	12-1A	1-1A	1A-3
Both Approaches - Major Street	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	852			
Highest Approaches - Minor Street	<input checked="" type="checkbox"/>	<input type="checkbox"/>	135			

The plotted points for vehicles per hour on major streets (both approaches) and the corresponding per hour higher volume vehicle minor street approach (one direction only) for one hour (any consecutive 15 minute period) fall above the applicable curves in MUTCD Figure 4C-3 or 4C-4.

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 3 of 4)

DIST LA CO LA RTE LA 101 KPM LA 101 CALC DL DATE 8/5/05  
 CHK \_\_\_\_\_ DATE \_\_\_\_\_  
 Major St: Trl Old Rd Critical Approach Speed \_\_\_\_\_ km/h  
 Minor St: LA 54 Critical Approach Speed \_\_\_\_\_ km/h  
 Critical speed of major street > 64 km/h (40 mph)  }  
 In built up area of isolated community of < 10,000 population  } RURAL (R)  
 URBAN (U)

**WARRANT 4 - Pedestrian Volume** (All Parts Must Be Satisfied) 100% SATISFIED YES  NO  N/A

Hours --->

Pedestrian Volume						Any hour > 190	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Adequate Crossing Gaps						OR 4 hours > 100	Yes <input type="checkbox"/>	No <input type="checkbox"/>
						AND < 60 gap/hr	Yes <input type="checkbox"/>	No <input type="checkbox"/>

AND, The distance to the nearest traffic signal along the major street is greater than 90m (300 ft) Yes  No   
 AND, The new traffic signal will not seriously disrupt progressive traffic flow in the major street. Yes  No

**WARRANT 5 - School Crossing** (All Parts Must Be Satisfied) SATISFIED YES  NO  No crossing

Part A  
Gap/Minutes and # of Children

Each of Two Hours --->		Gaps < Minutes	SATISFIED	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Gaps vs Minutes	Minutes Children Using Crossing				

School Age Pedestrians Crossing Street Children > 20/hr SATISFIED YES  NO   
 Part B  
 Distance to Nearest Controlled Crossing  
 Is Nearest Controlled Crossing More Than 180 m (600 ft) away? SATISFIED YES  NO

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 4 of 4)

**WARRANT 6 - Coordinated Signal System** (All Parts Must Be Satisfied) SATISFIED YES  NO

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	FULFILLED
> 300 m (1000 ft)	N > 300 m, S > 300 m, E > 150 m, W > 150 m	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
On one way isolated streets or streets with one way traffic significance and adjacent signals are so far apart that necessary platooning and speed control would be lost.		
On 2-way streets where adjacent signals do not provide necessary platooning and speed control proposed signals could constitute a progressive signal system.		

**WARRANT 7 - Crash Warrant** (All Parts Must Be Satisfied) SATISFIED YES  NO  NO DATA

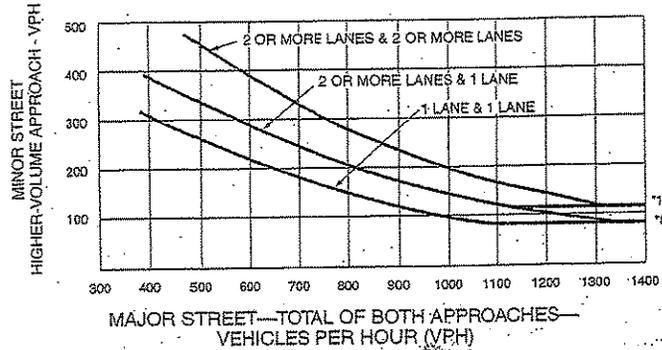
REQUIREMENTS	WARRANT	✓	FULFILLED
One Warrant Satisfied 80%	Warrant 1 - Minimum Vehicular Volume		
	OR Warrant 2 - Interruption of Continuous Traffic		Yes <input type="checkbox"/> No <input type="checkbox"/>
Signal Will Not Seriously Disrupt Progressive Traffic Flow			<input type="checkbox"/> <input type="checkbox"/>
Adequate Trial of Less Restrictive Remedies Has Failed to Reduce Accident Frequency			<input type="checkbox"/> <input type="checkbox"/>
Acc. Within a 12 Month Period Susceptible for Corr. & Involving Injury or ≥ \$500 Damage			
MINIMUM REQUIREMENTS	NUMBER OF ACCIDENTS		
5 or More			<input type="checkbox"/> <input type="checkbox"/>

**WARRANT 8 - Roadway Network** (All Parts Must Be Satisfied) SATISFIED YES  NO

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour <u>927</u> Veh/Hr		
	OR During Each of Any 5 Hrs. of a Sat. and/or Sun <u>N/A</u> Veh/Hr		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
CHARACTERISTICS OF MAJOR ROUTES			
Hwy. System Serving as Principal Network for Through Traffic	MAJOR ST. <u>NO</u> MINOR ST. <u>NO</u>		
Rural or Suburban Highway Outside Of, Entering, or Traversing a City	<u>NO</u> <u>NO</u>		
Appears as Major Route on an Official Plan	<u>YES</u> <u>NO</u>		
Any Major Route Characteristics Met, Both Streets			<input type="checkbox"/> <input checked="" type="checkbox"/>

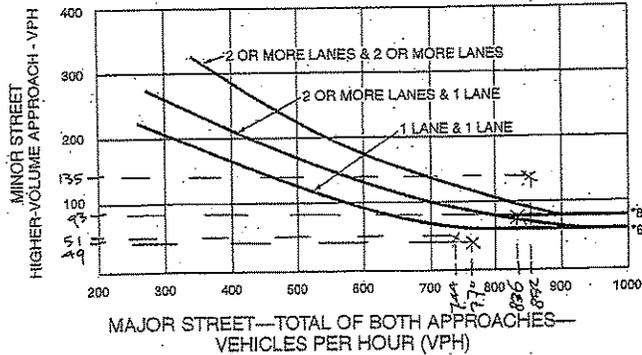
The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



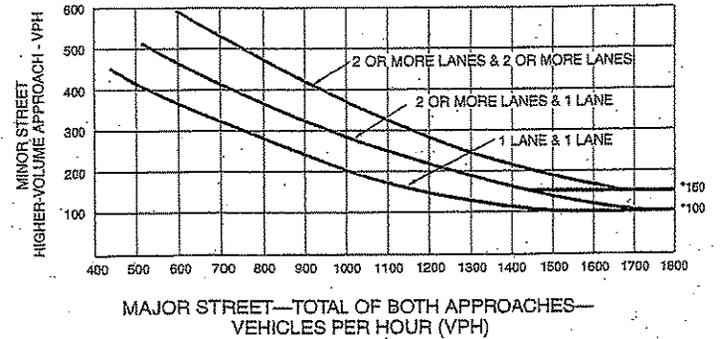
\*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)  
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 24 km/h OR ABOVE 40 mph ON MAJOR STREET)



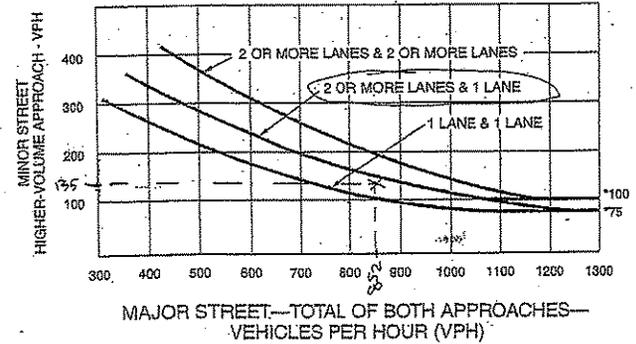
\*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-3. Warrant 3, Peak Hour



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)  
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 24 km/h OR ABOVE 40 mph ON MAJOR STREET)



\*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

**BASELINE VOLUMES - NO PROJECT**

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 1 of 4)

DIST 07 LA GO RTE KPM CALC DL DATE 3/20/06  
 CHK \_\_\_\_\_ DATE \_\_\_\_\_  
 Major St: The Old Road Critical Approach Speed 60 km/h  
 Minor St: Parker Road Critical Approach Speed 50 km/h

Critical speed of major street traffic > 64 km/h (40 mph).....   
 In built up area of isolated community of < 10,000 population.....  } RURAL (R)  
 URBAN (U)

**WARRANT 1 - Eight Hour Vehicular Volume**

Condition A - Minimum Vehicle Volume 100% SATISFIED YES  NO   
 80% SATISFIED YES  NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	1		2 or More										
	U	R	U	R	10-11	12-1	1-2	2-3	3-4	4-5	5-6	6-7	Hour
Both Approaches - Major Street	800 (400)	800 (280)	600 (480)	420 (350)	453	440	485	405	358	441	443	394	The Old Road
Highest Approaches - Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	315	328	344	293	275	344	344	286	Parker Road (WB)

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES  NO   
 80% SATISFIED YES  NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)												
	1		2 or More										
	U	R	U	R	10-11	12-1	1-2	2-3	3-4	4-5	5-6	6-7	Hour
Both Approaches - Major Street	700 (600)	825 (620)	900 (700)	530 (504)	453	440	485	405	358	441	443	394	
Highest Approaches - Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	315	328	344	293	275	344	344	286	

Combination of Conditions A & B SATISFIED YES  NO

REQUIREMENT	WARRANT	✓	FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes <input type="checkbox"/> No <input type="checkbox"/>
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		Yes <input type="checkbox"/> No <input type="checkbox"/>

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume SATISFIED\* YES  NO

Record hourly vehicular volumes for four hours.

APPROACH LANES	One	2 or More	Hour			
			10-11	12-1	1-2	2-3
Both Approaches - Major Street	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	460	485	461	443
Highest Approaches - Minor Street	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	378	344	344	344

\*All plotted points fall above the curves in MUTCD Figure 4C-1 or 4C-2. Yes  No

WARRANT 3 - Peak Hour PART A or PART B SATISFIED YES  NO

PART A SATISFIED YES  NO   
 (All parts 1, 2, and 3 below must be satisfied)

- The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND Yes  No
- The volume on the same minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND Yes  No
- The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches. Yes  No

PART B SATISFIED YES  NO

APPROACH LANES	One	2 or More	Hour			
			10-11	12-1	1-2	2-3
Both Approaches - Major Street	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	465			
Highest Approaches - Minor Street	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	344			

The plotted points for vehicles per hour on major streets (both approaches) and the corresponding per hour higher volume vehicle minor street approach (one direction only) for one hour (any consecutive 15 minute period) fall above the applicable curves in MUTCD Figure 4C-3 or 4C-4.

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 3 of 4)

07 LA DIST CO RTE KPM CALC DL DATE 3/20/06  
 CHK DATE  
 Major St: The Old Road Critical Approach Speed 60 km/h  
 Minor St: Parker Road Critical Approach Speed 50 km/h  
 Critical speed of major street > 64 km/h (40 mph)  RURAL (R)  
 In built up area of isolated community of < 10,000 population  URBAN (U)

WARRANT 4 - Pedestrian Volume (All Parts Must Be Satisfied) 100% SATISFIED YES  NO

Hours --->						
Pedestrian Volume	<100	<100	<100	<100	Any hour > 100	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
					OR 4 hours > 100	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Adequate Crossing Gaps	>60	>60	>60	>60	AND < 60 gap/hr	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

AND, The distance to the nearest traffic signal along the major street is greater than 90m (300 ft) Yes  No   
 AND, The new traffic signal will not seriously disrupt progressive traffic flow in the major street. Yes  No

WARRANT 5 - School Crossing (All Parts Must Be Satisfied) N/A SATISFIED YES  NO

Part A Gap/Minutes and # of Children

Each of Two Hours --->				
Gaps vs Minutes	Minutes Children Using Crossing			
	Number of Adequate Gaps			
School Age Pedestrians Crossing Street				

Gaps < Minutes SATISFIED YES  NO   
 Children > 20/hr SATISFIED YES  NO

Part B Distance to Nearest Controlled Crossing  
 Is Nearest Controlled Crossing More Than 180 m (600 ft) away? SATISFIED YES  NO

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 4 of 4)

WARRANT 6 - Coordinated Signal System (All Parts Must Be Satisfied) SATISFIED YES  NO

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	FULFILLED
> 300 m (1000 ft)	N ___ m, S ___ m, E ___ m, W ___ m	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
On one way isolated streets or streets with one way traffic significance and adjacent signals are so far apart that necessary platooning and speed control would be lost.		
On 2-way streets where adjacent signals do not provide necessary platooning and speed control proposed signals could constitute a progressive signal system.		

WARRANT 7 - Crash Warrant (All Parts Must Be Satisfied) SATISFIED YES  NO

REQUIREMENTS	WARRANT	✓	FULFILLED
One Warrant Satisfied 80%	Warrant 1 - Minimum Vehicular Volume		
	OR Warrant 2 - Interruption of Continuous Traffic		Yes <input type="checkbox"/> No <input type="checkbox"/>
Signal Will Not Seriously Disrupt Progressive Traffic Flow			
Adequate Trial of Less Restrictive Remedies Has Failed to Reduce Accident Frequency			
Acc. Within a 12 Month Period Susceptible for Corr. & Involving Injury or ≥ \$500 Damage			
MINIMUM REQUIREMENTS	NUMBER OF ACCIDENTS		
5 or More			<input type="checkbox"/> <input type="checkbox"/>

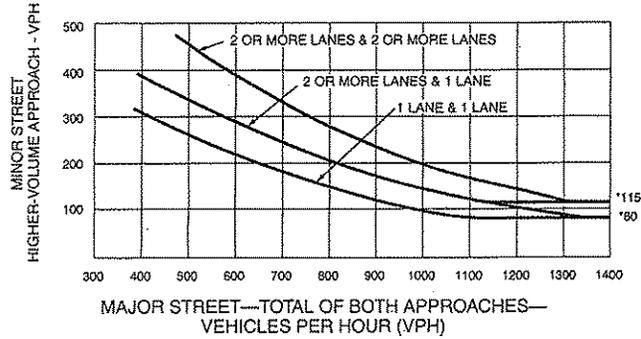
No Data

WARRANT 8 - Roadway Network (All Parts Must Be Satisfied) SATISFIED YES  NO

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour 1,125 Veh/Hr		
	OR During Each of Any 5 Hrs. of a Sat. and/or Sun. Veh/Hr		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
CHARACTERISTICS OF MAJOR ROUTES		MAJOR ST.	MINOR ST.
Hwy. System Serving as Principal Network for Through Traffic		-	-
Rural or Suburban Highway Outside Of, Entering, or Traversing a City		-	-
Appears as Major Route on an Official Plan		✓	-
Any Major Route Characteristics Met, Both Streets <input type="checkbox"/> <input checked="" type="checkbox"/>			

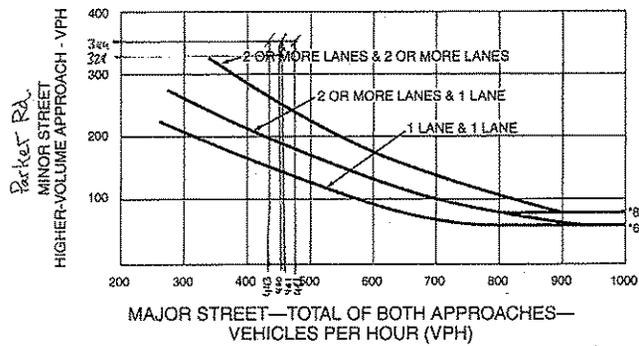
The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



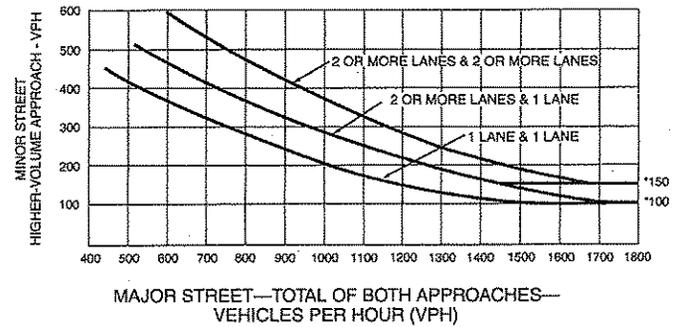
\*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)  
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)



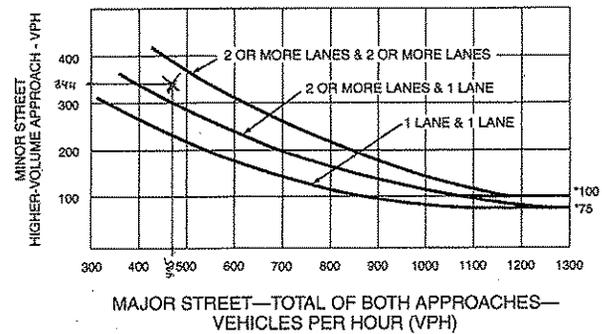
\*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-3. Warrant 3, Peak Hour



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)  
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h OR ABOVE 40 mph ON MAJOR STREET)



\*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

CUMULATIVE IMPACT FAIR SHARE CALCULATION WORKSHEETS

FAIR-SHARE CALCULATION

Intersection: The Old Road/Lake Hughes Road

Scenario	A.M. Peak Hour											
	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2008 Project	7	46	57	119	38	5	32	22	19	35	41	295
Cumulative-Added	0	1	7	0	17	0	0	0	2	3	0	0
CUMULATIVE	130	28	27	145	80	22	95	22	16	30	2	313
CUMULATIVE+PROJECT	130	74	84	264	118	27	127	44	35	65	43	612
	130	75	91	264	135	27	127	44	37	68	43	612

A.M. Cumulative Fair-Share Calculation: A.M. Cumulative-Added = 903 PHT  
 A.M. Project-Added = 30 PHT  
 Total = 933 PHT

30 PHT / 933 PHT = 3.20%

Scenario	P.M. Peak Hour											
	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2008 Project	13	75	102	178	59	8	22	48	5	76	97	396
Cumulative-Added	1	2	17	0	7	0	0	0	1	1	0	0
CUMULATIVE	133	89	50	265	60	28	117	23	19	25	2	821
CUMULATIVE+PROJECT	146	164	152	443	119	36	139	71	24	101	99	1017
	147	166	169	443	126	36	139	71	25	102	99	1017

P.M. Cumulative Fair-Share Calculation: P.M. Cumulative-Added = 1,432 PHT  
 P.M. Project-Added = 29 PHT  
 Total = 1,461 PHT

29 PHT / 1,461 PHT = 2.00%

Intersection: Parker Road/The Old Road

A.M. Peak Hour

Scenario	Volumes											
	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2008	19	60	60	28	64	2	8	197	34	49	55	26
Project	2	8	44	0	23	0	0	0	4	118	0	0
Cumulative-Added	1	37	44	61	60	15	12	91	7	42	23	158
CUMULATIVE	20	97	104	89	124	17	20	288	41	91	78	184
CUMULATIVE+PROJECT	22	105	148	89	147	17	20	288	45	209	78	184

A.M. Cumulative Fair-Share Calculation: A.M. Cumulative-Added = 551 PHT  
 A.M. Project-Added = 199 PHT  
 Total = 750 PHT  
 199 PHT / 750 PHT = 26.50%

P.M. Peak Hour

Scenario	Volumes											
	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2008	57	125	113	34	94	16	16	102	28	79	212	53
Project	4	21	110	0	10	0	0	0	2	49	0	0
Cumulative-Added	7	78	66	61	55	15	20	55	5	67	100	187
CUMULATIVE	64	203	179	95	149	31	36	157	33	146	312	240
CUMULATIVE+PROJECT	68	224	289	95	159	31	36	157	35	195	312	240

P.M. Cumulative Fair-Share Calculation: P.M. Cumulative-Added = 716 PHT  
 P.M. Project-Added = 196 PHT  
 Total = 912 PHT  
 196 PHT / 912 PHT = 21.50%

Intersection: Parker Road/I-5 NB Off-Ramp

A.M. Peak Hour

Scenario	Volumes											
	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2008	53	0	232	0	0	0	0	100	0	0	398	0
Project	115	0	0	0	0	0	0	1	0	0	3	0
Cumulative-Added	214	0	57	0	0	0	0	34	0	0	163	0
CUMULATIVE	267	0	289	0	0	0	0	134	0	0	561	0
CUMULATIVE+PROJECT	382	0	289	0	0	0	0	135	0	0	564	0

A.M. Cumulative Fair-Share Calculation: A.M. Cumulative-Added = 468 PHT  
 A.M. Project-Added = 119 PHT  
 Total = 587 PHT  
 119 PHT / 587 PHT = 20.30%

P.M. Peak Hour

Scenario	Volumes											
	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2008	239	0	523	0	0	0	0	147	0	0	389	0
Project	48	0	0	0	0	0	0	3	0	0	1	0
Cumulative-Added	309	0	175	0	0	0	0	39	0	0	132	0
CUMULATIVE	548	0	698	0	0	0	0	186	0	0	521	0
CUMULATIVE+PROJECT	596	0	698	0	0	0	0	189	0	0	522	0

P.M. Cumulative Fair-Share Calculation: P.M. Cumulative-Added = 655 PHT  
 P.M. Project-Added = 52 PHT  
 Total = 707 PHT  
 52 PHT / 707 PHT = 7.40%

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

- Reference 1 The Old Road/Sloan Canyon Road
- Reference 2 The Old Road/Parker Road
- Reference 3 I-5 Southbound On-Ramp/Parker Road
- Reference 4 I-5 Northbound Off-Ramp/Ridge Route Road
- Reference 5 The Old Road/"A" Street

ALL-WAY STOP CONTROL ANALYSIS									
PROJECT INFORMATION					SITE INFORMATION				
Analyst	01_EX_AM				Intersection	SLOAN CANYON/THE OLD RD			
Agency/Co.	ATE-D.L.				Jurisdiction	L.A. COUNTY			
Date Performed	7/11/2005				Analyst Year	2005			
Analysis Time Period	A.M. PEAK HOUR								
Project ID LAKE VIEW ESTATES #05024									
East/West Street: SLOAN CANYON ROAD					North/South Street: THE OLD ROAD				
APPROACH									
		Eastbound			Westbound				
Movement	L	T	R	L	T	R			
Volume	28	19	17	31	36	263			
%Thrus Left Lane	50			50					
		Northbound			Southbound				
Movement	L	T	R	L	T	R			
Volume	6	40	50	105	33	4			
%Thrus Left Lane	50			50					
GEOMETRY									
		Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2	
Configuration	L	TR	L	TR	L	TR	L	TR	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flow Rate	28	36	31	299	6	90	105	37	
% Heavy Vehicles	4	4	4	4	4	4	4	4	
No. Lanes	2		2		2		2		
Geometry Group	5		5		5		5		
Duration, T	1.00								
PERFORMANCE									
Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	
Prop. Right-Turns	0.0	0.5	0.0	0.9	0.0	0.6	0.0	0.1	
Prop. Heavy Vehicle									
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
nadj, computed	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	
DETAILED PERFORMANCE									
nd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	
x, initial	0.02	0.03	0.03	0.27	0.01	0.06	0.09	0.03	
nd, final value	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	
x, final value	0.05	0.05	0.05	0.39	0.01	0.13	0.18	0.06	
Move-up time, m	2.3		2.3		2.3		2.3		
Service Time	3.7	2.9	3.7	2.9	3.7	2.9	3.7	2.9	
SUMMARY									
		Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2	
Capacity	278	286	281	549	256	340	355	287	
Delay	9.04	8.20	8.80	10.36	8.96	8.81	10.15	8.58	
LOS	A	A	A	B	A	A	B	A	
Approach Delay	8.57		10.21		8.82		9.74		
LOS	A		B		A		A		
Intersection Delay	9.73								
Intersection LOS	A								

### ALL-WAY STOP CONTROL ANALYSIS

General Information		Intersection						
Analyst	01_BASELINE_AM	Intersection	SLOAN CYN RD/THE OLD RD					
Agency/Co.	ATE - D.L.	Jurisdiction	L.A. COUNTY					
Date Performed	7/11/2005	Analysis Year	YEAR 2008					
Analysis Time Period	A.M. PEAK HOUR							
Project ID LAKE VIEW ESTATES #05024								
East/West Street: SLOAN CANYON ROAD		North/South Street: THE OLD ROAD						
Approach								
Movement	Eastbound		Westbound					
	L	T	R	L	T	R		
Volume	32	22	19	35	41	299		
%Thrus Left Lane	50			50				
Approach								
Movement	Northbound		Southbound					
	L	T	R	L	T	R		
Volume	7	48	57	119	38	5		
%Thrus Left Lane	50			50				
Configuration								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	L	TR	L	TR
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate	32	41	35	340	7	105	119	43
% Heavy Vehicles	4	4	4	4	4	4	4	4
No. Lanes	2		2		2		2	
Geometry Group	5		5		5		5	
Duration, T	1.00							
Saturation								
Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0	0.5	0.0	0.9	0.0	0.5	0.0	0.1
Prop. Heavy Vehicle								
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	6.23	6.23	6.23	6.23	6.23	6.23	6.23	6.23
Delay								
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
k, initial	0.03	0.04	0.03	0.30	0.01	0.09	0.11	0.04
hd, final value	6.23	6.23	6.23	6.23	6.23	6.23	6.23	6.23
k, final value	0.06	0.06	0.06	0.45	0.01	0.16	0.21	0.07
Move-up time, m	2.3		2.3		2.3		2.3	
Service Time	3.9	3.1	3.9	3.1	3.9	3.1	3.9	3.1
Capacity and Delay								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	282	291	285	590	257	355	369	293
Delay	9.30	8.46	9.00	11.52	9.16	9.26	10.65	8.84
LOS	A	A	A	B	A	A	B	A
Approach Delay	8.63		11.28		9.25		10.17	
LOS	A		B		A		B	
Intersection Delay	10.47							
Intersection LOS	B							

### ALL-WAY STOP CONTROL ANALYSIS

General Information		Intersection						
Analyst	01_BASELINE+PR_AM	Intersection	SLOAN CYN RD/THE OLD RD					
Agency/Co.	ATE - D.L.	Jurisdiction	L.A. COUNTY					
Date Performed	7/11/2005	Analysis Year	YEAR 2008 + PROJECT					
Analysis Time Period	A.M. PEAK HOUR							
Project ID LAKE VIEW ESTATES #05024								
East/West Street: SLOAN CANYON ROAD		North/South Street: THE OLD ROAD						
Approach								
Movement	Eastbound		Westbound					
	L	T	R	L	T	R		
Volume	32	22	21	38	41	299		
%Thrus Left Lane	50			50				
Approach								
Movement	Northbound		Southbound					
	L	T	R	L	T	R		
Volume	7	47	64	119	55	5		
%Thrus Left Lane	50			50				
Configuration								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	L	TR	L	TR
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate	32	43	38	340	7	111	119	60
% Heavy Vehicles	4	4	4	4	4	4	4	4
No. Lanes	2		2		2		2	
Geometry Group	5		5		5		5	
Duration, T	1.00							
Saturation								
Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0	0.5	0.0	0.9	0.0	0.6	0.0	0.1
Prop. Heavy Vehicle								
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
Delay								
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
k, initial	0.03	0.04	0.03	0.30	0.01	0.10	0.11	0.05
hd, final value	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31
k, final value	0.06	0.07	0.06	0.46	0.01	0.17	0.21	0.10
Move-up time, m	2.3		2.3		2.3		2.3	
Service Time	4.0	3.2	4.0	3.2	4.0	3.2	4.0	3.2
Capacity and Delay								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	282	293	288	590	257	361	369	310
Delay	9.38	8.55	9.10	11.74	9.21	9.37	10.71	9.09
LOS	A	A	A	B	A	A	B	A
Approach Delay	8.90		11.47		9.36		10.16	
LOS	A		B		A		B	
Intersection Delay	10.57							
Intersection LOS	B							

### ALL-WAY STOP CONTROL ANALYSIS

Project ID LAKE VIEW ESTATES #05024		North/South Street: THE OLD ROAD	
West Street: SLOAN CANYON ROAD		North/South Street: THE OLD ROAD	
Analyst: 01_CUMU_AM Agency/Co: ATE - D.L. Date Performed: 7/27/2005 Analysis Time Period: A.M. PEAK HOUR		Intersection: SLOAN CYN RD/THE OLD RD Jurisdiction: L.A. COUNTY Analysis Year: CUMULATIVE	
Approach Movement Volume Thrus Left Lane		Approach Movement Volume Thrus Left Lane	
Approach Movement Volume Thrus Left Lane		Approach Movement Volume Thrus Left Lane	
Configuration PF Flow Rate Heavy Vehicles Lanes Geometry Group Saturation, T		Configuration PF Flow Rate Heavy Vehicles Lanes Geometry Group Saturation, T	
Prop. Left-Turns Prop. Right-Turns Prop. Heavy Vehicle LT-adj RT-adj HV-adj Hadj, computed		Prop. Left-Turns Prop. Right-Turns Prop. Heavy Vehicle LT-adj RT-adj HV-adj Hadj, computed	
d, initial value x, initial d, final value x, final value Move-up time, m Service Time		d, initial value x, initial d, final value x, final value Move-up time, m Service Time	
Capacity Delay LOS Approach: Delay LOS Intersection Delay Intersection LOS		Capacity Delay LOS Approach: Delay LOS Intersection Delay Intersection LOS	

### ALL-WAY STOP CONTROL ANALYSIS

Project ID LAKE VIEW ESTATES #05024		North/South Street: THE OLD ROAD	
West Street: SLOAN CANYON ROAD		North/South Street: THE OLD ROAD	
Analyst: 01_CUMU+PR_AM Agency/Co: ATE - D.L. Date Performed: 7/27/2005 Analysis Time Period: A.M. PEAK HOUR		Intersection: SLOAN CYN RD/THE OLD RD Jurisdiction: L.A. COUNTY Analysis Year: CUMULATIVE+PROJECT	
Approach Movement Volume Thrus Left Lane		Approach Movement Volume Thrus Left Lane	
Approach Movement Volume Thrus Left Lane		Approach Movement Volume Thrus Left Lane	
Configuration PF Flow Rate Heavy Vehicles Lanes Geometry Group Saturation, T		Configuration PF Flow Rate Heavy Vehicles Lanes Geometry Group Saturation, T	
Prop. Left-Turns Prop. Right-Turns Prop. Heavy Vehicle LT-adj RT-adj HV-adj Hadj, computed		Prop. Left-Turns Prop. Right-Turns Prop. Heavy Vehicle LT-adj RT-adj HV-adj Hadj, computed	
d, initial value x, initial d, final value x, final value Move-up time, m Service Time		d, initial value x, initial d, final value x, final value Move-up time, m Service Time	
Capacity Delay LOS Approach: Delay LOS Intersection Delay Intersection LOS		Capacity Delay LOS Approach: Delay LOS Intersection Delay Intersection LOS	

COUNT DATE: 04/2005 REF 01\_AM\_MIT  
 TIME PERIOD: A.M. PEAK HOUR  
 N/S STREET: THE OLD ROAD  
 E/W STREET: SLOAN CANYON ROAD  
 CONTROL TYPE: SIGNAL  
 MITIGATED INTERSECTION  
 THE OLD RD WIDENING PROJECT/SIGNALIZED

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	6	40	50	105	33	4	28	19	17	31	36	263
(B) YEAR 2008:	1	6	7	14	5	1	4	3	2	4	5	36
(C) PROJECT:	0	1	7	0	17	0	0	0	2	3	0	0
(D) CUMULATIVE-ADDED:	123	28	27	145	60	22	35	22	16	30	2	313

FUTURE GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	L	T	L	T	L	T	L	T

SCENARIO 1 = EXISTING VOLUMES (A)  
 SCENARIO 2 = YEAR 2008 VOLUMES (A+B)  
 SCENARIO 3 = YEAR 2008 + PROJECT VOLUMES (A+B+C)  
 SCENARIO 4 = CUMULATIVE VOLUMES (A+B+C+D)  
 SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A+B+C+D)

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES					SCENARIO V/C RATIOS				
			1	2	3	4	5	1	2	3	4	5
NBL	1	1600	6	7	7	130	130	0.004	0.004	0.004	0.081	0.081
NBT	1	1600	40	46	47	74	75	0.025	0.029	0.029	0.046	0.047
NBR	1	1600	50	57	64	84	91	0.031	0.036	0.040	0.053	0.057
SBL	1	1600	105	119	119	264	264	0.066	0.074	0.074	0.165	0.165
SBT	1	1600	33	38	55	118	135	0.021	0.024	0.034	0.074	0.084
SBR	1	1600	4	5	5	27	27	0.003	0.003	0.003	0.017	0.017
EBL	1	1600	28	32	32	127	127	0.018	0.020	0.020	0.079	0.079
EBT	2	3200	19	22	22	44	44	0.011	0.013	0.013	0.025	0.025
EBR	0	0	17	19	21	35	37	-	-	-	-	-
WBL	1	1600	31	35	38	65	68	0.019	0.022	0.024	0.041	0.043
WBT	2	3200	36	41	41	43	43	0.066	0.075	0.075	0.142	0.142
WBR (a)	0	0	176	200	200	410	410	-	-	-	-	-
TOTAL INTERSECTION CAPACITY UTILIZATION: SCENARIO LEVEL OF SERVICE:			0.28	0.30	0.30	0.53	0.53	A	A	A	A	A

NOTES:  
 (a) RTOR OVERLAP WITH SB LT

Printed: 02/03/05

### ALL-WAY STOP CONTROL ANALYSIS

Analyst: 01\_EX\_PM  
 Agency/Co.: ATE-D.L.  
 Date Performed: 7/11/2005  
 Analysis Time Period: P.M. PEAK HOUR  
 Intersection: SLOAN CANYON RD/THE OLD RD  
 Jurisdiction: LA. COUNTY  
 Analysis Year: 2005

Project ID: LAKE VIEW STATES #05024  
 East/West Street: SLOAN CANYON ROAD  
 North/South Street: THE OLD ROAD

Approach	Eastbound			Westbound				
	L	T	R	L	T	R		
Movement								
Volume	19	42	4	67	85	348		
%Thrus Left Lane	50			50				
Approach	Northbound			Southbound				
	L	T	R	L	T	R		
Movement								
Volume	17	66	90	156	52	7		
%Thrus Left Lane	50			50				
Configuration	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	L	TR	L	TR
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate	19	46	67	433	11	156	156	59
% Heavy Vehicles	4	4	4	4	4	4	4	4
No. Lanes	2			2	2			2
Geometry Group	5			5	5			5
Duration, T	1.00							

Prop. Left-Turns	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0	0.1	0.0	0.8	0.0	0.6	0.0	0.1
Prop. Heavy Vehicle								
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
had, computed	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83
hd, initial value	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.02	0.04	0.06	0.36	0.01	0.14	0.14	0.05
hd, final value	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83
x, final value	0.04	0.08	0.12	0.63	0.02	0.26	0.29	0.10
Move-up time, m	2.3		2.3		2.3		2.3	
Service Time	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0

Capacity	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	269	296	317	673	261	406	406	309
Delay	9.78	9.51	9.83	16.69	9.72	10.74	12.28	9.59
LOS	A	A	A	C	A	B	B	A
Approach: Delay	9.59		15.77		10.68		11.54	
LOS	A		C		B		B	
Intersection Delay	13.49							
Intersection LOS	B							

### ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information						
Analyst	01_BASELINE_PM	Intersection	SLOAN CYN RD/THE OLD RD					
Agency/Co.	ATE - D.L.	Jurisdiction	LA. COUNTY					
Date Performed	7/11/2005	Analysis Year	YEAR 2008					
Analysis Time Period	P.M. PEAK HOUR							
Project ID LAKE VIEW ESTATES #05024								
East/West Street: SLOAN CANYON ROAD		North/South Street: THE OLD ROAD						
APPROACH								
	Eastbound		Westbound					
Approach	L	T	R	L	T	R		
Movement	22	48	5	76	97	396		
Volume	50		50		50			
%Thrus Left Lane	50		50		50			
	Northbound		Southbound					
Approach	L	T	R	L	T	R		
Movement	13	76	102	178	59	8		
Volume	50		50		50			
%Thrus Left Lane	50		50		50			
Eastbound		Westbound		Northbound		Southbound		
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	L	TR	L	TR
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate	22	53	76	493	13	177	178	67
% Heavy Vehicles	4	4	4	4	4	4	4	4
No. Lanes	2		2		2		2	
Geometry Group	5		5		5		5	
Duration, T	1.00							
Saturation Headway Adjustment Worksheet								
Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0	0.1	0.0	0.8	0.0	0.6	0.0	0.1
Prop. Heavy Vehicle								
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	7.19	7.19	7.19	7.19	7.19	7.19	7.19	7.19
Departure Headway Adjustment Worksheet								
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.02	0.05	0.07	0.44	0.01	0.16	0.16	0.06
hd, final value	7.19	7.19	7.19	7.19	7.19	7.19	7.19	7.19
x, final value	0.04	0.10	0.14	0.75	0.03	0.31	0.35	0.12
Move-up time, m	2.3		2.3		2.3		2.3	
Service Time	4.9	4.3	4.9	4.3	4.9	4.3	4.9	4.3
Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	272	303	326	649	263	427	428	317
Delay	10.22	10.04	10.26	23.77	10.10	11.83	13.60	10.10
LOS	B	B	B	C	B	B	B	B
Approach Delay	10.09		21.97		11.71		12.65	
LOS	B		C		B		B	
Intersection Delay	17.22							
Intersection LOS	C							

### ALL-WAY STOP CONTROL ANALYSIS

General Information		Site Information						
Analyst	01_BASELINE+PR_PM	Intersection	SLOAN CYN RD/THE OLD RD					
Agency/Co.	ATE - D.L.	Jurisdiction	LA. COUNTY					
Date Performed	7/11/2005	Analysis Year	YEAR 2008+PROJECT					
Analysis Time Period	P.M. PEAK HOUR							
Project ID LAKE VIEW ESTATES #05024								
East/West Street: SLOAN CANYON ROAD		North/South Street: THE OLD ROAD						
APPROACH								
	Eastbound		Westbound					
Approach	L	T	R	L	T	R		
Movement	22	48	6	77	97	396		
Volume	50		50		50			
%Thrus Left Lane	50		50		50			
	Northbound		Southbound					
Approach	L	T	R	L	T	R		
Movement	14	77	119	178	66	8		
Volume	50		50		50			
%Thrus Left Lane	50		50		50			
Eastbound		Westbound		Northbound		Southbound		
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	L	TR	L	TR
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate	22	54	77	493	14	196	178	74
% Heavy Vehicles	4	4	4	4	4	4	4	4
No. Lanes	2		2		2		2	
Geometry Group	5		5		5		5	
Duration, T	1.00							
Saturation Headway Adjustment Worksheet								
Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0	0.1	0.0	0.8	0.0	0.6	0.0	0.1
Prop. Heavy Vehicle								
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29
Departure Headway Adjustment Worksheet								
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.02	0.05	0.07	0.44	0.01	0.17	0.16	0.07
hd, final value	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29
x, final value	0.04	0.10	0.14	0.76	0.03	0.34	0.35	0.14
Move-up time, m	2.3		2.3		2.3		2.3	
Service Time	5.0	4.4	5.0	4.4	5.0	4.4	5.0	4.4
Capacity and Level of Service								
	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	272	304	327	639	264	446	428	324
Delay	10.33	10.17	10.39	25.01	10.16	12.34	13.76	10.31
LOS	B	B	B	D	B	B	B	B
Approach Delay	10.22		23.04		12.19		12.74	
LOS	B		C		B		B	
Intersection Delay	17.76							
Intersection LOS	C							

### ALL-WAY STOP CONTROL ANALYSIS

Project Information		Site Information							
Analyst Agency/Co. Date Performed Analysis Time Period	01_CUMU_PM ATE - D.L. 7/27/2005 P.M. PEAK HOUR	Intersection Jurisdiction Analysis Year	SLOAN CYN RD/THE OLD RD LA. COUNTY CUMULATIVE						
Project ID LAKE VIEW ESTATES #05024		North/South Street THE OLD ROAD							
West Street SLOAN CANYON ROAD		East Street							
Approach		Eastbound		Westbound		Northbound		Southbound	
Approach		L	T	R	L	T	R	L	T
Volume		139	71	24	101	99	1017	50	50
Thrus Left Lane		50			50				
Approach		Northbound		Southbound		Eastbound		Westbound	
Approach		L	T	R	L	T	R	L	T
Volume		146	164	152	443	119	36	50	50
Thrus Left Lane		50			50				
Configuration		Eastbound		Westbound		Northbound		Southbound	
Configuration		L1	L2	L1	L2	L1	L2	L1	L2
PHF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate		139	95	101	1116	146	316	443	155
Heavy Vehicles		4	4	4	4	4	4	4	4
No. Lanes		2	2	2	2	2	2	2	2
Geometry Group		5	5	5	5	5	5	5	5
Duration, T		1.00							
Performance		Eastbound		Westbound		Northbound		Southbound	
Prop. Left-Turns		1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns		0.0	0.3	0.0	0.9	0.0	0.5	0.0	0.2
Prop. Heavy Vehicle									
HLT-adj		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
RT-adj		-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
HLV-adj		1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed		9.65	9.65	9.65	9.65	9.65	9.65	9.65	9.65
Delay		Eastbound		Westbound		Northbound		Southbound	
hd, initial value		3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
ix, initial		0.12	0.08	0.09	0.99	0.13	0.28	0.39	0.14
hd, final value		9.65	9.65	9.65	9.65	9.65	9.65	9.65	9.65
ix, final value		0.37	0.24	0.25	2.40	0.37	0.73	1.09	0.35
Move-up time, m		2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Service Time		7.3	6.7	7.3	6.7	7.3	6.7	7.3	6.7
Capacity and LOS		Eastbound		Westbound		Northbound		Southbound	
Capacity		369	346	351	1116	394	435	443	405
Delay		18.04	14.45	14.52	2542	17.09	31.86	243.54	15.30
LOS		C	B	B	F	C	D	F	C
Approach Delay		16.58		2333		27.19		184.36	
LOS		C		F		D		F	
Intersection Delay		1181							
Intersection LOS		F							

### ALL-WAY STOP CONTROL ANALYSIS

Project Information		Site Information							
Analyst Agency/Co. Date Performed Analysis Time Period	01_CUMU+PR_PM ATE - D.L. 7/27/2005 P.M. PEAK HOUR	Intersection Jurisdiction Analysis Year	SLOAN CYN RD/THE OLD RD LA. COUNTY CUMULATIVE+PROJECT						
Project ID LAKE VIEW ESTATES #05024		North/South Street THE OLD ROAD							
West Street SLOAN CANYON ROAD		East Street							
Approach		Eastbound		Westbound		Northbound		Southbound	
Approach		L	T	R	L	T	R	L	T
Volume		139	71	25	102	99	1017	50	50
Thrus Left Lane		50			50				
Approach		Northbound		Southbound		Eastbound		Westbound	
Approach		L	T	R	L	T	R	L	T
Volume		147	166	169	443	126	36	50	50
Thrus Left Lane		50			50				
Configuration		Eastbound		Westbound		Northbound		Southbound	
Configuration		L1	L2	L1	L2	L1	L2	L1	L2
PHF		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate		139	96	102	1116	147	335	443	162
Heavy Vehicles		4	4	4	4	4	4	4	4
No. Lanes		2	2	2	2	2	2	2	2
Geometry Group		5	5	5	5	5	5	5	5
Duration, T		1.00							
Performance		Eastbound		Westbound		Northbound		Southbound	
Prop. Left-Turns		1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns		0.0	0.3	0.0	0.9	0.0	0.5	0.0	0.2
Prop. Heavy Vehicle									
HLT-adj		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
RT-adj		-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
HLV-adj		1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed		9.70	9.70	9.70	9.70	9.70	9.70	9.70	9.70
Delay		Eastbound		Westbound		Northbound		Southbound	
hd, initial value		3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
ix, initial		0.12	0.09	0.09	0.99	0.13	0.30	0.39	0.14
hd, final value		9.70	9.70	9.70	9.70	9.70	9.70	9.70	9.70
ix, final value		0.37	0.24	0.25	2.42	0.37	0.77	1.09	0.37
Move-up time, m		2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Service Time		7.4	6.7	7.4	6.7	7.4	6.7	7.4	6.7
Capacity and LOS		Eastbound		Westbound		Northbound		Southbound	
Capacity		367	346	352	1116	394	435	443	412
Delay		18.19	14.58	14.66	2575	17.18	36.77	253.03	15.76
LOS		C	B	B	F	C	E	F	C
Approach Delay		16.71		2360		30.80		189.50	
LOS		C		F		D		F	
Intersection Delay		1184							
Intersection LOS		F							

COUNT DATE:	04/2005	REF 01_PM_HIT
TIME PERIOD:	P.M. PEAK HOUR	
N/S STREET:	THE OLD ROAD	MITIGATED INTERSECTION
E/W STREET:	SLOAN CANYON ROAD	THE OLD RD WIDENING PROJECT/SIGNALIZED/DOUBLE WB RT LANES
CONTROL TYPE:	SIGNAL	

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	11	66	90	156	52	7	19	42	4	67	85	348
(B) YEAR 2008:	2	9	12	22	7	1	3	6	1	9	12	48
(C) PROJECT:	1	2	17	0	7	0	0	0	1	1	0	0
(D) CUMULATIVE/ADDED:	133	89	50	265	60	28	117	23	19	25	2	621

FUTURE GEOMETRICS	NORTH BOUND		SOUTH BOUND		EAST BOUND		WEST BOUND	
	L	T	L	T	L	T	L	T
SCENARIO 1 = EXISTING VOLUMES (A)								
SCENARIO 2 = YEAR 2008 VOLUMES (A+B)								
SCENARIO 3 = YEAR 2008 + PROJECT VOLUMES (A+B+C)								
SCENARIO 4 = CUMULATIVE VOLUMES (A+B+D)								
SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A+B+C+D)								

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES					SCENARIO VIC RATIOS				
			1	2	3	4	5	1	2	3	4	5
NBL	1	1600	11	13	14	146	147	0.007	0.008	0.009	0.091	0.092
NBT	1	1600	66	75	77	164	166	0.041	0.047	0.048	0.103	0.104
NBR	1	1600	90	101	119	152	169	0.056	0.064	0.074	0.095	0.106
SBL	1	1600	156	178	178	443	443	0.098	0.111	0.111	0.277	0.277
SBT	1	1600	52	59	66	119	126	0.033	0.037	0.041	0.074	0.079
SBR	1	1600	7	8	8	36	36	0.004	0.005	0.005	0.023	0.023
EBL	1	1600	19	22	22	139	139	0.012	0.014	0.014	0.087	0.087
EBT	2	3200	42	48	48	71	71	0.014	0.017	0.017	0.030	0.030
EBR	0	0	4	5	5	24	25	-	-	-	-	-
WBL	1	1600	67	76	77	101	102	0.042	0.048	0.048	0.063	0.064
WBT	2	3200	85	97	97	99	99	0.076	0.086	0.086	0.174	0.174
WBR	0	0	157	178	178	458	458	-	-	-	-	-
LOST TIME:			0.100	0.100	0.100	0.100	0.100					
TOTAL INTERSECTION CAPACITY UTILIZATION:			0.33	0.36	0.36	0.74	0.74					
SCENARIO LEVEL OF SERVICE:			A	A	A	C	C					

NOTES:  
(a) RTOR OVERLAP WITH SB LT

Printed: 06/04/05

### ALL-WAY STOP CONTROL ANALYSIS

Analyst	02-EX-AM	Intersection	PARKER RD/THE OLD RD
Agency/Co.	ATE-D.L.	Jurisdiction	L.A. COUNTY
Date Performed	7/1/2005	Analysis Year	2005
Analysis Time Period	A.M. PEAK HOUR		

Project ID	LAKE VIEW STATES #05024
East/West Street	PARKER ROAD
North/South Street	THE OLD ROAD

Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume	7	173	30	43	48	23
%Thrus Left Lane	50			60		

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume	17	53	53	25	58	2
%Thrus Left Lane	50					

Configuration	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT	R	LTR		LTR		LTR	
PHF	1.00	1.00	1.00		1.00		1.00	
Flow Rate	180	30	114		123		83	
% Heavy Vehicles	4	4	4		4		4	
No. Lanes	2		1		1		1	
Geometry Group	5		4a		2		2	
Duration, T	1.00							

Prop. Left-Turns	0.0	0.0	0.4		0.1		0.3
Prop. Right-Turns	0.0	1.0	-0.2		0.4		-0.0
Prop. Heavy Vehicle							
hLT-adj	0.5	0.5	0.2	0.2	0.2	0.2	0.2
hRT-adj	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6	-0.6
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	5.22	5.22	5.22	5.22	5.22	5.22	5.22

hd, initial value	3.20	3.20	3.20		3.20		3.20
x, initial	0.16	0.03	0.10		0.11		0.07
hd, final value	5.22	5.22	5.22		5.22		5.22
x, final value	0.26	0.04	0.15		0.16		0.11
Move-up time, m	2.3		2.0		2.0		2.0
Service Time	2.9	2.2	2.9	2.2	2.9	2.2	2.9

Capacity	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	430	280	364		373		333	
Delay	9.76	7.37	8.69		8.55		8.64	
LOS	A	A	A		A		A	
Approach Delay	9.42		8.69		8.55		8.64	
LOS	A		A		A		A	
Intersection Delay	8.94							
Intersection LOS	A							

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ALL-WAY STOP CONTROL ANALYSIS										
Project Information					Intersection Information					
Analyst	02_BASELINE_AM				PARKER RD/THE OLD RD					
Agency/Co.	ATE - D.L.				L.A. COUNTY					
Date Performed	7/11/2005				YEAR 2008					
Analysis Time Period	A.M. PEAK HOUR									
Project ID LAKE VIEW ESTATES #05024										
East/West Street: PARKER ROAD					North/South Street: THE OLD ROAD					
Volume/Approach Movements and Control Parameters										
Approach	Eastbound				Westbound					
Movement	L	T	R		L	T	R			
Volume	8	197	34		49	55	26			
%Thrus Left Lane	50				50					
Approach	Northbound				Southbound					
Movement	L	T	R		L	T	R			
Volume	19	60	60		28	64	2			
%Thrus Left Lane	50				50					
	Eastbound		Westbound		Northbound		Southbound			
	L1	L2	L1	L2	L1	L2	L1	L2		
Configuration	LT	R	LTR		LTR		LTR			
PHF	1.00	1.00	1.00		1.00		1.00			
Flow Rate	205	34	130		139		94			
% Heavy Vehicles	4	4	4		4		4			
No. Lanes	2		1		1		1			
Geometry Group	5		4a		2		2			
Duration, T	1.00									
Saturation Flow Rates and Control Parameters										
Prop. Left-Turns	0.0	0.0	0.4		0.1		0.3			
Prop. Right-Turns	0.0	1.0	0.2		0.4		0.0			
Prop. Heavy Vehicle										
hLT-adj	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.2		
hRT-adj	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6		
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7		
hadj, computed	5.33	5.33	5.33		5.33		5.33			
Delay and Queue Length Parameters										
hd, initial value	3.20	3.20	3.20		3.20		3.20			
x, initial	0.18	0.03	0.12		0.12		0.08			
hd, final value	5.33	5.33	5.33		5.33		5.33			
x, final value	0.30	0.04	0.18		0.19		0.13			
Move-up time, m	2.3		2.0		2.0		2.0			
Service Time	3.0	2.3	3.0	2.3	3.0	2.3	3.0	2.3		
Capacity and Level of Service										
	Eastbound		Westbound		Northbound		Southbound			
	L1	L2	L1	L2	L1	L2	L1	L2		
Capacity	455	284	380		389		344			
Delay	10.36	7.52	9.04		8.91		8.95			
LOS	B	A	A		A		A			
Approach Delay	9.95		9.04		8.91		8.95			
LOS	A		A		A		A			
Intersection Delay	9.36									
Intersection LOS	A									

ALL-WAY STOP CONTROL ANALYSIS										
Project Information					Intersection Information					
Analyst	02_BASELINE+PR_AM				PARKER RD/THE OLD RD					
Agency/Co.	ATE - D.L.				L.A. COUNTY					
Date Performed	7/11/2005				YEAR 2008+PROJECT					
Analysis Time Period	A.M. PEAK HOUR									
Project ID LAKE VIEW ESTATES #05024										
East/West Street: PARKER ROAD					North/South Street: THE OLD ROAD					
Volume/Approach Movements and Control Parameters										
Approach	Eastbound				Westbound					
Movement	L	T	R		L	T	R			
Volume	8	197	38		167	55	26			
%Thrus Left Lane	50				50					
Approach	Northbound				Southbound					
Movement	L	T	R		L	T	R			
Volume	21	68	104		28	87	2			
%Thrus Left Lane	50				50					
	Eastbound		Westbound		Northbound		Southbound			
	L1	L2	L1	L2	L1	L2	L1	L2		
Configuration	LT	R	LTR		LTR		LTR			
PHF	1.00	1.00	1.00		1.00		1.00			
Flow Rate	205	38	248		193		117			
% Heavy Vehicles	4	4	4		4		4			
No. Lanes	2		1		1		1			
Geometry Group	5		4b		2		2			
Duration, T	1.00									
Saturation Flow Rates and Control Parameters										
Prop. Left-Turns	0.0	0.0	0.7		0.1		0.2			
Prop. Right-Turns	0.0	1.0	0.1		0.5		0.0			
Prop. Heavy Vehicle										
hLT-adj	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.2		
hRT-adj	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6		
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7		
hadj, computed	5.79	5.79	5.79		5.79		5.79			
Delay and Queue Length Parameters										
hd, initial value	3.20	3.20	3.20		3.20		3.20			
x, initial	0.18	0.03	0.22		0.17		0.10			
hd, final value	5.79	5.79	5.79		5.79		5.79			
x, final value	0.33	0.05	0.37		0.28		0.18			
Move-up time, m	2.3		2.0		2.0		2.0			
Service Time	3.5	2.8	3.5	2.8	3.5	2.8	3.5	2.8		
Capacity and Level of Service										
	Eastbound		Westbound		Northbound		Southbound			
	L1	L2	L1	L2	L1	L2	L1	L2		
Capacity	455	288	488		443		367			
Delay	11.32	8.04	11.60		10.22		9.96			
LOS	B	A	B		B		A			
Approach Delay	10.81		11.60		10.22		9.96			
LOS	B		B		B		A			
Intersection Delay	10.79									
Intersection LOS	B									

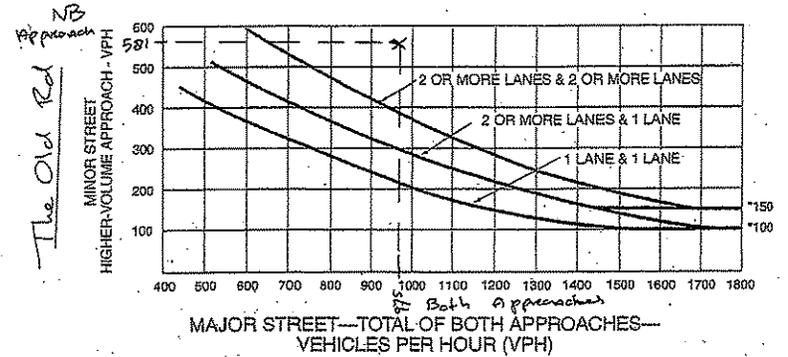
ALL-WAY STOP CONTROL ANALYSIS

Project Name: 02_CUMU_AM		Intersection: PARKER RD/THE OLD RD					
Agency/Co: ATE - D.L.		Jurisdiction: LA. COUNTY					
Date Performed: 7/27/2005		Analysis Year: CUMULATIVE					
Analysis Time Period: A.M. PEAK HOUR							
Project ID: LAKE VIEW ESTATES #05024							
West Street: PARKER ROAD		North/South Street: THE OLD ROAD					
Approach							
Eastbound		Westbound					
L	T	R	R				
Volume: 20	268	41	91				
Thrus Left Lane: 50			50				
Northbound		Southbound					
L	T	R	R				
Volume: 20	97	104	89				
Thrus Left Lane: 50			124				
			17				
Eastbound		Westbound		Northbound		Southbound	
L1	L2	L1	L2	L1	L2	L1	L2
Configuration: LT	R	LTR		LTR		LTR	
HF: 1.00	1.00	1.00		1.00		1.00	
Flow Rate: 308	41	353		221		230	
Heavy Vehicles: 4	4	4		4		4	
Lanes: 2		1		1		1	
Geometry Group: 5		4a		2		2	
Friction, T: 1.00							
Prop. Left-Turns: 0.1	0.0	0.3		0.1		0.4	
Prop. Right-Turns: 0.0	1.0	0.5		0.5		0.1	
Prop. Heavy Vehicle: 0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.2
LT-adj: -0.7	-0.7	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
RT-adj: 1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
HTV-adj: 6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83
adj, computed: 3.20	3.20	3.20		3.20		3.20	
nd, initial value: 0.27	0.04	0.31		0.20		0.20	
nd, final value: 6.83	6.83	6.83		6.83		6.83	
nd, final value: 0.58	0.07	0.60		0.40		0.43	
Move-up time, m: 2.3		2.0		2.0		2.0	
Service Time: 4.5	3.8	4.5	3.8	4.5	3.8	4.5	3.8
Capacity				Capacity			
Eastbound		Westbound		Northbound		Southbound	
L1	L2	L1	L2	L1	L2	L1	L2
Capacity: 499	291	551		471		473	
Delay: 18.99	9.23	18.35		13.86		14.91	
LOS: C	A	C		B		B	
Approach: Delay: 17.84	18.35		13.86		14.91		
LOS: C	C		B		B		
Intersection Delay: 16.65							
Intersection LOS: C							

The Old Rd / Parker Rd

Figure 4C-3. Warrant 3, Peak Hour

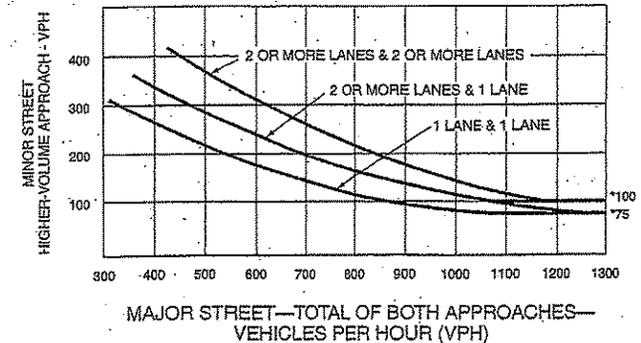
Cumulative + Range of P.M. Peak Hour



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 25 km/h OR ABOVE 40 mph ON MAJOR STREET)



\*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Lake View Estates # 05004  
 YEAR 2008 + Project Traffic Volumes

MUTCD 2003 California Supplement  
 Ridge Rte Rd / U.S. I-5 NB Ramps

Reference 4 I-5 Northbound Off-Ramp/Ridge Route Road

Figure 4C-104. Traffic Signal Warrants Worksheet (Sheet 1 of 4)

Project: Ridge Rte Rd / U.S. I-5 NB Ramps  
 Date: 7/18/05

Location: Ridge Rte Rd / U.S. I-5 NB Ramps

Warrant Type:  1. Minimum Vehicle Volume

Condition A - Minimum Vehicle Volume: 100% SATISFIED YES  NO  NO DATA

APPROACH LINES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKET)		1	2	3	4	5	6	7	8	9	10
	AD	AD										
Approach 1	1000	1300	1000	1200								
Approach 2	1000	1300	1000	1200								
Approach 3	1000	1300	1000	1200								
Approach 4	1000	1300	1000	1200								

Condition B - Interruption of Continuous Traffic: 100% SATISFIED YES  NO  NO DATA

APPROACH LINES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKET)		1	2	3	4	5	6	7	8	9	10
	AD	AD										
Approach 1	1000	1300	1000	1200								
Approach 2	1000	1300	1000	1200								
Approach 3	1000	1300	1000	1200								
Approach 4	1000	1300	1000	1200								

Combination of Conditions A & B: SATISFIED YES  NO  N.A.

REQUIREMENT	WARRANT	SUBMITTED
1. MINIMUM VEHICLE VOLUME		Yes <input type="checkbox"/> No <input type="checkbox"/>
2. INTERRUPTION OF CONTINUOUS TRAFFIC		Yes <input type="checkbox"/> No <input type="checkbox"/>





LAKE VIEW ESTATES  
Ridge Rte Rd / I-5 NB off Rmp

MUTCD 2003 California Supplement

Cumulative + Paged PM Traffic Volume

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 1 of 4)

DIET 07 CO LA RTE I5 OSE 058 CALC DL DATE 8/5/05  
CHK \_\_\_\_\_ DATE \_\_\_\_\_

Major St \_\_\_\_\_ Critical Approach Speed 50 km/h  
Minor St \_\_\_\_\_ Critical Approach Speed 30 km/h

Critical speed of major street traffic > 64 km/h (40 mph)  RURAL (R)  
In built up area of isolated community of < 10,000 population   
 URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

Condition A - Minimum Vehicle Volume 100% SATISFIED YES  NO   
80% SATISFIED YES  NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				Hour
	1		2 or More		
	U	R	U	R	
Both Approaches Major Street	300 (400)	350 (280)	800 (480)	420 (330)	NO DATA
Highest Approaches Minor Street	250 (420)	105 (84)	280 (160)	140 (112)	

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES  NO   
80% SATISFIED YES  NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				Hour
	1		2 or More		
	U	R	U	R	
Both Approaches Major Street	750 (800)	625 (420)	900 (720)	630 (604)	NO DATA
Highest Approaches Minor Street	75 (60)	32 (42)	100 (80)	70 (56)	

Combination of Conditions A & B SATISFIED YES  NO

REQUIREMENT	WARRANT	✓	FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes <input type="checkbox"/> No <input type="checkbox"/>
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume SATISFIED\* YES  NO

Record hourly vehicular volumes for four hours.

APPROACH LANES	2 or More		Hour
	One	More	
Both Approaches - Major Street			
Highest Approaches - Minor Street			

NO DATA

\*All plotted points fall above the curves in MUTCD Figure 4C-1 or 4C-2. Yes  No

WARRANT 3 - Peak Hour PART A or PART B SATISFIED YES  NO

PART A (All parts 1, 2, and 3 below must be satisfied) SATISFIED YES  NO

- The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND Yes  No
- The volume on the same minor street approach equals or exceeds 180 vph for one moving lane of traffic or 150 vph for two moving lanes; AND Yes  No
- The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches. Yes  No

PART B SATISFIED YES  NO

APPROACH LANES	2 or More		Hour
	One	More	
Both Approaches - Major Street		711	
Highest Approaches - Minor Street		596	

The plotted points for vehicles per hour on major streets (both approaches) and the corresponding per hour higher volume vehicle minor street approach (one direction only) for one hour (any consecutive 15 minute period) fall above the applicable curves in MUTCD Figure 4C-3 or 4C-4.

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 3 of 4)

02 LA IS OS8  
 DIST CO RTE KPM  
 CALC DL DATE 8/5/08  
 CHK DATE  
 Major St: Ridge Rd  
 Minor St: T-5 NB off-ramp  
 Critical Approach Speed 50 km/h  
 Critical Approach Speed 80 km/h  
 Critical speed of major street > 64 km/h (40 mph)   
 In built up area of isolated community of < 10,000 population   
 RURAL (R)  
 URBAN (U)

WARRANT 4 - Pedestrian Volume (All Parts Must Be Satisfied) 100% SATISFIED YES  NO

Hours ---> / / /  

Pedestrian Volume					
Adequate Crossing Gaps					

 Any hour > 100 Yes  No   
 OR 4 hours > 100 Yes  No   
 AND < 60 gap/hr Yes  No  N.A.  
 AND The distance to the nearest traffic signal along the major street is greater than 90m (300 ft) Yes  No   
 AND The new traffic signal will not seriously disrupt progressive traffic flow in the major street Yes  No

WARRANT 5 - School Crossing (All Parts Must Be Satisfied) SATISFIED YES  NO

Part A  
 Gap/Minutes and # of Children  
 Each of Two Hours ---> / /  

Gaps < Minutes	Minutes Children Using Crossing			
School Age Pedestrians Crossing Street	Number of Adequate Gaps			

 Gaps < Minutes SATISFIED YES  NO  N.A.  
 Children > 20/hr SATISFIED YES  NO   
 Part B  
 Distance to Nearest Controlled Crossing  
 Is Nearest Controlled Crossing More Than 180 m (600 ft) away? SATISFIED YES  NO

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 4 of 4)

WARRANT 6 - Coordinated Signal System (All Parts Must Be Satisfied) SATISFIED YES  NO

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	FULFILLED
> 300 m (1000 ft)	N N/A m, S N/A m, E < 300 m, W > 300 m	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
On one way isolated streets or streets with one way traffic significance and adjacent signals are so far apart that necessary platooning and speed control would be lost.		
On 2-way streets where adjacent signals do not provide necessary platooning and speed control proposed signals could constitute a progressive signal system.		<input type="checkbox"/> <input checked="" type="checkbox"/>

WARRANT 7 - Crash Warrant (All Parts Must Be Satisfied) SATISFIED YES  NO

REQUIREMENTS	WARRANT	✓	FULFILLED
One Warrant Satisfied 80%	Warrant 1 - Minimum Vehicular Volume		
	OR Warrant 2 - Interruption of Continuous Traffic		Yes <input type="checkbox"/> No <input type="checkbox"/>
Signal Will Not Seriously Disrupt Progressive Traffic Flow			<input type="checkbox"/> <input type="checkbox"/>
Adequate Trial of Less Restrictive Remedies Has Failed to Reduce Accident Frequency			<input type="checkbox"/> <input type="checkbox"/>
Acc. Within a 12 Month Period Susceptible for Corr. & Involving Injury or ≥ \$500 Damage			
MINIMUM REQUIREMENTS	NUMBER OF ACCIDENTS		
5 or More			<input type="checkbox"/> <input type="checkbox"/>

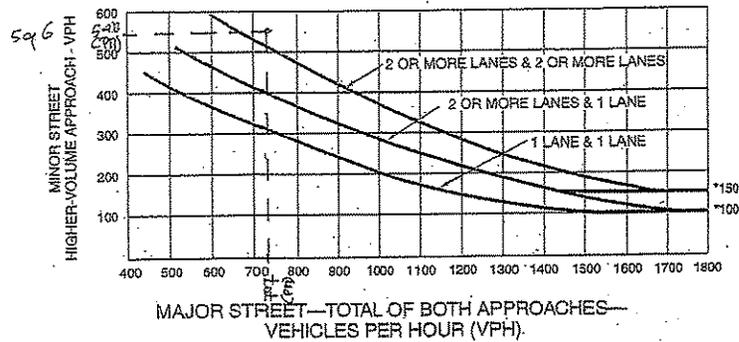
NO DATA

WARRANT 8 - Roadway Network (All Parts Must Be Satisfied) SATISFIED YES  NO

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour > 1000 Veh/Hr		
	OR During Each of Any 5 Hrs. of a Sat. and/or Sun. Veh/Hr		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
CHARACTERISTICS OF MAJOR ROUTES		MAJOR ST.	MINOR ST.
Hwy. System Serving as Principal Network for Through Traffic		Yes	No
Rural or Suburban Highway Outside Of, Entering, or Traversing a City		Yes	No
Appears as Major Route on an Official Plan		No	Yes
Any Major Route Characteristics Met, Both Streets			<input type="checkbox"/> <input checked="" type="checkbox"/>

The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

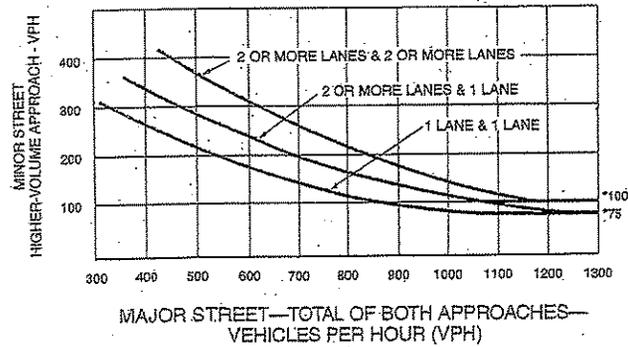
I-5 NB off Ramp/Ridge Rd. Rd Page 4C-7  
 Figure 4C-3. Warrant 3, Peak Hour  
 Cum + Project A/T/P/T



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 35 km/h OR ABOVE 40 mph ON MAJOR STREET)



\*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

Reference 5 The Old Road/"A" Street

The Old Rd/A Street

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 1 of 4)

DIST 07 LA CO LA RTE LA IPM LA CALC DL DATE 8/6/05  
 CHK \_\_\_\_\_ DATE \_\_\_\_\_  
 Major St: The Old Rd Critical Approach Speed \_\_\_\_\_ km/h  
 Minor St: "A" St (Project Access) Critical Approach Speed \_\_\_\_\_ km/h

Critical speed of major street traffic > 64 km/h (40 mph)  } RURAL (R)  
 In built up area of isolated community of < 10,000 population  }  
 URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume

Condition A - Minimum Vehicle Volume 100% SATISFIED YES  NO   
 80% SATISFIED YES  NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)		MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)										
	U	R	U	R									
	1		2 or More		10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	Hour
Both Approaches Major Street	300 (180)	350 (280)	800 (480)	420 (336)	680	649	744	770	688	621	836	852	
Highest Approaches Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	30	49	51	49	58	97	93	135	

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES  NO   
 80% SATISFIED YES  NO

APPROACH LANES	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)		MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)										
	U	R	U	R									
	1		2 or More		10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	Hour
Both Approaches Major Street	750 (600)	625 (420)	900 (720)	630 (504)	680	649	744	770	688	621	836	852	
Highest Approaches Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	30	49	51	49	58	97	93	135	

Combination of Conditions A & B SATISFIED YES  NO

REQUIREMENT	WARRANT	✓	FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	2. INTERRUPTION OF CONTINUOUS TRAFFIC		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 2 of 4)

WARRANT 2 - Four Hour Vehicular Volume SATISFIED\* YES  NO

Record hourly vehicular volumes for four hours.

APPROACH LANES	One	2 or More	Hour			
			1-2	2-3	3-4	4-5
Both Approaches - Major Street	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	744	770	836	852
Highest Approaches - Minor Street	<input checked="" type="checkbox"/>	<input type="checkbox"/>	51	49	93	135

\*All plotted points fall above the curves in MUTCD Figure 4C-1 or 4C-2.

Yes  No

WARRANT 3 - Peak Hour PART A or PART B SATISFIED YES  NO

PART A SATISFIED YES  NO   
 (All parts 1, 2, and 3 below must be satisfied)

- The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND  
 Yes  No
- The volume on the same minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND  
 Yes  No
- The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.  
 Yes  No

PART B SATISFIED YES  NO

APPROACH LANES	One	2 or More	Hour			
			1-2	2-3	3-4	4-5
Both Approaches - Major Street	<input type="checkbox"/>	<input checked="" type="checkbox"/>	852			
Highest Approaches - Minor Street	<input checked="" type="checkbox"/>	<input type="checkbox"/>	135			

The plotted points for vehicles per hour on major streets (both approaches) and the corresponding per hour higher volume vehicle minor street approach (one direction only) for one hour (any consecutive 15 minute period) fall above the applicable curves in MUTCD Figure 4C-3 or 4C-4.

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 3 of 4)

DIST LA CO LA RTE 210 KFM 10 CALC DL DATE 8/5/05  
 CHK \_\_\_\_\_ DATE \_\_\_\_\_  
 Major St: The Old Rd Critical Approach Speed \_\_\_\_\_ km/h  
 Minor St: 9th St Critical Approach Speed \_\_\_\_\_ km/h  
 Critical speed of major street > 64 km/h (40 mph)  }  
 In built up area of isolated community of < 10,000 population  } RURAL (R)  
 URBAN (U)

**WARRANT 4 - Pedestrian Volume** (All Parts Must Be Satisfied) 100% SATISFIED YES  NO  N/A

Hours --->

Pedestrian Volume						Any hour > 190	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Adequate Crossing Gaps						OR 4 hours > 100	Yes <input type="checkbox"/>	No <input type="checkbox"/>
						AND < 60 gap/hr	Yes <input type="checkbox"/>	No <input type="checkbox"/>

AND, The distance to the nearest traffic signal along the major street is greater than 90m (300 ft) \_\_\_\_\_ Yes  No   
 AND, The new traffic signal will not seriously disrupt progressive traffic flow in the major street. \_\_\_\_\_ Yes  No

**WARRANT 5 - School Crossing** (All Parts Must Be Satisfied) SATISFIED YES  NO  No crossing

**Part A**  
Gap/minutes and # of Children

Each of Two Hours --->		Gaps < Minutes	Satisfied	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Gaps vs Minutes	Minutes Children Using Crossings				

School Age Pedestrians Crossing Street? \_\_\_\_\_ Children > 20/hr SATISFIED YES  NO

**Part B**  
Distance to Nearest Controlled Crossing  
Is Nearest Controlled Crossing More Than 180 m (600 ft) away? SATISFIED YES  NO

Figure 4C-101. Traffic Signal Warrants Worksheet (Sheet 4 of 4)

**WARRANT 6 - Coordinated Signal System** (All Parts Must Be Satisfied) SATISFIED YES  NO

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	FULFILLED
> 300 m (1000 ft)	N > 300 m, S > 300 m, E > 150 m, W > 150 m	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
On one way isolated streets or streets with one way traffic significance and adjacent signals are so far apart that necessary platooning and speed control would be lost.		
On 2-way streets where adjacent signals do not provide necessary platooning and speed control proposed signals could constitute a progressive signal system.		

**WARRANT 7 - Crash Warrant** (All Parts Must Be Satisfied) SATISFIED YES  NO  NO DATA

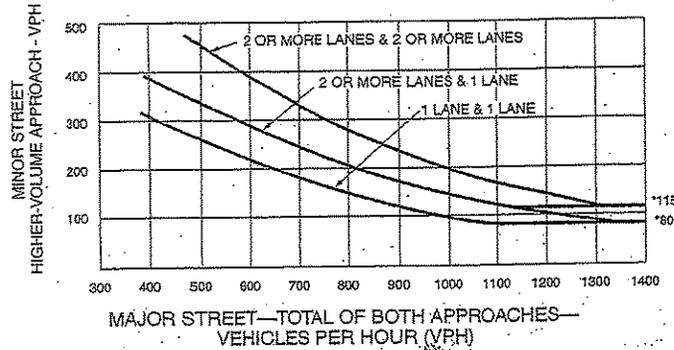
REQUIREMENTS	WARRANT	✓	FULFILLED
One Warrant Satisfied 80%	Warrant 1 - Minimum Vehicular Volume		
	OR Warrant 2 - Interruption of Continuous Traffic		Yes <input type="checkbox"/> No <input type="checkbox"/>
Signal Will Not Seriously Disrupt Progressive Traffic Flow			<input type="checkbox"/> <input type="checkbox"/>
Adequate Trial of Less Restrictive Remedies Has Failed to Reduce Accident Frequency			<input type="checkbox"/> <input type="checkbox"/>
Acc. Within a 12 Month Period Susceptible for Cor. & Involving Injury or ≥ \$500 Damage			
MINIMUM REQUIREMENTS	NUMBER OF ACCIDENTS		
5 or More			<input type="checkbox"/> <input type="checkbox"/>

**WARRANT 8 - Roadway Network** (All Parts Must Be Satisfied) SATISFIED YES  NO

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour <u>927</u> Veh/Hr		
	OR During Each of Any 5 Hrs. of a Sat. and/or Sun. <u>N/A</u> Veh/Hr		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
CHARACTERISTICS OF MAJOR ROUTES			
Hwy. System Serving as Principal Network for Through Traffic	MAJOR ST. MINOR ST.		
Rural or Suburban Highway Outside Of, Entering, or Traversing a City	<u>NO</u> <u>NO</u>		
Appears as Major Route on an Official Plan	<u>YES</u> <u>NO</u>		
Any Major Route Characteristics Met, Both Streets			<input type="checkbox"/> <input checked="" type="checkbox"/>

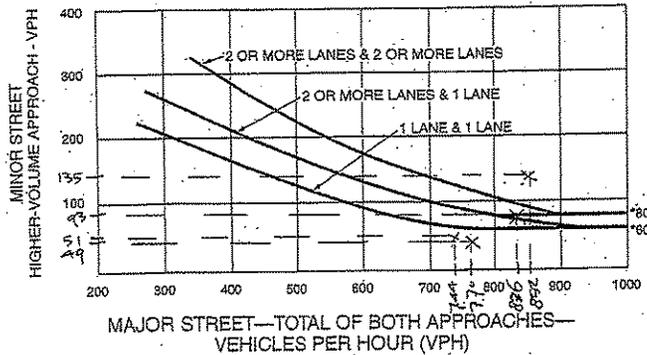
The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



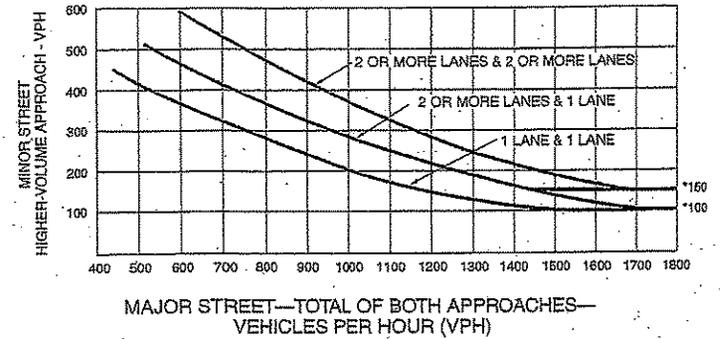
\*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)  
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 76 km/h OR ABOVE 40 mph ON MAJOR STREET)



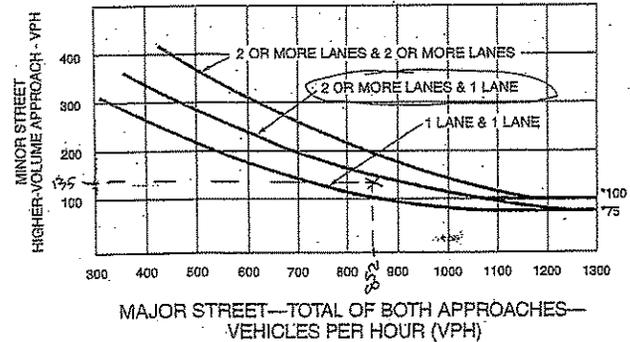
\*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-3. Warrant 3, Peak Hour



\*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)  
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 76 km/h OR ABOVE 40 mph ON MAJOR STREET)



\*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

CUMULATIVE IMPACT FAIR SHARE CALCULATION WORKSHEETS

FAIR-SHARE CALCULATION

Intersection: The Old Road/Lake Hughes Road

A.M. Peak Hour

Scenario	Volumes											
	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2008 Project	7	46	57	119	38	5	32	19	22	19	35	41
Cumulative-Added	0	1	7	0	17	0	0	0	0	2	3	0
CUMULATIVE	130	28	27	145	80	22	95	22	16	30	2	313
CUMULATIVE+PROJECT	130	74	84	264	118	27	127	44	35	65	43	612
	130	75	91	264	135	27	127	44	37	68	43	612

A.M. Cumulative Fair-Share Calculation:

A.M. Cumulative-Added = 903 PHT  
 A.M. Project-Added = 30 PHT  
 Total = 933 PHT

30 PHT / 933 PHT = 3.20%

P.M. Peak Hour

Scenario	Volumes											
	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2008 Project	13	75	102	178	59	8	22	48	5	76	97	396
Cumulative-Added	1	2	17	0	7	0	0	0	1	1	0	0
CUMULATIVE	133	89	50	265	60	28	117	23	19	25	2	521
CUMULATIVE+PROJECT	146	164	152	443	119	36	139	71	24	101	99	1017
	147	166	169	443	126	36	139	71	25	102	99	1017

P.M. Cumulative Fair-Share Calculation:

P.M. Cumulative-Added = 1,432 PHT  
 P.M. Project-Added = 29 PHT  
 Total = 1,461 PHT

29 PHT / 1,461 PHT = 2.00%

**Intersection: Parker Road/The Old Road**

**A.M. Peak Hour**

Scenario	Volumes											
	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2008	19	60	60	28	64	2	8	197	34	49	55	26
Project	2	8	44	0	23	0	0	0	4	118	0	0
Cumulative-Added	1	37	44	61	60	15	12	91	7	42	23	158
CUMULATIVE	20	97	104	89	124	17	20	288	41	91	78	184
CUMULATIVE+PROJECT	22	105	148	89	147	17	20	288	45	209	78	184

A.M. Cumulative Fair-Share Calculation: A.M. Cumulative-Added = 551 PHT      199 PHT / 750 PHT = 26.50%  
 A.M. Project-Added = 199 PHT  
 Total = 750 PHT

**P.M. Peak Hour**

Scenario	Volumes											
	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2008	57	125	113	34	94	16	16	102	28	79	212	53
Project	4	21	110	0	10	0	0	0	2	49	0	0
Cumulative-Added	7	78	66	61	55	15	20	55	5	67	100	187
CUMULATIVE	64	203	179	95	149	31	36	157	33	146	312	240
CUMULATIVE+PROJECT	68	224	289	95	159	31	36	157	35	195	312	240

P.M. Cumulative Fair-Share Calculation: P.M. Cumulative-Added = 716 PHT      196 PHT / 912 PHT = 21.50%  
 P.M. Project-Added = 196 PHT  
 Total = 912 PHT

**Intersection: Parker Road/I-5 NB Off-Ramp**

**A.M. Peak Hour**

Scenario	Volumes											
	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2008	53	0	232	0	0	0	0	100	0	0	398	0
Project	115	0	0	0	0	0	0	1	0	0	3	0
Cumulative-Added	214	0	57	0	0	0	0	34	0	0	163	0
CUMULATIVE	267	0	289	0	0	0	0	134	0	0	561	0
CUMULATIVE+PROJECT	382	0	289	0	0	0	0	135	0	0	564	0

A.M. Cumulative Fair-Share Calculation: A.M. Cumulative-Added = 468 PHT      119 PHT / 587 PHT = 20.30%  
 A.M. Project-Added = 119 PHT  
 Total = 587 PHT

**P.M. Peak Hour**

Scenario	Volumes											
	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2008	239	0	523	0	0	0	0	147	0	0	389	0
Project	48	0	0	0	0	0	0	3	0	0	1	0
Cumulative-Added	309	0	175	0	0	0	0	39	0	0	132	0
CUMULATIVE	548	0	698	0	0	0	0	186	0	0	521	0
CUMULATIVE+PROJECT	596	0	698	0	0	0	0	189	0	0	522	0

P.M. Cumulative Fair-Share Calculation: P.M. Cumulative-Added = 655 PHT      52 PHT / 707 PHT = 7.40%  
 P.M. Project-Added = 52 PHT  
 Total = 707 PHT

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

- Reference 1 The Old Road/Sloan Canyon Road
- Reference 2 The Old Road/Parker Road
- Reference 3 I-5 Southbound On-Ramp/Parker Road
- Reference 4 I-5 Northbound Off-Ramp/Ridge Route Road
- Reference 5 The Old Road/"A" Street

ALL-WAY STOP CONTROL ANALYSIS									
PROJECT INFORMATION					SITE DESCRIPTION				
Analyst	DT_EX_AM				Intersection	SLOAN CANYON/THE OLD RD			
Agency/Co.	ATE - D.L.				Jurisdiction	L.A. COUNTY			
Date Performed	7/11/2005				Analysis Year	2005			
Analysis Time Period	A.M. PEAK HOUR								
Project ID LAKE VIEW/ESTATES #05024									
East/West Street: SLOAN CANYON ROAD					North/South Street: THE OLD ROAD				
TRAFFIC VOLUMES									
Approach	Eastbound				Westbound				
Movement	L	T	R	L	T	R			
Volume	28	19	17	31	36	263			
%Thrus Left Lane	50			50					
TRAFFIC VOLUMES (Continued)									
Approach	Northbound				Southbound				
Movement	L	T	R	L	T	R			
Volume	6	40	50	105	33	4			
%Thrus Left Lane	50			50					
GEOMETRY									
	Eastbound		Westbound		Northbound		Southbound		
	L1	L2	L1	L2	L1	L2	L1	L2	
Configuration	L	TR	L	TR	L	TR	L	TR	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flow Rate	28	36	31	299	6	90	105	37	
% Heavy Vehicles	4	4	4	4	4	4	4	4	
No. Lanes	2		2		2		2		
Geometry Group	5		5		5		5		
Duration, T	1.00								
ADJUSTMENT FACTORS									
Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	
Prop. Right-Turns	0.0	0.5	0.0	0.9	0.0	0.6	0.0	0.1	
Prop. Heavy Vehicle									
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
hadj, computed	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	
DEMAND AND SERVICE TIMES									
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	
x, initial	0.02	0.03	0.03	0.27	0.01	0.08	0.09	0.03	
hd, final value	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	
x, final value	0.05	0.05	0.05	0.39	0.01	0.13	0.18	0.06	
Move-up time, m	2.3		2.3		2.3		2.3		
Service Time	3.7	2.9	3.7	2.9	3.7	2.9	3.7	2.9	
CAPACITY AND LOS									
	Eastbound		Westbound		Northbound		Southbound		
	L1	L2	L1	L2	L1	L2	L1	L2	
Capacity	278	286	281	549	256	340	355	287	
Delay	9.04	8.20	8.80	10.36	8.96	8.81	10.15	8.58	
LOS	A	A	A	B	A	A	B	A	
Approach Delay	8.57		10.21		8.82		9.74		
LOS	A		B		A		A		
Intersection Delay	9.73								
Intersection LOS	A								

**ALL-WAY STOP CONTROL ANALYSIS**

General Information									
Analyst	D1_BASELINE_AM				SLOAN CYN RD/THE OLD RD				
Agency/Co.	ATE - D.L.				L.A. COUNTY				
Date Performed	7/11/2005				YEAR 2008				
Analysis Time Period	A.M. PEAK HOUR								
Project ID LAKE VIEW ESTATES #05024									
East/West Street: SLOAN CANYON ROAD					North/South Street: THE OLD ROAD				
Eastbound									
Approach	Eastbound				Westbound				
Movement	L	T	R	L	T	R	L	T	R
Volume	32	22	19	35	41	299			
%Thrus Left Lane	50			50					
Southbound									
Approach	Northbound				Southbound				
Movement	L	T	R	L	T	R	L	T	R
Volume	7	48	57	119	38	5			
%Thrus Left Lane	50			50					
Geometry									
	Eastbound		Westbound		Northbound		Southbound		
	L1	L2	L1	L2	L1	L2	L1	L2	
Configuration	L	TR	L	TR	L	TR	L	TR	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flow Rate	32	41	35	340	7	105	119	43	
% Heavy Vehicles	4	4	4	4	4	4	4	4	
No. Lanes	2		2		2		2		
Geometry Group	5		5		5		5		
Duration, T	1.00								
Saturation Flow/Adjustment Factors									
Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	
Prop. Right-Turns	0.0	0.5	0.0	0.9	0.0	0.5	0.0	0.1	
Prop. Heavy Vehicle									
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
hadj, computed	6.23	6.23	6.23	6.23	6.23	6.23	6.23	6.23	
Design Headway and Spacing									
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	
x, initial	0.03	0.04	0.03	0.30	0.01	0.09	0.11	0.04	
hd, final value	6.23	6.23	6.23	6.23	6.23	6.23	6.23	6.23	
x, final value	0.06	0.06	0.06	0.45	0.01	0.16	0.21	0.07	
Move-up time, m	2.3		2.3		2.3		2.3		
Service Time	3.9	3.1	3.9	3.1	3.9	3.1	3.9	3.1	
Capacity and Delay									
	Eastbound		Westbound		Northbound		Southbound		
	L1	L2	L1	L2	L1	L2	L1	L2	
Capacity	282	291	285	590	257	355	369	293	
Delay	9.30	8.46	9.00	11.52	9.16	9.26	10.65	8.84	
LOS	A	A	A	B	A	A	B	A	
Approach Delay	8.83		11.28		9.26		10.17		
LOS	A		B		A		B		
Intersection Delay	10.47								
Intersection LOS	B								

**ALL-WAY STOP CONTROL ANALYSIS**

General Information									
Analyst	D1_BASELINE+PR_AM				SLOAN CYN RD/THE OLD RD				
Agency/Co.	ATE - D.L.				L.A. COUNTY				
Date Performed	7/11/2005				YEAR 2008 + PROJECT				
Analysis Time Period	A.M. PEAK HOUR								
Project ID LAKE VIEW ESTATES #05024									
East/West Street: SLOAN CANYON ROAD					North/South Street: THE OLD ROAD				
Eastbound									
Approach	Eastbound				Westbound				
Movement	L	T	R	L	T	R	L	T	R
Volume	32	22	21	38	41	299			
%Thrus Left Lane	50			50					
Southbound									
Approach	Northbound				Southbound				
Movement	L	T	R	L	T	R	L	T	R
Volume	7	47	64	119	55	5			
%Thrus Left Lane	50			50					
Geometry									
	Eastbound		Westbound		Northbound		Southbound		
	L1	L2	L1	L2	L1	L2	L1	L2	
Configuration	L	TR	L	TR	L	TR	L	TR	
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Flow Rate	32	43	38	340	7	111	119	60	
% Heavy Vehicles	4	4	4	4	4	4	4	4	
No. Lanes	2		2		2		2		
Geometry Group	5		5		5		5		
Duration, T	1.00								
Saturation Flow/Adjustment Factors									
Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	
Prop. Right-Turns	0.0	0.5	0.0	0.9	0.0	0.6	0.0	0.1	
Prop. Heavy Vehicle									
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
hadj, computed	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	
Design Headway and Spacing									
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	
x, initial	0.03	0.04	0.03	0.30	0.01	0.10	0.11	0.05	
hd, final value	6.31	6.31	6.31	6.31	6.31	6.31	6.31	6.31	
x, final value	0.06	0.07	0.06	0.46	0.01	0.17	0.21	0.10	
Move-up time, m	2.3		2.3		2.3		2.3		
Service Time	4.0	3.2	4.0	3.2	4.0	3.2	4.0	3.2	
Capacity and Delay									
	Eastbound		Westbound		Northbound		Southbound		
	L1	L2	L1	L2	L1	L2	L1	L2	
Capacity	282	293	288	590	257	361	369	310	
Delay	9.38	8.55	9.10	11.74	9.21	9.37	10.71	9.09	
LOS	A	A	A	B	A	A	B	A	
Approach Delay	8.90		11.47		9.36		10.16		
LOS	A		B		A		B		
Intersection Delay	10.57								
Intersection LOS	B								

### ALL-WAY STOP CONTROL ANALYSIS

Project ID	01_CUMU_AM	Intersection	SLOAN CYN RD/THE OLD RD
Agency/Co.	ATE - D.L.	Jurisdiction	L.A. COUNTY
Date Performed	7/27/2005	Analysis Year	CUMULATIVE
Analysis Time Period	A.M. PEAK HOUR		

Project ID LAKE VIEW ESTATES #05024  
 West Street: SLOAN CANYON ROAD      North/South Street: THE OLD ROAD

Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Volume	127	44	35	65	43	612
Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Volume	130	74	84	264	118	27
Thrus Left Lane	50			50		

Configuration	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	L	TR	L	TR
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate	127	79	65	655	130	158	264	145
Heavy Vehicles	4	4	4	4	4	4	4	4
Geometry Group	5		5		5		5	

Category	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0	0.4	0.0	0.9	0.0	0.5	0.0	0.2
Adj. Heavy Vehicle								
HLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
RT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
HV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Adj. computed	8.49	8.49	8.49	8.49	8.49	8.49	8.49	8.49
Initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
Final value	0.11	0.07	0.06	0.58	0.12	0.14	0.23	0.13
Initial value	8.49	8.49	8.49	8.49	8.49	8.49	8.49	8.49
Final value	0.30	0.17	0.14	1.20	0.31	0.33	0.60	0.30
Move-up time, m	2.3		2.3		2.3		2.3	
Service Time	6.2	5.4	6.2	5.4	6.2	5.4	6.2	5.4

Capacity	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	377	329	315	655	380	408	435	395
Delay	14.81	11.94	11.73	409.02	14.88	14.08	23.06	13.58
LOS	B	B	B	F	B	B	C	B
Approach Delay	13.71		373.16		14.44		19.70	
LOS	B		F		B		C	
Intersection Delay	174.81							
Intersection LOS	F							

### ALL-WAY STOP CONTROL ANALYSIS

Project ID	01_CUMU+PR_AM	Intersection	SLOAN CYN RD/THE OLD RD
Agency/Co.	ATE - D.L.	Jurisdiction	L.A. COUNTY
Date Performed	7/27/2005	Analysis Year	CUMULATIVE+PROJECT
Analysis Time Period	A.M. PEAK HOUR		

Project ID LAKE VIEW ESTATES #05024  
 West Street: SLOAN CANYON ROAD      North/South Street: THE OLD ROAD

Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Volume	127	44	37	68	43	612
Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Volume	130	75	91	264	135	27
Thrus Left Lane	50			50		

Configuration	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	L	TR	L	TR
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate	127	81	68	655	130	166	264	162
Heavy Vehicles	4	4	4	4	4	4	4	4
Geometry Group	5		5		5		5	

Category	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0	0.5	0.0	0.9	0.0	0.5	0.0	0.2
Adj. Heavy Vehicle								
HLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
RT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
HV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Adj. computed	8.56	8.56	8.56	8.56	8.56	8.56	8.56	8.56
Initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
Final value	0.11	0.07	0.06	0.58	0.12	0.15	0.23	0.14
Initial value	8.56	8.56	8.56	8.56	8.56	8.56	8.56	8.56
Final value	0.30	0.17	0.15	1.21	0.31	0.35	0.60	0.34
Move-up time, m	2.3		2.3		2.3		2.3	
Service Time	6.3	5.4	6.3	5.4	6.3	5.4	6.3	5.4

Capacity	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	377	331	318	655	380	416	434	412
Delay	14.95	12.07	11.89	430.16	14.97	14.44	23.25	14.27
LOS	B	B	B	F	B	B	C	B
Approach Delay	13.83		390.62		14.67		19.84	
LOS	B		F		B		C	
Intersection Delay	180.42							
Intersection LOS	F							

REF 01\_AM\_MIT

COUNT DATE: 04/2005  
 TIME PERIOD: A.M. PEAK HOUR  
 N/S STREET: THE OLD ROAD  
 E/W STREET: SLOAN CANYON ROAD  
 CONTROL TYPE: SIGNAL

**MITIGATED INTERSECTION**  
**THE OLD RD WIDENING PROJECT SIGNALIZED**

VOLUMES	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	6	40	50	105	33	4	28	19	17	31	36	263
(B) YEAR 2008:	1	5	7	14	5	1	4	3	2	4	5	36
(C) PROJECT:	0	1	7	0	17	0	0	0	2	3	0	0
(D) CUMULATIVE ADDED:	123	28	27	145	80	22	95	22	16	30	2	313

FUTURE GEOMETRICS	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R

- SCENARIO 1 = EXISTING VOLUMES (A)
- SCENARIO 2 = YEAR 2008 VOLUMES (A+B)
- SCENARIO 3 = YEAR 2008 + PROJECT VOLUMES (A+B+C)
- SCENARIO 4 = CUMULATIVE VOLUMES (A+B+D)
- SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A+B+C+D)

MOVEMENTS	# OF LANES	CAPACITY	SCENARIO VOLUMES					SCENARIO V/C RATIOS				
			1	2	3	4	5	1	2	3	4	5
NBL	1	1600	6	7	7	130	130	0.004	0.004	0.004	0.081	0.081
NBT	1	1600	40	46	47	74	75	0.025	0.029	0.029	0.046	0.047
NBR	1	1600	50	57	64	64	91	0.031	0.036	0.040	0.053	0.057
SBL	1	1600	105	119	119	264	264	0.066	0.074	0.074	0.165	0.165
SBT	1	1600	33	38	55	118	135	0.021	0.024	0.034	0.074	0.084
SBR	1	1600	4	5	5	27	27	0.003	0.003	0.003	0.017	0.017
EBL	1	1600	28	32	32	127	127	0.018	0.020	0.020	0.079	0.079
EBT	2	3200	19	22	22	44	44	0.011	0.013	0.013	0.025	0.025
EBR	0	0	17	19	21	35	37	-	-	-	-	-
WBL	1	1600	31	35	38	63	68	0.019	0.022	0.024	0.041	0.043
WBT	2	3200	36	41	41	43	43	0.066	0.075	0.075	0.142	0.142
WBR (A)	0	0	176	200	200	410	410	-	-	-	-	-

LOST TIME	0.100	0.100	0.100	0.100	0.100
TOTAL INTERSECTION CAPACITY UTILIZATION:	0.28	0.30	0.30	0.53	0.53
SCENARIO LEVEL OF SERVICE:	A	A	A	A	A

NOTES:  
 (A) RTOR OVERLAP WITH SB LT

Printed: 08/03/05

**ALL-WAY STOP CONTROL ANALYSIS**

Project ID LAKE VIEW STATES #05024  
 East/West Street SLOAN CANYON ROAD North/South Street THE OLD ROAD  
 Analyst DL\_EX\_PM Intersection SLOAN CYN RD/THE OLD RD  
 Agency/Co. ATE-D.L. Jurisdiction LA. COUNTY  
 Date Performed 7/1/2005 Analysis Year 2005  
 Analysis Time Period P.M. PEAK HOUR

Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Volume	19	42	4	67	85	348
%Thrus Left Lane	60			50		

Approach	Northbound			Southbound			
	L	T	R	L	T	R	R
Volume	11	66	90	156	52	7	
%Thrus Left Lane	50						

Configuration	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate	19	46	67	433	11	166	156	59
% Heavy Vehicles	4	4	4	4	4	4	4	4
No. Lanes	2		2		2		2	
Geometry Group	5		5		5		5	
Duration, T	1.00							

Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0	0.1	0.0	0.8	0.0	0.6	0.0	0.1
Prop. Heavy Vehicle								
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83

hd, initial value	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
hd, initial	0.02	0.04	0.06	0.38	0.01	0.14	0.14	0.05
hd, final value	6.83	6.83	6.83	6.83	6.83	6.83	6.83	6.83
x, final value	0.04	0.08	0.12	0.63	0.02	0.26	0.29	0.10
Move-up time, m	2.3		2.3		2.3		2.3	
Service Time	4.5	4.0	4.5	4.0	4.5	4.0	4.5	4.0

Capacity	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	269	296	317	673	261	406	406	309
Delay	9.78	9.51	9.83	16.69	9.72	10.74	12.28	8.59
LOS	A	A	A	C	A	B	B	A
Approach: Delay	9.59		16.77		10.68		11.54	
LOS	A		C		B		B	
Intersection Delay	13.49							
Intersection LOS	B							

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Version 4.16

### ALL-WAY STOP CONTROL ANALYSIS

Project ID LAKE VIEW ESTATES #05024		Intersection: SLOAN CANY RD/THE OLD RD	
Analyst: 01_BASELINE_PM	Agency/Co. ATE - D.L.	Jurisdiction: L.A. COUNTY	Analysis Year: YEAR 2008
Date Performed: 7/11/2005	Analysis Time Period: P.M. PEAK HOUR		

East/West Street: SLOAN CANYON ROAD	North/South Street: THE OLD ROAD
-------------------------------------	----------------------------------

Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume	22	48	5	76	97	396
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume	13	75	102	178	59	8
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	L	TR	L	TR
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate	22	53	76	493	13	177	178	67
% Heavy Vehicles	4	4	4	4	4	4	4	4
No. Lanes	2		2		2		2	
Geometry Group	5		5		5		5	
Duration, T	1.00							

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0	0.1	0.0	0.8	0.0	0.6	0.0	0.1
Prop. Heavy Vehicle								
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	7.19	7.19	7.19	7.19	7.19	7.19	7.19	7.19

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.02	0.05	0.07	0.44	0.01	0.16	0.16	0.06
hd, final value	7.19	7.19	7.19	7.19	7.19	7.19	7.19	7.19
x, final value	0.04	0.10	0.14	0.75	0.03	0.31	0.35	0.12
Move-up time, m	2.3		2.3		2.3		2.3	
Service Time	4.9	4.3	4.9	4.3	4.9	4.3	4.9	4.3

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	272	303	326	649	263	427	428	317
Delay	10.22	10.04	10.26	23.77	10.10	11.83	13.60	10.10
LOS	B	B	B	C	B	B	B	B
Approach Delay	10.09		21.97		11.71		12.65	
LOS	B		C		B		B	
Intersection Delay	17.22							
Intersection LOS	C							

### ALL-WAY STOP CONTROL ANALYSIS

Project ID LAKE VIEW ESTATES #05024		Intersection: SLOAN CANY RD/THE OLD RD	
Analyst: 01_BASELINE+PR_PM	Agency/Co. ATE - D.L.	Jurisdiction: L.A. COUNTY	Analysis Year: YEAR 2008+PROJECT
Date Performed: 7/11/2005	Analysis Time Period: P.M. PEAK HOUR		

East/West Street: SLOAN CANYON ROAD	North/South Street: THE OLD ROAD
-------------------------------------	----------------------------------

Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Movement						
Volume	22	48	6	77	97	396
%Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Movement						
Volume	14	77	119	178	66	8
%Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	L	TR	L	TR
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate	22	54	77	493	14	196	178	74
% Heavy Vehicles	4	4	4	4	4	4	4	4
No. Lanes	2		2		2		2	
Geometry Group	5		5		5		5	
Duration, T	1.00							

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0	0.1	0.0	0.8	0.0	0.6	0.0	0.1
Prop. Heavy Vehicle								
hLT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
hRT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
hadj, computed	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
x, initial	0.02	0.05	0.07	0.44	0.01	0.17	0.16	0.07
hd, final value	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29
x, final value	0.04	0.10	0.14	0.76	0.03	0.34	0.35	0.14
Move-up time, m	2.3		2.3		2.3		2.3	
Service Time	5.0	4.4	5.0	4.4	5.0	4.4	5.0	4.4

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	272	304	327	639	264	446	428	324
Delay	10.33	10.17	10.39	25.01	10.16	12.34	13.76	10.31
LOS	B	B	B	D	B	B	B	B
Approach Delay	10.22		23.04		12.19		12.74	
LOS	B		C		B		B	
Intersection Delay	17.76							
Intersection LOS	C							

**ALL-WAY STOP CONTROL ANALYSIS**

Analyst: <b>01_CUMU_PM</b>	Intersection: <b>SLOAN CYN RD/THE OLD RD</b>
Agency/Co.: <b>ATE - D.L.</b>	Jurisdiction: <b>L.A. COUNTY</b>
Date Performed: <b>7/27/2005</b>	Analysis Year: <b>CUMULATIVE</b>
Analysis Time Period: <b>P.M. PEAK HOUR</b>	

Project ID: **LAKE VIEW ESTATES #05024**  
 East/West Street: **SLOAN CANYON ROAD** North/South Street: **THE OLD ROAD**

Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Volume	139	71	24	101	99	1017
Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Volume	146	164	152	443	119	36
Thrus Left Lane	50			50		

Configuration	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	L	TR	L	TR
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate	139	95	101	1116	146	316	443	155
Heavy Vehicles	4	4	4	4	4	4	4	4
No. Lanes	2		2		2		2	
Geometry Group	5		5		5		5	
Duration, T	1.00							

Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0	0.3	0.0	0.9	0.0	0.5	0.0	0.2
Prop. Heavy Vehicle								
LT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
RT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
HV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
adjf, computed	9.65	9.65	9.65	9.65	9.65	9.65	9.65	9.65
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
ix, initial	0.12	0.08	0.09	0.99	0.13	0.28	0.39	0.14
fd, final value	9.65	9.65	9.65	9.65	9.65	9.65	9.65	9.65
fc, final value	0.37	0.24	0.25	2.40	0.37	0.73	1.09	0.35
Move-up time, m	2.3		2.3		2.3		2.3	
Service Time	7.3	6.7	7.3	6.7	7.3	6.7	7.3	6.7

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	369	345	351	1116	394	435	443	405
Delay	18.04	14.45	14.52	2542	17.09	31.86	243.54	15.30
LOS	C	B	B	F	C	D	F	C
Approach: Delay	16.58		2333		27.19		184.38	
LOS	C		F		D		F	
Intersection Delay	1181							
Intersection LOS	F							

**ALL-WAY STOP CONTROL ANALYSIS**

Analyst: <b>01_CUMU+PR_PM</b>	Intersection: <b>SLOAN CYN RD/THE OLD RD</b>
Agency/Co.: <b>ATE - D.L.</b>	Jurisdiction: <b>L.A. COUNTY</b>
Date Performed: <b>7/27/2005</b>	Analysis Year: <b>CUMULATIVE+PROJECT</b>
Analysis Time Period: <b>P.M. PEAK HOUR</b>	

Project ID: **LAKE VIEW ESTATES #05024**  
 East/West Street: **SLOAN CANYON ROAD** North/South Street: **THE OLD ROAD**

Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Volume	139	71	25	102	99	1017
Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Volume	147	166	169	443	126	36
Thrus Left Lane	50			50		

Configuration	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	L	TR	L	TR	L	TR	L	TR
PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flow Rate	139	96	102	1116	147	335	443	162
Heavy Vehicles	4	4	4	4	4	4	4	4
No. Lanes	2		2		2		2	
Geometry Group	5		5		5		5	
Duration, T	1.00							

Prop. Left-Turns	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Prop. Right-Turns	0.0	0.3	0.0	0.9	0.0	0.5	0.0	0.2
Prop. Heavy Vehicle								
LT-adj	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
RT-adj	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
HV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
adjf, computed	9.70	9.70	9.70	9.70	9.70	9.70	9.70	9.70
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
ix, initial	0.12	0.09	0.09	0.99	0.13	0.30	0.39	0.14
fd, final value	9.70	9.70	9.70	9.70	9.70	9.70	9.70	9.70
fc, final value	0.37	0.24	0.25	2.42	0.37	0.77	1.09	0.37
Move-up time, m	2.3		2.3		2.3		2.3	
Service Time	7.4	6.7	7.4	6.7	7.4	6.7	7.4	6.7

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	367	346	352	1116	394	435	443	412
Delay	18.19	14.58	14.66	2575	17.18	36.77	253.03	15.76
LOS	C	B	B	F	C	E	F	C
Approach: Delay	16.71		2360		30.80		189.50	
LOS	C		F		D		F	
Intersection Delay	1184							
Intersection LOS	F							

COUNT DATE:	04/2005	REF 01_PM_MIT										
TIME PERIOD:	P.M. PEAK HOUR											
N/S STREET:	THE OLD ROAD	<b>MITIGATED INTERSECTION</b>										
E/W STREET:	SLOAN CANYON ROAD	<b>THE OLD RD WIDENING PROJECT/SIGNALIZED/DOUBLE WB RT LANES</b>										
CONTROL TYPE:	SIGNAL											
<b>VOLUMES</b>												
	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
(A) EXISTING:	11	66	90	156	52	7	19	42	4	57	85	348
(B) YEAR 2008:	2	9	12	22	7	1	3	6	1	9	12	48
(C) PROJECT:	1	2	17	0	7	0	0	0	1	1	0	0
(D) CUMULATIVE ADDED:	133	89	30	263	60	28	117	23	19	25	2	621
<b>FUTURE GEOMETRICS</b>												
	NORTH BOUND			SOUTH BOUND			EAST BOUND			WEST BOUND		
	L	T	R	L	T	R	L	T	R	L	T	R
SCENARIO 1 = EXISTING VOLUMES (A)												
SCENARIO 2 = YEAR 2008 VOLUMES (A+B)												
SCENARIO 3 = YEAR 2008 + PROJECT VOLUMES (A+B+C)												
SCENARIO 4 = CUMULATIVE VOLUMES (A+B+D)												
SCENARIO 5 = CUMULATIVE + PROJECT VOLUMES (A+B+C+D)												
<b>SCENARIO VOLUMES</b>												
MOVEMENTS	# OF LANES	CAPACITY	1	2	3	4	5	1	2	3	4	5
NBL	1	1600	11	13	14	146	147	0.007	0.008	0.009	0.091	0.092
NBT	1	1600	66	75	77	164	166	0.041	0.047	0.048	0.103	0.104
NBR	1	1600	90	102	119	152	169	0.056	0.064	0.074	0.095	0.106
SBL	1	1600	156	178	178	443	443	0.098	0.111	0.111	0.277	0.277
SBT	1	1600	52	59	66	119	126	0.033	0.037	0.041	0.074	0.079
SBR	1	1600	7	8	8	36	36	0.004	0.005	0.005	0.023	0.023
EBL	1	1600	19	22	22	139	139	0.012	0.014	0.014	0.087	0.087
EBT	2	3200	42	48	48	71	71	0.014	0.017	0.017	0.030	0.030
EBR	0	0	4	5	6	24	25	-	-	-	-	-
WBL	1	1600	67	76	77	101	102	0.042	0.048	0.048	0.063	0.064
WBT	2	3200	85	97	97	59	99	0.076	0.086	0.086	0.174	0.174
WBR (a)	0	0	157	178	178	458	458	-	-	-	-	-
<b>LOS TIME:</b>								0.100	0.100	0.100	0.100	0.100
<b>TOTAL INTERSECTION CAPACITY UTILIZATION:</b>								0.33	0.36	0.36	0.74	0.74
<b>SCENARIO LEVEL OF SERVICE:</b>								A	A	A	C	C
<b>NOTES:</b>												
(a) RTOR OVERLAP WITH SB LT												

Printed: 05/04/05

ALL-WAY STOP CONTROL ANALYSIS										
Analyst: 02_EX_AM					Intersection: PARKER RD/THE OLD RD					
Agency/Co.: ATE -D.L.					Jurisdiction: L.A. COUNTY					
Date Performed: 7/11/2005					Analysis Year: 2005					
Analysis Time Period: A.M. PEAK HOUR										
Project ID LAKE VIEW ESTATES #09024										
East/West Street: PARKER ROAD					North/South Street: THE OLD ROAD					
APPROACH										
Eastbound					Westbound					
Movement	L	T	R	L	T	R	L	T	R	
Volume	7	173	30	43	48	23				
%Thrus Left Lane	50			50						
Northbound					Southbound					
Movement	L	T	R	L	T	R	L	T	R	
Volume	17	53	53	25	56	2				
%Thrus Left Lane	50			50						
Configuration										
	Eastbound		Westbound		Northbound		Southbound			
	L1	L2	L1	L2	L1	L2	L1	L2		
Configuration	LT	R	LTR		LTR		LTR			
PHF	1.00	1.00	1.00		1.00		1.00			
Flow Rate	180	30	114		123		83			
% Heavy Vehicles	4	4	4		4		4			
No. Lanes	2		1		1		1			
Geometry Group	5		4a		2		2			
Duration, T	1.00									
DEPARTURE DELTA										
Prop. Left-Turns	0.0	0.0	0.4		0.1		0.3			
Prop. Right-Turns	0.0	1.0	0.2		0.4		0.0			
Prop. Heavy Vehicle										
hLT-adj	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	
hRT-adj	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	
hHV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
hadj, computed	5.22	5.22	5.22	5.22	5.22	5.22	5.22	5.22	5.22	
DEPARTURE DELTA										
hd, initial value	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20	
k, initial	0.16	0.03	0.70		0.11		0.07			
hd, final value	5.22	5.22	5.22	5.22	5.22	5.22	5.22	5.22	5.22	
k, final value	0.26	0.04	0.15		0.16		0.11			
Move-up time, m	2.3		2.0		2.0		2.0		2.0	
Service Time	2.9	2.2	2.9	2.2	2.9	2.2	2.9	2.2	2.9	2.2
CAPACITY AND DELAY										
Eastbound					Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2		
Capacity	430	280	364		373		333			
Delay	9.76	7.37	8.69		8.55		8.64			
LOS	A	A	A		A		A			
Approach Delay	9.42		8.69		8.55		8.64			
LOS	A		A		A		A			
Intersection Delay	8.94									
Intersection LOS	A									

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ALL-WAY STOP CONTROL ANALYSIS										
General Information					Site Information					
Analyst	02_BASELINE_AM				Intersection		PARKER RD/THE OLD RD			
Agency/Co.	ATE - D.L.				Justification		L.A. COUNTY			
Date Performed	7/11/2005				Analysis Year		YEAR 2008			
Analysis Time Period	A.M. PEAK HOUR									
Project ID LAKE VIEW ESTATES #05024										
East/West Street: PARKER ROAD					North/South Street: THE OLD ROAD					
Volume and Saturation										
Approach	Eastbound				Westbound					
	L	T	R		L	T	R			
Movement										
Volume	8	197	34		49	55	26			
%Thrus Left Lane	50				50					
Approach	Northbound				Southbound					
	L	T	R		L	T	R			
Movement										
Volume	19	60	60		28	64	2			
%Thrus Left Lane	50				50					
Configuration	Eastbound		Westbound		Northbound		Southbound			
	L1	L2	L1	L2	L1	L2	L1	L2		
Configuration	LTR	R	LTR		LTR		LTR			
PHF	1.00	1.00	1.00		1.00		1.00			
Flow Rate	205	34	130		139		94			
% Heavy Vehicles	4	4	4		4		4			
No. Lanes	2		1		1		1			
Geometry Group	5		4a		2		2			
Duration, T	1.00									
Saturation and Delay										
Prop. Left-Turns	0.0	0.0	0.4		0.1		0.3			
Prop. Right-Turns	0.0	1.0	0.2		0.4		0.0			
Prop. Heavy Vehicle										
hLT-adj	0.5	0.5	0.2		0.2		0.2		0.2	
hRT-adj	-0.7	-0.7	-0.6		-0.6		-0.6		-0.6	
hHV-adj	1.7	1.7	1.7		1.7		1.7		1.7	
hadj, computed	5.33	5.33	5.33		5.33		5.33		5.33	
Delay and Queue										
hd, initial value	3.20	3.20	3.20		3.20		3.20		3.20	
x, initial	0.18	0.03	0.12		0.12		0.08		0.10	
hd, final value	5.33	5.33	5.33		5.33		5.33		5.79	
x, final value	0.30	0.04	0.18		0.19		0.13		0.18	
Move-up time, m	2.3		2.0		2.0		2.0		2.0	
Service Time	3.0	2.3	3.0	2.3	3.0	2.3	3.0	2.3	3.5	
Capacity and Delay										
Capacity	Eastbound		Westbound		Northbound		Southbound			
	L1	L2	L1	L2	L1	L2	L1	L2		
Capacity	455	284	380		389		344			
Delay	10.36	7.52	9.04		8.91		8.95			
LOS	B	A	A		A		A			
Approach Delay	9.95		9.04		8.91		8.95			
LOS	A		A		A		A			
Intersection Delay	9.36									
Intersection LOS	A									

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ALL-WAY STOP CONTROL ANALYSIS										
General Information					Site Information					
Analyst	02_BASELINE+PR_AM				Intersection		PARKER RD/THE OLD RD			
Agency/Co.	ATE - D.L.				Justification		L.A. COUNTY			
Date Performed	7/11/2005				Analysis Year		YEAR 2008+PROJECT			
Analysis Time Period	A.M. PEAK HOUR									
Project ID LAKE VIEW ESTATES #05024										
East/West Street: PARKER ROAD					North/South Street: THE OLD ROAD					
Volume and Saturation										
Approach	Eastbound				Westbound					
	L	T	R		L	T	R			
Movement										
Volume	8	197	38		167	55	26			
%Thrus Left Lane	50				50					
Approach	Northbound				Southbound					
	L	T	R		L	T	R			
Movement										
Volume	21	68	104		28	87	2			
%Thrus Left Lane	50				50					
Configuration	Eastbound		Westbound		Northbound		Southbound			
	L1	L2	L1	L2	L1	L2	L1	L2		
Configuration	LTR	R	LTR		LTR		LTR			
PHF	1.00	1.00	1.00		1.00		1.00			
Flow Rate	205	38	248		193		117			
% Heavy Vehicles	4	4	4		4		4			
No. Lanes	2		1		1		1			
Geometry Group	5		4a		2		2			
Duration, T	1.00									
Saturation and Delay										
Prop. Left-Turns	0.0	0.0	0.7		0.1		0.2			
Prop. Right-Turns	0.0	1.0	0.1		0.5		0.0			
Prop. Heavy Vehicle										
hLT-adj	0.5	0.5	0.2		0.2		0.2		0.2	
hRT-adj	-0.7	-0.7	-0.6		-0.6		-0.6		-0.6	
hHV-adj	1.7	1.7	1.7		1.7		1.7		1.7	
hadj, computed	5.79	5.79	5.79		5.79		5.79		5.79	
Delay and Queue										
hd, initial value	3.20	3.20	3.20		3.20		3.20		3.20	
x, initial	0.18	0.03	0.22		0.17		0.10		0.10	
hd, final value	5.79	5.79	5.79		5.79		5.79		5.79	
x, final value	0.33	0.05	0.37		0.28		0.18		0.18	
Move-up time, m	2.3		2.0		2.0		2.0		2.0	
Service Time	3.5	2.8	3.5	2.8	3.5	2.8	3.5	2.8	3.5	
Capacity and Delay										
Capacity	Eastbound		Westbound		Northbound		Southbound			
	L1	L2	L1	L2	L1	L2	L1	L2		
Capacity	455	288	498		443		367			
Delay	11.32	8.04	11.60		10.22		9.96			
LOS	B	A	B		B		A			
Approach Delay	10.81		11.60		10.22		9.96			
LOS	B		B		B		A			
Intersection Delay	10.79									
Intersection LOS	B									

HCS2000™

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Version 4.1d

### ALL-WAY STOP CONTROL ANALYSIS

Project Information		Site Information	
Analyst Agency/Co. Date Performed Analysis Time Period	02_CUMULAM ATE - D.L. 7/27/2005 A.M. PEAK HOUR	Intersection Jurisdiction Analysis Year	PARKER RD/THE OLD RD L.A. COUNTY CUMULATIVE

Object ID LAKE VIEW ESTATES #05024	North/South Street THE OLD ROAD
East/West Street PARKER ROAD	

Approach	Eastbound			Westbound		
	L	T	R	L	T	R
Volume	20	288	41	91	78	184
Thrus Left Lane	50			50		

Approach	Northbound			Southbound		
	L	T	R	L	T	R
Volume	20	97	104	89	124	17
Thrus Left Lane	50			50		

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Configuration	LT	R	LTR		LTR		LTR	
PF	1.00	1.00	1.00		1.00		1.00	
Flow Rate	308	41	353		221		230	
Heavy Vehicles	4	4	4		4		4	
Adj. Lanes	2		1		1		1	
Geometry Group	5		4a		2		2	
Friction, T	1.00							

Prop. Left-Turns	0.1	0.0	0.3		0.1		0.4	
Prop. Right-Turns	0.0	1.0	0.5		0.5		0.1	
Prop. Heavy Vehicle								
LT-adj	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.2
RT-adj	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
HV-adj	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
adj, computed	6.83	6.83	6.83		6.83		6.83	

hd, initial value	3.20	3.20	3.20		3.20		3.20	
ix, initial	0.27	0.04	0.31		0.20		0.20	
sd, final value	6.83	6.83	6.83		6.83		6.83	
xs, final value	0.58	0.07	0.60		0.40		0.43	
Move-Up time, m		2.3		2.0		2.0		2.0
Service Time	4.5	3.8	4.5	3.8	4.5	3.8	4.5	3.8

	Eastbound		Westbound		Northbound		Southbound	
	L1	L2	L1	L2	L1	L2	L1	L2
Capacity	499	291	551		471		473	
Delay	18.99	8.23	18.35		13.86		14.91	
LOS	C	A	C		B		B	
Approach: Delay	17.84		18.35		13.86		14.91	
LOS	C		C		B		B	
Intersection Delay	16.55							
Intersection LOS	C							

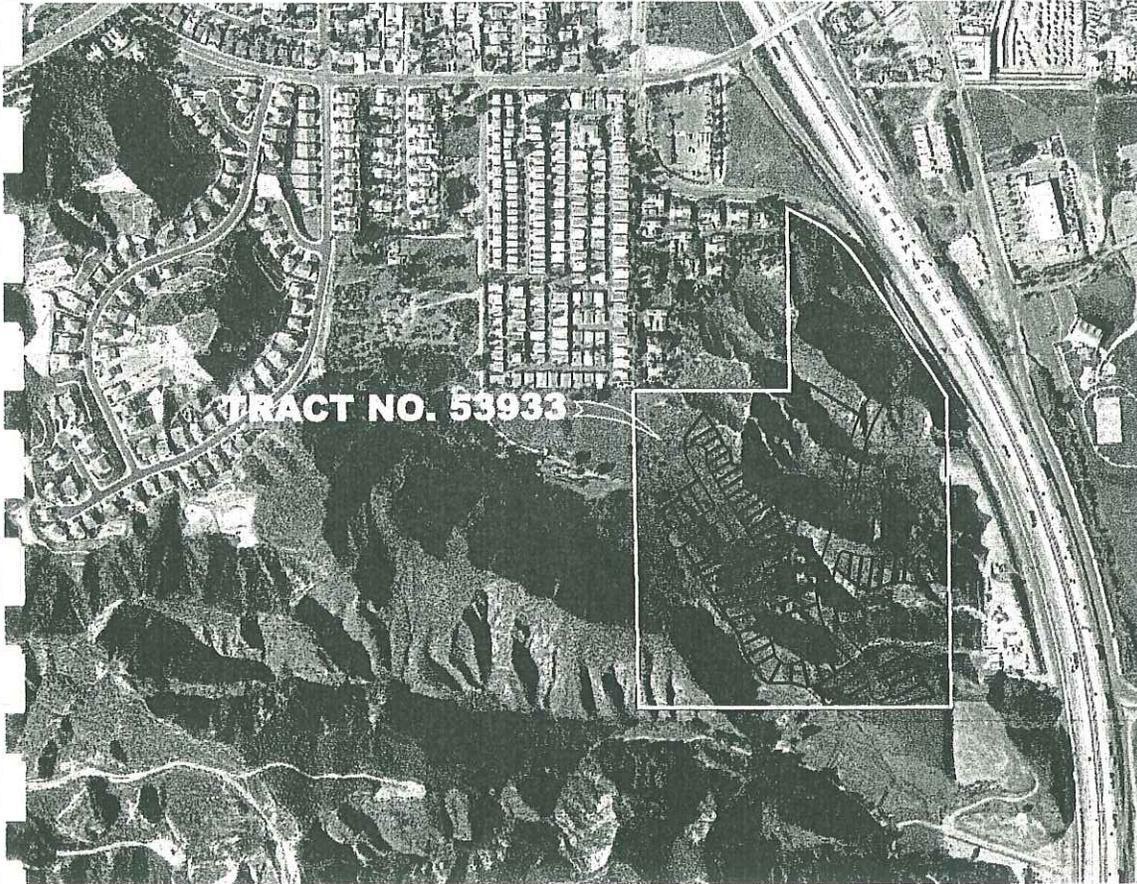
## **Appendix G**

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*Sewer Area Study For Tentative Tract 53933  
PC12076 AS The Old Road Castaic, CA  
Los Angeles County TG4459-H1  Will Serve Letter*

Sewer Area Study  
For  
**TENTATIVE TRACT 53933**  
**PC 12076 AS**  
**THE OLD ROAD**  
**CASTAIC, CALIFORNIA**  
**Los Angeles County TG 4459-H1**

AUG 14 2008

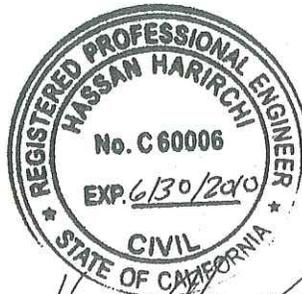


TRACT NO. 53933

Prepared for:  
Bahram Safavi  
P.O. Box 34898  
Los Angeles, CA 90034

Prepared by:  
SR Consultants West, Inc.  
25322 Rye Canyon Rd. Suite # 201  
Santa Clarita, CA 91355  
(661) 257-6570

July 2008



SEWER AREA STUDY  
APPROVED

APPROVED BY: Imelda RCE NO. 70745 DATE 7/30/08

CHECKED BY: [Signature] DATE 7/30/08

COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
LAND DEVELOPMENT DIVISION

**SR CONSULTANTS WEST, INC.**  
PLANNING • ENGINEERING  
SURVEYORS



25322 Rye Canyon Road Suite 201  
Santa Clarita, CA 91355  
Phone: (661) 257-6570  
Fax: (661) 257-6577

July 30th, 2008

Mr. Alan Ma, PE  
Land Development Div  
County of Los Angeles  
Department of Public Works  
900 So. Fremont Avenue, 3<sup>rd</sup> Floor  
Alhambra, CA 91803  
(626) 458-4921

Dear Mr. Ma

As the engineer of record I hereby certify that I have reviewed the land use designation contained with the sewer area study for Tract 46798 approved by Department of Public Works on March 14, 2007, and have determined that the identified land uses and densities have not changed nor have they been designated with higher densities than current development conditions allow. In addition, the calculated sewer discharges accurately represent current land uses and densities including the sewer discharge from this development and all future development (based on the existing zoning / land use plan) will not overload any existing downstream sewers, based on the County's current standards for sewer capacity.

If you have any questions or comments, please do not hesitate to contact me at (661)257-6570.

Sincerely,

Hassan Harirchi, PE  
SR Consultants West, Inc



A handwritten signature in black ink, appearing to read 'Hassan Harirchi', written over the bottom portion of the professional seal.

7-30-08

Sewer Area Study

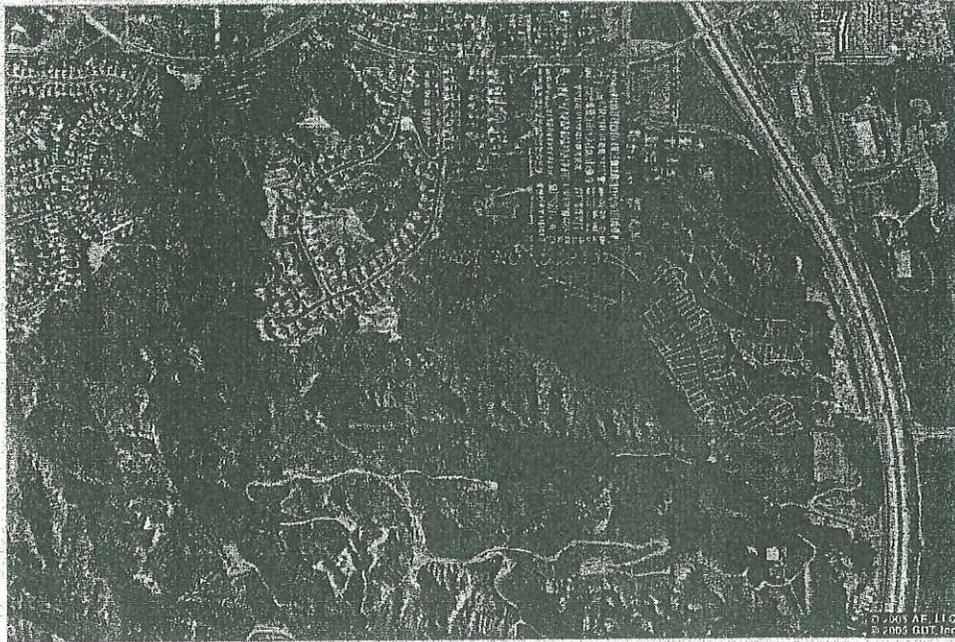
# Tentative Tract 53933

## PC 12076 AS

The Old Road

Castaic, California

Los Angeles County TG 4459 – H1



Prepared for:

**Bahram Safavi**

P.O. Box 34898

Los Angeles, CA 90034



SR Consultants West, INC.  
25322 Rye Canyon Road, Suite 201  
Santa Clarita, CA 91355  
661-257-6570

**SEWER AREA STUDY**

**TRACT 53933**  
**Castaic, California**  
**70 Single Family Lots**  
**3 Commercial Lots**  
**APN #'s 2865-012-015, 014, 002, 005**  
**PC 12076 AS**

*Prepared for:*

Bahram Safavi  
P.O. Box 34898  
Los Angeles, CA 90034

*Prepared by:*

SR Consultants West, INC.  
25322 Rye Canyon Road, Suite 201  
Santa Clarita, CA 91355  
**661-257-6570**  
jspence@srconsultantswest.com

July 30, 2008  
928-001

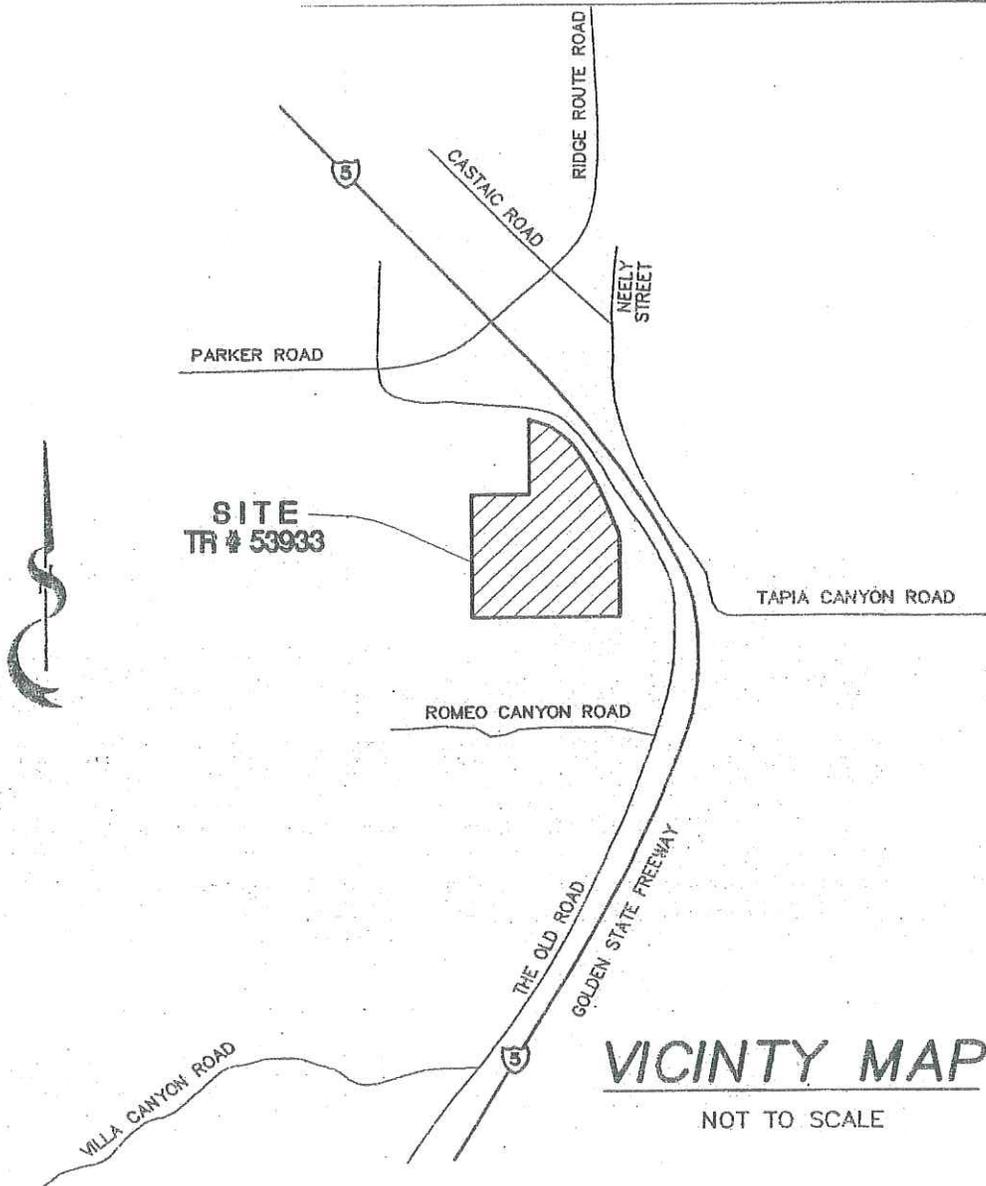
# TABLE OF CONTENTS

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I. VICINITY MAP.....	1
II. INTRODUCTION.....	2
III. METHODOLOGY.....	2
IV. CONCLUSION.....	3
V. HYDRAULIC CALCULATIONS.....	4

## ATTACHMENTS

Attachment A .....	Hydraulic Calculations
Attachment B .....	Sewer Area Study Map
Attachment C .....	Los Angeles County Sewer Manual Coefficients
Attachment D .....	Existing Sewer Plans

I. VICINITY MAP



CASTAIC, CALIFORNIA  
UNINCORPORATE LOS ANGELES COUNTY  
TG 4459 H-1



LAND PLANNING • ENGINEERING • SURVEYING  
25322 RYE CANYON ROAD, SUITE 201, SANTA CLARITA, CA 91355  
Phone : (661) 257-6570, Fax : (661) 257-6577

## **II. SITE LOCATION AND PURPOSE**

SR Consultants West, Inc., (SRCW) on behalf of Bahram Safavi, has prepared this sewer area study for Tentative Tract # 53933 located in Castaic, California APN #'s 2865-012-015, 2865-012-014, 2865-012-002 and 2865-012-005; Thomas Guide page number 4459 – H1; CSMD # N-1213. Tentative Tract No. 53933 consists of 47.25 gross acres and is proposed to be developed into 70 single family residential lots and 4.27 acres of commercial use. The project is located in the Castaic area of unincorporated Los Angeles County. The project is located west of The Old Road approximately 0.15 miles south of Parker Road. The project is bounded by existing condominiums (TR # 34365), the Castaic Mobile Park to the north, open space to the west and south, building materials supply yard to the southeast corner, and proposed Tract No. 46798 to the south. SRCW has performed this sewer area study to analyze the impact of this new residential/commercial site on the County of Los Angeles sewer collection system downstream of the project to its point of connection to the Los Angeles County Sanitation District main.

## **III. METHODOLOGY**

The Kutter Equation was used to determine the adequacy of the existing sewer mains. The "N" Factor used was 0.013. Since Tract # 53933 was included in the ultimate study of Tract # 46798, PC 11993 AS, we referenced all existing plans and index maps within that master sewer area study.

## **IV. CONCLUSION**

Tract 46798 is adjacent to the southerly boundary of this project. A detailed sewer area study was prepared for Tract 46798 & approved by Los Angeles County Department of Public Works on March 14, 2007. The approved sewer area study for Tract 46798 analyzed contributory existing & future developments (ultimate development). Tract 53933 was identified as a future development in this approved report.

The Los Angeles County Department of Public Works has requested a hydraulic analysis of the existing sewer system in The Old Road from the point of connection for Tract 53933 to the trunk sewer. The hydraulic analysis for the ultimate condition was performed and included with this report. This analysis shows that the proposed project has an insignificant impact on the existing trunk sewer, and the existing sewer main from this projects point of connection to the trunk on The Old Road.

**SEWER AREA STUDY  
STUDY 1 - ULTIMATE CONDITION**

AREA	PEAK Q (cfs)	REMARKS
1	0.029	Assumed Ultimate Developed Condition
2	0.092	Existing Tract 47646/47646-01
3	0.028	Existing Tract 33963
4	0.054	Existing Tract 34385
5	0.096	Existing Tract 23611
6	0.017	Assumed Ultimate Developed Condition
7	0.203	Existing
8	0.076	Existing Tract 34365
9	0.004	Assumed Ultimate Developed Condition
10	0.021	Assumed Ultimate Developed Condition
11	0.134*	Proposed Tract No. 53933
12	0.005	Commercial Site per Application submitted to Los Angeles County regional Board
13	0.006	Assumed Ultimate Developed Condition
14	0.160	Assumed Ultimate Developed Condition
15	0.066	Assumed Ultimate Developed Condition
16	0.004	Assumed Ultimate Developed Condition
17	0.006	Assumed Ultimate Developed Condition
18	0.037	Tract No. 46798
<b>Total Q (cfs) =</b>		<b>1.038</b>

Note: For detail calculations please see calculation tables (Attachment A)

\* 70 Single Family Homes(0.001 cfs) = 0.07 cfs

4.27 Acres of Commerical Use(0.015 cfs) = 0.06405 cfs

0.07 cfs + 0.064 cfs = 0.134 cfs

*Attachment A*  
*Hydraulic Calculations*

Sewer Area Study Tr # 53933  
Ultimate Condition

Street Name	Segment		Pipe		*Capacity		Area (Acres)	Zoning Coeff	Calculated Flow (cfs)	***Cumulative Calculated Flows (cfs)	PC or PI Construction Plan #	*****Comment	%Full	
	MH #	MH # per Tract #	Size (in.)	Slope (%)	1/2 Full (<15")	3/4 Full (>15")							*** Flow Depth/ (0.75 x Pipe Diam.)	Calculated Flow/Capacity
The Old Road	85	Prop. MH per Tract # 53933	15	3.16		10.35	****	Varies	0.631	0.651	9493R	Areas 1-10, 12, and 13	22.50%	6.10%
The Old Road		Prop. MH per Tract # 53933	15	3.16		10.35	****	Varies	0.134	0.765	9493R	Area 11	24.64%	7.39%
The Old Road	86	87	15	3.80		11.36	****	Varies	NA	0.765	9493R	No Cumulative Flow	23.57%	6.73%
The Old Road	87	88	15	4.80		12.76	****	Varies	NA	0.765	9493R	No Cumulative Flow	22.29%	6.00%
The Old Road	88	89	15	1.24		6.48	****	Varies	NA	0.765	9493R	No Cumulative Flow	30.72%	11.81%
The Old Road	89	90	15	0.24		2.84	****	Varies	NA	0.765	9493R	No Cumulative Flow	45.97%	26.94%
The Old Road	90	91	18	0.16		3.80	****	Varies	0.160	0.925	9493R	Area 14	43.56%	24.34%
The Old Road	91	92	18	0.16		3.80	****	Varies	NA	0.925	9493R	No Cumulative Flow	43.56%	24.34%
The Old Road	92	93	18	0.20		4.26	****	Varies	0.076	1.001	9493R	Areas 15-17	42.84%	23.50%
The Old Road	93	Prop MH per TR # 46798	15	11.00		19.33	****	Varies	NA	1.001	9493R	No Cumulative Flow	20.80%	5.18%
The Old Road		Prop MH per TR # 46798	15	11.00		19.33	****	Varies	0.037	1.038	9493R	Area 18	21.23%	5.37%

\*Calculated using Kutter's Formula with n=0.013 (as in S-C4 graph in PC Procedural Manual)

\*\*Based on current land use and coefficient per L.A. County, (Attach supporting calculations)

\*\*\*For pipes > 15" Full should be calculated by taking the flow depth divided by 0.75 times the pipe diameter

\*\*\*\* Area (AC) per approved Sewer Area Study TR # 46798, PC 11993 AS

\*\*\*\*\* Area Numbers per approved Sewer Area Study TR # 46798, PC 11993 AS

Varies - Zoning Coefficient per approved Sewer Area Study TR # 46798, PC 11993 AS

Prop MH - Proposed Manhole for Tract # 46798 to connect to the Sewer Main on The Old Road

Trunk - Trunk Line - 15" VCP CASTAIC TRUNK SEWER SEC 4 SAN DIST NO. 32

---

---

**ULTIMATE CONDITION FROM MH 85 TO PROPOSED MH PER**  
**TRACT # 53933**

**Project Description**

Friction Method:                      Kutter Formula  
Solve For:                                Normal Depth

**Input Data**

Roughness Coefficient:                      0.013  
Channel Slope:                                0.0316 ft/ft  
Diameter:                                      1.25 ft  
Discharge:                                     0.631 cfs

**Results**

Normal Depth:                                0.211 ft  
Flow Area:                                    0.14 sf  
Critical Depth:                                0.310 ft  
Percent Full:                                 16.87 %  
Critical Slope:                                0.0062 ft/ft  
Velocity:                                      4.61 fps  
Froude Number:                                2.13  
Maximum Discharge:                            12.18 cfs  
Discharge Full:                                11.20 cfs

---

---

ULTIMATE CONDITION FROM PROPOSED MH PER  
TRACT # 53933 TO MH 86

**Project Description**

Friction Method:                      Kutter Formula  
Solve For:                                Normal Depth

**Input Data**

Roughness Coefficient:                      0.013  
Channel Slope:                                0.0316 ft/ft  
Diameter:                                      1.25 ft  
Discharge:                                     0.765 cfs

**Results**

Normal Depth:                                0.231 ft  
Flow Area:                                    0.16 sf  
Critical Depth:                               0.343 ft  
Percent Full:                                18.44 %  
Critical Slope:                               0.0060 ft/ft  
Velocity:                                      4.92 fps  
Froude Number:                               2.16  
Maximum Discharge:                        12.18 cfs  
Discharge Full:                               11.20 cfs

---

---

ULTIMATE CONDITION FROM MH 86 TO MH 87

**Project Description**

Friction Method:                      Kutter Formula  
Solve For:                                Normal Depth

**Input Data**

Roughness Coefficient:                      0.013  
Channel Slope:                                0.0380 ft/ft  
Diameter:                                      1.25 ft  
Discharge:                                     0.765 cfs

**Results**

Normal Depth:                                0.221 ft  
Flow Area:                                    0.15 sf  
Critical Depth:                                0.343 ft  
Percent Full:                                 17.67 %  
Critical Slope:                                0.0060 ft/ft  
Velocity:                                       5.23 fps  
Froude Number:                               2.35  
Maximum Discharge:                         13.36 cfs  
Discharge Full:                                12.28 cfs

---

---

## ULTIMATE CONDITION FROM MH 87 TO MH 88

### Project Description

Friction Method:                      Kutter Formula  
Solve For:                                Normal Depth

### Input Data

Roughness Coefficient:                      0.013  
Channel Slope:                                0.0480 ft/ft  
Diameter:                                      1.25 ft  
Discharge:                                     0.765 cfs

### Results

Normal Depth:                                0.209 ft  
Flow Area:                                    0.14 sf  
Critical Depth:                                0.343 ft  
Percent Full:                                 16.74 %  
Critical Slope:                                0.0060 ft/ft  
Velocity:                                      5.65 fps  
Froude Number:                                2.62  
Maximum Discharge:                         15.02 cfs  
Discharge Full:                                13.80 cfs

---

---

## ULTIMATE CONDITION FROM MH 88 TO MH 89

### Project Description

Friction Method:                      Kutter Formula  
Solve For:                                Normal Depth

### Input Data

Roughness Coefficient:                      0.013  
Channel Slope:                                0.0124 ft/ft  
Diameter:                                      1.25 ft  
Discharge:                                    0.765 cfs

### Results

Normal Depth:                                0.288 ft  
Flow Area:                                    0.21 sf  
Critical Depth:                                0.343 ft  
Percent Full:                                 22.99 %  
Critical Slope:                                0.0060 ft/ft  
Velocity:                                      3.59 fps  
Froude Number:                                1.41  
Maximum Discharge:                            7.62 cfs  
Discharge Full:                                7.01 cfs

---

---

## ULTIMATE CONDITION FROM MH 89 TO MH 90

### Project Description

Friction Method:                      Kutter Formula  
Solve For:                                Normal Depth

### Input Data

Roughness Coefficient:                      0.013  
Channel Slope:                                0.0024 ft/ft  
Diameter:                                      1.25 ft  
Discharge:                                      0.765 cfs

### Results

Normal Depth:                                0.431 ft  
Flow Area:                                    0.38 sf  
Critical Depth:                                0.343 ft  
Percent Full:                                 34.49 %  
Critical Slope:                                0.0060 ft/ft  
Velocity:                                       2.04 fps  
Froude Number:                                0.64  
Maximum Discharge:                            3.34 cfs  
Discharge Full:                                3.07 cfs

---

---

## ULTIMATE CONDITION FROM MH 90 TO MH 91

### Project Description

Friction Method:                      Kutter Formula  
Solve For:                                Normal Depth

### Input Data

Roughness Coefficient:                      0.013  
Channel Slope:                                0.0016 ft/ft  
Diameter:                                      1.50 ft  
Discharge:                                     0.925 cfs

### Results

Normal Depth:                                0.490 ft  
Flow Area:                                    0.50 sf  
Critical Depth:                               0.358 ft  
Percent Full:                                 32.67 %  
Critical Slope:                                0.0056 ft/ft  
Velocity:                                      1.84 fps  
Froude Number:                               0.54  
Maximum Discharge:                         4.47 cfs  
Discharge Full:                                4.11 cfs

## ULTIMATE CONDITION FROM MH 91 TO MH 92

### Project Description

Friction Method:                      Kutter Formula  
Solve For:                                Normal Depth

### Input Data

Roughness Coefficient:                      0.013  
Channel Slope:                                0.0016 ft/ft  
Diameter:                                      1.50 ft  
Discharge:                                    0.925 cfs

### Results

Normal Depth:                                0.490 ft  
Flow Area:                                    0.50 sf  
Critical Depth:                                0.358 ft  
Percent Full:                                 32.67 %  
Critical Slope:                                0.0056 ft/ft  
Velocity:                                      1.84 fps  
Froude Number:                                0.54  
Maximum Discharge:                         4.47 cfs  
Discharge Full:                                4.11 cfs

---

---

## ULTIMATE CONDITION FROM MH 92 TO MH 93

### Project Description

Friction Method:                      Kutter Formula  
Solve For:                                Normal Depth

### Input Data

Roughness Coefficient:                      0.013  
Channel Slope:                                0.0020 ft/ft  
Diameter:                                      1.50 ft  
Discharge:                                    1.001 cfs

### Results

Normal Depth:                                0.482 ft  
Flow Area:                                    0.49 sf  
Critical Depth:                                0.373 ft  
Percent Full:                                 32.10 %  
Critical Slope:                                0.0056 ft/ft  
Velocity:                                      2.04 fps  
Froude Number:                                0.61  
Maximum Discharge:                            5.01 cfs  
Discharge Full:                                4.61 cfs

ULTIMATE CONDITION FROM MH 93 TO PROP. MH  
PER TRACT NO. 46798

**Project Description**

Friction Method:                      Kutter Formula  
Solve For:                                Normal Depth

**Input Data**

Roughness Coefficient:                      0.013  
Channel Slope:                                0.1100 ft/ft  
Diameter:                                        1.25 ft  
Discharge:                                        1.001 cfs

**Results**

Normal Depth:                                0.196 ft  
Flow Area:                                        0.12 sf  
Critical Depth:                                0.393 ft  
Percent Full:                                    15.66 %  
Critical Slope:                                0.0059 ft/ft  
Velocity:                                        8.15 fps  
Froude Number:                                3.90  
Maximum Discharge:                        22.74 cfs  
Discharge Full:                                20.90 cfs

---

---

**ULTIMATE CONDITION FROM PROP. MH PER TR # 46798 TO**  
**TRUNK SEWER**

**Project Description**

Friction Method:                      Kutter Formula  
Solve For:                              Normal Depth

**Input Data**

Roughness Coefficient:                      0.013  
Channel Slope:                              0.1100 ft/ft  
Diameter:                                      1.25 ft  
Discharge:                                      1.038 cfs

**Results**

Normal Depth:                              0.199 ft  
Flow Area:                                      0.13 sf  
Critical Depth:                              0.401 ft  
Percent Full:                                  15.92 %  
Critical Slope:                              0.0058 ft/ft  
Velocity:                                        8.25 fps  
Froude Number:                              3.92  
Maximum Discharge:                        22.74 cfs  
Discharge Full:                              20.90 cfs

*Attachment B*  
*Sewer Area Study Map*

REVISION	DESCRIPTION	DATE



**SEWER AREA STUDY FOR TRACT # 53933**  
 CITY OF CASTAIC, CALIFORNIA

SR CONSULTANTS WEST, INC.  
 SR PLANNING • ENGINEERING • SURVEYING  
 23322 RYE CANYON ROAD, SUITE 201, SANTA CLARITA, CA 91355  
 Phone: (818) 257-8570, Fax: (818) 257-8577

DESIGNED:	DRAWN:	CHECKED:	SUPERVISED:	PROJ. ENGINEER:	DATE:	SCALE:	JOB NUMBER:
J. SPENCE	H. HARIRCHI	H. HARIRCHI	H. HARIRCHI	H. HARIRCHI	07-30-08	1"=300'	928-001



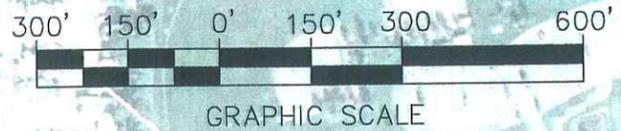
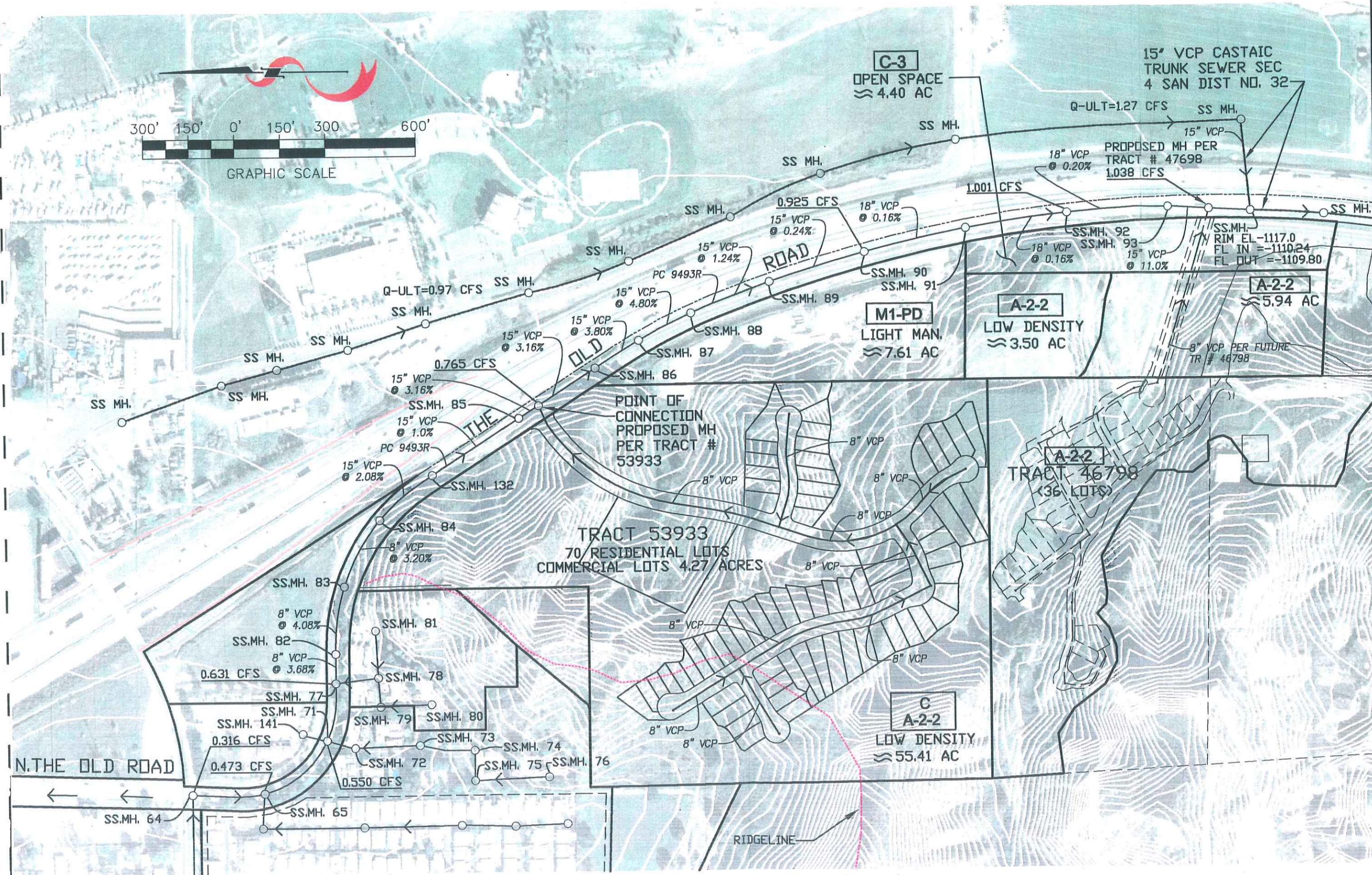
HASSAN HARIRCHI  
 R.C.E. No. 60006

DATE

SHEET NO.

**1**

OF 1 SHEETS



**NOTE: FOR OVERALL CONTRIBUTORY AREA SEE SEWER AREA STUDY PC 11993 AS FOR TRACT # 46798 (COPY OF MAP INCLUDED IN THIS REPORT)**



## 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:** MARIA GUTZEIT, *President*    DANIEL MORTENSEN, *Vice President*    B. J. ATKINS    BARBARA DORE    LYNNE A. PLAMBECK

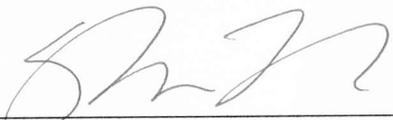
January 14, 2009

Bahram Safavi  
Can Shelter, Inc.  
P.O. Box 34898  
Los Angeles, CA 90034

RE:      Recycled Water Availability – Subject Property Tract No. 53933, Castaic, CA

This letter is to serve as confirmation that recycled water is not currently available in the vicinity of the subject property Tract No. 53933.

NEWHALL COUNTY WATER DISTRICT



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Stephen L. Cole, General Manager



## 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:** MARIA GUTZEIT, *President*    DANIEL MORTENSEN, *Vice President*    B. J. ATKINS    BARBARA DORE    LYNNE A. PLAMBECK

January 14, 2009

Bahram Safavi  
Can Shelter Inc.  
P.O. Box 34898  
Los Angeles, CA 90034

Re:    Water Service Availability Tract No. 53999 Castaic - 47 acre parcel  
      70 Single Family Homes – Up to 75,000 SF of Office Buildings on 3 separate lots

The above-referenced development (the "Development") located in Castaic, California, may lie within the service area of Newhall County Water District (the "District"). The District is prepared to provide water service to the Development subject to the following conditions and reservations:

1. Developer shall submit to the District all plans, designs, and fire department requirements for the Development in order that the District may design the necessary water system facilities required for the Development in accordance with the District's Rules and Regulations; or, at the District's option, the water system may be designed by Developer, subject to District's review and approval.
2. Developer shall, in accordance with the District's Rules and Regulations, and any required Water Service Agreement, pay all required fees and charges, including any required deposit amount in order to process plans, design and complete construction of required on-site and off-site improvements.
3. Developer shall grant the District any and all easements and, if necessary, sites for facilities required for water service, together with a policy of title insurance, satisfactory to the District, guaranteeing the District's title to such easements and sites.
4. Developer shall comply with all of the District's Rules and Regulations as those Rules and Regulations may be amended from time to time.
5. Developer acknowledges that water service to the Development shall be subject to availability of water. In relying upon this representation to provide water service, Developer is aware of the restrictions contained herein and the reliance of the District on groundwater and water supplied by the State Water Project. While there is currently no prohibition against establishing additional connections, the District has the authority to reduce and restrict service connections. Developer further acknowledges that this letter does not constitute any guarantee that, at the time of connection, water service will be available for the

Development and, further, that District does not guarantee any specific quantities, pressures or flows with respect to water service.

6. This water service letter is exclusive to the Development and number of units described above and may not transferred or assigned to any other person or for any other purpose without the District's written consent.
7. Provision of water service is contingent upon the Development meeting the requirements of any other governmental entity having jurisdiction over the Development.
8. This letter and any representations made herein shall be null and void twelve (12) months from the date hereof. Developer shall not be entitled to any additional water connections for the Development on and after the expiration date of this letter.
9. At any time prior to connection and upon a finding by the District's Board of Directors that the District is unable to serve the Development pursuant to the District's Rules and Regulations, the District may revoke this letter.
10. Developer, for itself and on behalf of its successors, agrees to defend, at Developer's expense, any action brought against the District, or its agents, officers, directors, or employees, because of the issuance of any approvals or authorizations obtained herein. Developer agrees to reimburse the District for any costs, fees or expenses the District may incur as a result of any such legal action. Developer further agrees that in conducting the defense of such action, District shall be entitled to engage its own attorneys, the expense of which shall be paid by Developer.
11. Water supply availability is further conditioned expressly upon the Development being located within the boundaries of the District and effective completion of the annexation of the Development, or any portion thereof which is not now within the boundaries of Newhall County Water District, may be required.

Sincerely,

NEWHALL COUNTY WATER DISTRICT



Stephen L. Cole  
General Manager

SLC/ehk

cc: NCWD Board of Directors

## **Appendix H**

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*Mitigation Monitoring and Reporting Program*

## **MITIGATION MONITORING AND REPORTING PROGRAM**

CEQA requires that a reporting or monitoring program be adopted for the conditions of project approval that are necessary to mitigate or avoid significant effects on the environment (Public Resources Code 21081.6). The mitigation monitoring and reporting program is designed to ensure compliance with adopted mitigation measures during project implementation. For each mitigation measure recommended in the Mitigated Negative Declaration, specifications are made herein that identify the action required and the monitoring that must occur. In addition, a responsible agency is identified for verifying compliance with individual conditions of approval contained in the Mitigation Monitoring and Reporting Program (MMRP).

To implement this MMRP, the County of Los Angeles will designate a Project Mitigation Monitoring and Reporting Coordinator (“Coordinator”). The coordinator will be responsible for ensuring that the mitigation measures incorporated into the project are complied with during project implementation. The coordinator will also distribute copies of the MMRP to those responsible agencies identified in the MMRP, which have partial or full responsibility for implementing certain measures. Failure of a responsible agency to implement a mitigation measure will not in any way prevent the lead agency from implementing the proposed project.

The following table will be used as the coordinator’s checklist to determine compliance with required mitigation measures.



Mitigation Measure/Condition of Approval	Action Required	When Monitoring to Occur	Monitoring Frequency	Responsible Agency or Party	Compliance Verification		
					Initial	Date	Comments
<b>Geotechnical Hazards</b>							
<b>GEO-1 Ground Rupture.</b> The revised San Gabriel Fault hazard setback shall be incorporated into the subdivision tract map and verified by the applicant's geotechnical consultant prior to finalization of the tract map. The utility infrastructure, including but not limited to gas lines, water lines, drainage and sewer lines shall be designed to avoid or withstand ground rupture associated with the potential for fault movement. The project engineer shall design cut and fill slopes within the fault hazard zone based on the J. Byer Group geotechnical evaluation, Los Angeles County Department of Public Works Geotechnical and Materials Engineering Division requirements and Uniform Building Code (UBC) requirements to the satisfaction of the County of Los Angeles.	Verification that utilities are designed to withstand ground rupture.	Prior to issuance of a building permit	Once	ED			
<b>GEO-3 (a) Liquefaction, Lateral Spreading, Dynamic Settlement.</b> The alluvium on site shall be removed and recompacted in accordance with recommendations of the J. Byer Group (Geologic and Soils Engineering Exploration, Tentative Tract 53933. 2005) as delineated on Figure 4.1-1, to eliminate the potential for liquefaction, lateral spreading and dynamic settlement. Grading Plans shall be reviewed by the J. Byer Group for consistency with their recommendations and	Review of grading plans	Prior to issuance of grading permit	Once	BD			

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Lake View Estates Mixed Use EIR  
 Project # 03-304: TR 53933  
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<p>submitted to the Los Angeles County Department of Public Works Geotechnical and Materials Engineering Division for their review and approval.</p> <p><b>GEO-3(b) Geological Oversight.</b> A project geologist shall be present during removals of alluvium and other necessary stripping of topsoil and colluvium, which may be five to 15 feet thick in some areas.</p>	Presence of the project geologist during removals of alluvium and stripping of topsoil and colluvium	During Construction	Periodically during construction				
<p><b>GEO-4(a)</b> Grading plans shall be reviewed by the applicant's geological consultant to insure that all recommendations included in the 2005 geotechnical investigation have been incorporated.</p> <p><b>GEO-4(b)</b> The area to receive compacted fill should be prepared by removing all vegetation, debris, existing fill, soil, colluvium, and alluvium. The exposed excavated area should be observed by the soils engineer or geologist prior to placing compacted fill. The exposed grade should be scarified to a depth of six inches, moistened to optimum moisture content, and recompact to a minimum 94 percent of the maximum density.</p> <p><b>GEO-4(c)</b> All building sites and graded pads shall have a minimum of five feet of compacted fill over the entire pad.</p> <p><b>GEO-4(d)</b> Fill consisting of soil approved by the soils engineer, shall be placed in horizontal lifts and compacted in six-inch layers with suitable compaction equipment. The excavated onsite materials are</p>	<p>Review of grading plans</p> <p>Observe exposed excavated areas</p> <p>Ensure that five feet of compacted fill is over the pad</p> <p>Approve fills</p>	<p>Prior to building permit</p> <p>Prior to placing compacted fill</p> <p>Prior to construction</p> <p>Prior to use in fill areas</p>	<p>Once</p> <p>Once</p> <p>Once</p> <p>Once</p>	<p>Applicant Geological Consultant</p> <p>BD</p> <p>BD</p> <p>BD</p>			

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<p>considered satisfactory for reuse in the control fills. Any imported fill shall be observed by the soils engineer prior to use in fill areas. Rocks larger than six inches in diameter shall not be used in the fill.</p> <p><b>GEO-4(e)</b> The fill shall be compacted to at least 94% of the maximum density for the material used. The maximum density shall be determined by ASTM D 1557-02 or equivalent.</p> <p><b>GEO-4(f)</b> Field observation and testing shall be performed by the soils engineer during grading to assist the contractor in obtaining the required degree of compaction and the proper moisture content. Where compaction is less than required, additional compactive effort shall be made with adjustment of the moisture content, as necessary until 94% compaction is obtained. Once compaction test is required for each 500 cubic yards, or two vertical feet of fill placed.</p> <p><b>GEO-4(g)</b> The alluvium, when removed and replaced as approved compacted fill, will shrink approximately 5% in volume. The older alluvium, when removed and placed as compacted fill, is not expected to shrink. The Saugus Formation bedrock, when removed and placed as compacted fill, is expected to bulk in volume approximately 5%.</p>	<p>Ensure that fill is compacted to 94%</p> <p>Ensure observation and testing by the soils engineer</p> <p>Monitor shrinking of fill soils</p>	<p>During construction</p> <p>During construction</p> <p>During construction</p>	<p>Once</p> <p>Periodically during construction</p> <p>Periodically during construction</p>	<p>BD</p> <p>BD</p> <p>BD</p>			
<b>Fire Hazard</b>							
<p><b>FH-1(a)</b> All applicable fire code and ordinance requirements for construction, access, water mains, fire hydrants, fire flows, brush clearance, and a fuel modification plan shall be met. The plans shall be reviewed and approved by the Forestry Division of the</p>	<p>Plan review</p>	<p>Prior to construction</p>	<p>Once</p>	<p>LACFD</p>			

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Lake View Estates Mixed Use EIR  
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<p>Fire Department prior to issuance of building permits.</p> <p><b>FH-1(b)</b> The Los Angeles County Fire Department, Land Development Unit, has set forth specific guidelines regarding land development issues. These guidelines are as follows:</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• Every building constructed shall be accessible to the Fire Department apparatus by way of access roadways, with an all-weather surface of not less than the prescribed width. 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;</li> <li>• Access roads shall be maintained with a minimum of ten (10) feet of brush clearance on each side. Fire access roads shall have an unobstructed vertical clearance clear-to-sky with the exception of protected tree species. Protected tree species overhanging fire access roads shall be maintained to provide a vertical clearance of 13 feet, six inches;</li> <li>• The maximum allowable grade shall not exceed 15% except where topography makes it impractical to keep within such grade; in such cases, an absolute maximum of 20% will be allowed for up to 150 feet in distance. The average maximum allowed grade, including topographical difficulties, shall be no more than 17%. Grade breaks shall not exceed 10% in 10 feet;</li> <li>• When involved with a subdivision in</li> </ul>							

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<p>unincorporated areas within the County of Los Angeles, 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;</p> <ul style="list-style-type: none"> <li>• Fire sprinkler systems are required in some residential and most commercial occupancies. For those occupancies not requiring fire sprinkler systems, it is recommended that fire sprinkler systems be installed. This will reduce potential fire and life losses. Systems are now technically and economically feasible for both commercial and residential use;</li> <li>• The development may require fire flows up to 5,000 gallons per minute at 20 pounds per square inch residual pressure for up to a five-hour duration (three hydrants flowing simultaneously). Final fire flows will be based on the size of the buildings, their relationship to other structures, property lines, and types of construction used;</li> <li>• Fire hydrant spacing for commercial/industrial development shall be 300 feet and shall meet the following requirements: <ul style="list-style-type: none"> <li>○ No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant;</li> <li>○ No portion of a building shall exceed 400 feet via vehicular access from property spaced public fire hydrant;</li> <li>○ Additional hydrants will be required if hydrant spacing exceeds specified distances (eight hydrants are required);</li> <li>○ All hydrants shall measure 6"x 4"x 2-1/2" brass or bronze, conforming to current,</li> </ul> </li> </ul>							

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<p>American Water Works Association (AWWA) standard C503 or approved equal. All onsite hydrants shall be installed a minimum of 25' from a structure or protected by a two-hour rated firewall (locations specified on Subdivisions map and additional fire hydrants may be established);</p> <ul style="list-style-type: none"> <li>o ~ All required fire hydrants shall be installed, tested, and accepted or bonded prior to approval;</li> <li>o ~ Vehicular access must be provided and maintained serviceable throughout construction to all required fire hydrants. All required fire hydrants shall be installed, tested, and accepted prior to construction;</li> </ul> <p>• Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for commercial lots and at the end of all cul-de-sacs.</p> <p>• All onsite driveways/roadways shall provide a minimum unobstructed width of 28 feet. The onsite driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. The centerline of the access driveway shall be located parallel to, and within 30 feet of an exterior wall on one side of the proposed structure.</p> <p>• Driveway width for non-residential developments shall be increased when any of the following conditions will exist:</p> <ul style="list-style-type: none"> <li>o ~ 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;</li> <li>o ~ Provide 42 feet in width, when parallel parking</li> </ul>							

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Lake View Estates Mixed Use EIR  
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<p>is allowed on each side of the access roadway/driveway;</p> <ul style="list-style-type: none"> <li>o Any access way less than 34 feet in width shall be labeled "Fire Lane" on the final recording map, and final building plans;</li> <li>o 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.</li> <li>• Single-family detached homes shall require a minimum fire flow of 1,250 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration. When there are five or more units taking access on a single driveway, the minimum fire flow shall be increased to 1,500 gallons per minute at 20 pounds per square inch residual pressure for a two-hour duration;</li> <li>• Fire hydrant spacing for residential development shall be 600 feet and shall meet the following requirements:           <ul style="list-style-type: none"> <li>o No portion of lot frontage shall be more than 450 feet via vehicular access from a public fire hydrant;</li> <li>o No portion of a structure should be placed on a lot where it exceeds 750 feet via vehicular access from a properly spaced public fire hydrant;</li> <li>o When cul-de-sac depth exceeds 450 feet on a residential street, hydrants shall be required at the corner and mid-block;</li> <li>o Additional hydrants will be required if hydrant</li> </ul> </li> </ul>							

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<ul style="list-style-type: none"> <li>spacing exceeds specified distances;</li> <li>o All hydrants shall measure 6"x 4"x 2-1/2" brass or bronze, conforming to current, American Water Works Association (AWWA) standard C503 or approved equal. All onsite hydrants shall be installed a minimum of 25' from a structure or protected by a two-hour rated firewall (locations specified on Subdivisions map and additional fire hydrants may be established);</li> <li>• A Fire Department approved turning area shall be provided at the end of all cul-de-sacs;</li> <li>• Fire Department access shall provide a minimum unobstructed width of 28 feet, clear-to-sky and be within 150 feet of all portions of the exterior walls of the first story of any existing unit. If exceeding 150 feet, provide 20 feet minimum paved width "Private Driveway/Fire Lane" clear-to-sky to within 150 feet of all portions of the exterior walls of the unit. Fire Lanes serving three or more units shall be increased to 26 feet;</li> <li>• Streets or driveways within the development shall be provided with the following:               <ul style="list-style-type: none"> <li>o Provide 36 feet in width on all streets where parking is allowed on both sides;</li> <li>o Provide 34 feet in width on cul-de-sacs up to 700 feet in length. This allows parking on both sides of the street;</li> <li>o Provide 36 feet in width on cul-de-sacs from 701-1,000 feet in length. This allows parking on both sides of the street;</li> <li>o 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</li> </ul> </li> </ul>							

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<p>Department approved signs stating “NO PARKING – FIRE LANE” in 3-inch high letters. Driveway labeling is necessary to ensure access for Fire Department use;</p> <ul style="list-style-type: none"> <li>o Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road;</li> <li>• All access devices and gates shall meet the following requirements: <ul style="list-style-type: none"> <li>o Any single gated opening used for ingress and egress shall be a minimum of 26 feet in width, clear-to-sky;</li> <li>o Any divided gate opening (when each gate is used for a single direction of travel – i.e. ingress or egress) shall be a minimum width of 20 feet clear-to-sky;</li> <li>o 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;</li> <li>o All limited access devices shall be of a type approved by the Fire Department;</li> <li>o 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;</li> </ul> </li> <li>• All proposals for traffic calming measures (speed humps/bumps/cushions, traffic circles, roundabouts, etc.) shall be submitted to the Fire Department for review, prior to implementation.</li> <li>• Provide Fire Department or City approved street signs and building access numbers prior to</li> </ul>							

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occupancy. • A minimum of four commercial fire hydrants and four residential fire hydrants shall be installed.							
<b>Noise</b>							
<b>N-1 Construction.</b> The contractor shall not conduct project grading activities within 370 feet of a single family residence, or 175 feet of multi family residences for consecutive periods of greater than 10 days.	Ensure grading within specified distances does not occur for periods of greater than 10 days.	During Construction	Periodically	EP			
<b>N-3(a) Interior Noise.</b> At a minimum, all onsite structures shall include the following to achieve an acceptable interior noise level:  • Air conditioning or a mechanical ventilation system so that windows and doors may remain closed; and • Double-paned windows and sliding glass doors mounted in low air infiltration rate frames (0.5 cubic feet per minute, per ANSI specifications); and • Solid core exterior doors with perimeter weather stripping and threshold seals; and • Roof and attic vents facing away from I-5.  Incorporation of these design requirements would be expected to achieve an interior noise level reduction of 25 dB or greater.	Plan review of design requirements	Prior to issuance of building permit	Once	DRP and BD			
<b>N-3(b) Exterior Noise.</b> At a minimum, residential lots shall incorporate six-foot tall solid block sound barrier walls on the side and rear yard property boundaries or surrounding the exterior usable space of the rear yard.							
<b>N-3(c) Second Story Interior Noise.</b> Residential lots							

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shall incorporate second story insulation to achieve an interior second story noise level of 45 dBA.							
<b>Water Quality</b>							
<p><b>WQ-1</b> Comply with approved Standard Urban Stormwater Mitigation Program, (SUSMP) which shall incorporate Best Management Practices (BMPs) for the long term operation of the site and shall be developed and implemented by the applicant to minimize the amount of pollutants that are discharged from the site. The plan shall be developed in accordance with the requirements of the County of Los Angeles and the California Regional Water Quality Control Board. Examples of BMPs and permanent BMPs that apply to both initial development of the lots and to long-term operation of the project include but are not limited to:</p> <p><i>Pollutant Escape: Deterrence</i>            Cover all storage areas including soil piles, fuel and chemical depots. Protect from rain and wind with plastic sheets and temporary roofs.</p> <p><i>Pollutant Containment Area</i>            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.</p>	Ensure that applicant complies with SUSMP	Prior to issuance of building permit	Once	DRP CRWQCB			

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<p><i>Pollutant Detainment Methods</i></p> <ul style="list-style-type: none"> <li>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.</li> </ul> <p><i>Erosion Control</i></p> <ul style="list-style-type: none"> <li>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.</li> <li>Schedule excavation and grading work for dry weather. These activities may be prohibited between the months of November and April.</li> <li>Slope stabilizers should be utilized. These include natural fiber erosion control blankets of varying densities according to specific slope/ site conditions.</li> <li>Expedite the restoration of natural erosion control and reduce risk of slope failure by immediately revegetating and irrigating until first one inch of rain.</li> <li>Reduce fugitive dust by wetting graded areas with an adequate yet conservative amount water. Cease grading operations in high (25 mph or greater) winds.</li> </ul> <p><i>Recycling/Disposal</i></p> <ul style="list-style-type: none"> <li>Provide recycling facilities. Develop protocol for maintaining a clean site. This includes proper recycling of construction-related materials and</li> </ul>							

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<p>equipment fluids (i.e., concrete dust, cutting slurry, motor oil and lubricants).</p> <ul style="list-style-type: none"> <li>Provide disposal facilities. Develop protocol for cleanup and disposal of small construction wastes (i.e., dry concrete).</li> </ul> <p><i>Hazardous Materials Identification and Response</i></p> <ul style="list-style-type: none"> <li>Develop protocol for identifying risk operations and materials. Include protocol for identifying spilled-materials source, distribution; fate and transport of spilled materials.</li> <li>Provide protocol for proper clean-up of equipment and construction materials, and disposal of spilled substances and associated cleanup materials.</li> <li>Provide emergency response plan that includes contingencies for assembling response team and immediately notifying appropriate agencies.</li> </ul>							
<p><b>WQ-2</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 County of Los Angeles and the California Regional Water Quality Control Board. 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 and ultimately to the ocean.</li> <li>Provide educational flyers to each new building</li> </ul>	Ensure that applicant completes a SWMP	Prior to issuance of building permit	Once	DRP CRWQCB			

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<p>unit regarding toxic chemicals and alternatives for fertilizers, pesticides, cleaning solutions and automotive and paint products. These fliers shall be distributed to and posted at each new business unit and provided to each residential unit through the Homeowner's Association.</p> <ul style="list-style-type: none"> <li>Provide educational flyers regarding proper disposal of routine office and household hazardous waste, including automotive waste. These fliers shall be distributed to and posted at each new business unit and provided to each residential unit through the homeowner's association.</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 pyrethrin based insecticides.</li> </ul> <p><i>Cleaning/Maintenance</i></p> <ul style="list-style-type: none"> <li>Routine cleaning of streets, parking lots and storm drains. Prior to the issuance of a building permit, the applicant shall prepare a stormwater facility maintenance plan that will be implemented by the homeowner's association and building owners of</li> </ul>							

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<p>the commercial parcels. This plan shall identify provisions for regular maintenance and cleaning of catch basins, debris basins, and siltation basins; maintenance logs shall be regularly submitted to the appropriate agencies.</p> <p><i>Structural Treatment Methods</i></p> <ul style="list-style-type: none"> <li>▪ Catch basin inserts or storm drain devices such as storm interceptors shall be installed with the 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. The sizing and effectiveness of each of these measures shall be documented prior to the issuance of a building permit.</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>AQ-1(a) Fugitive Dust Control Measures:</b></p> <ul style="list-style-type: none"> <li>• Water trucks shall be used during construction to keep all areas of vehicle movements damp enough to prevent dust from leaving the site. At a minimum, this will require three daily applications (start of workday, midday and at the end of the workday). Increased watering is required whenever wind speed exceeds 15 mph. Grading shall be suspended if wind gusts exceed 25 mph.</li> <li>• The amount of disturbed area shall be minimized, active grading shall not exceed 7.25 acres per day, and onsite vehicle speeds shall be limited to 15 mph or less on all unpaved areas. The</li> </ul>	Ensure that fugitive dust control measures are implemented during site visits	During construction	Periodically during construction	DPW DRP			

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<p>developer shall pave roads and shoulders as soon as feasible.</p> <ul style="list-style-type: none"> <li>• Unpaved haul roads shall be watered a minimum of three times per day.</li> <li>• If stockpiling of fill material is involved, earth with 5% or greater silt content that is stockpiled for more than two days shall be covered, kept moist, or treated with earth binders to prevent dust generation.</li> <li>• After clearing, grading, earth-moving or excavation is completed, the disturbed area shall be treated by spreading earth binders (non-toxic soil stabilizers) according to manufacturer's specifications until the area is paved or otherwise developed. Staging and parking areas shall also be stabilized by paving or with soil stabilizers.</li> <li>• Install wheel washers where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site on each trip.</li> </ul> <p><b>AQ-1(a) Fugitive Dust Control Measures:</b></p> <ul style="list-style-type: none"> <li>▪ Water trucks shall be used during construction to keep all areas of vehicle movements damp enough to prevent dust from leaving the site. At a minimum, this will require three daily applications (start of workday, midday and at the end of the workday). Increased watering is required whenever wind speed exceeds 15 mph. Grading shall be suspended if wind gusts exceed 25 mph.</li> <li>▪ The amount of disturbed area shall be minimized, active grading shall not exceed 7.25 acres per day, and onsite vehicle speeds shall be limited to 15 mph or less on all unpaved areas. The developer shall pave roads and shoulders as soon</li> </ul>							

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<p>as feasible.</p> <ul style="list-style-type: none"> <li>▪ Unpaved haul roads shall be watered three times per day.</li> <li>▪ If stockpiling of fill material is involved, earth with 5% or greater silt content that is stockpiled for more than two days shall be covered, kept moist, or treated with earth binders to prevent dust generation.</li> <li>▪ After clearing, grading, earth-moving or excavation is completed, the disturbed area shall be treated by spreading earth binders (non-toxic soil stabilizers) according to manufacturer's specifications until the area is paved or otherwise developed. Staging and parking areas shall also be stabilized by paving or with soil stabilizers.</li> <li>▪ Install wheel washers where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site on each trip.</li> </ul> <p><b>AQ-1(b) VOC Control Measure:</b> Low VOC architectural and asphalt coatings shall be used on site and shall comply with AQMD Rule 1113-Architectural Coatings. The VOC content of architectural coatings shall not exceed an average of 85 g VOC/liter (less water and exempt compounds) for residential units and 87.5 g VOC/liter (less water and exempt compounds) for commercial space pursuant to the VOC content determination procedures in Rule 1113. Additionally, application of architectural coatings shall be limited such that no more than 20 residences and 45,000 square feet of commercial space shall be covered during any 20 day period. Documentation regarding this mitigation measure is contained in Appendix D.</p>							

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<p><b>AQ-1(c) NOx Control Measures:</b></p> <ul style="list-style-type: none"> <li>Equipment engines should be maintained in good condition and in proper tune as per manufacturer's specifications;</li> <li>Schedule construction periods to occur over a longer time period (i.e. lengthen from 60 days to 90 days) during the smog season so as to minimize the number of vehicles and equipment operating simultaneously; and</li> <li>Use new technologies to control ozone precursor emissions as they become readily available.</li> </ul> <p><b>AQ-1(d) NOx, PM<sub>10</sub> and PM<sub>2.5</sub> Additional Control Measure:</b> The number and types of construction equipment shall be reduced such that horsepower of diesel equipment in simultaneous operation shall not exceed 2,108 horsepower during project grading and 2,618 horsepower during building construction. This would reduce project grading equipment to about nine pieces during grading activities and 14 pieces during building construction activities, depending on the type of equipment in use. Documentation regarding this mitigation measure is included in Appendix D.</p>							
<p><b>AQ-2(a) Energy Consumption.</b> Onsite structures shall reduce energy consumption by at least 20% below current Federal guidelines as specified in Title 24 of the Code of Federal Regulations. Potential energy consumption reduction measures include, but are not limited to, the use of photovoltaic roof tiles, installation of energy efficient windows, and the use of R-45 insulation in the roof/attic space of all onsite structures.</p> <p><b>AQ-2(b) Shade Trees.</b> Shade trees shall be planted to shade onsite structures to the greatest extent</p>	<p>Plan check to ensure that energy consumption reduction measures are specified</p> <p>Plan check to ensure that tree</p>	<p>Prior to issuance of a grading permit and site visit prior to occupancy to confirm implementation</p> <p>Prior to issuance of a</p>	<p>Plan check prior to issuance of a grading permit and site visit to confirm implementation</p> <p>Plan check prior to issuance of a</p>	DRP			

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possible in summer, reducing indoor temperatures, and reducing energy demand for air conditioning.	planting is specified and implemented	grading permit and site visit prior to occupancy to confirm implementation	grading permit and site visit to confirm implementation				
<b>Biota</b>							
<p><b>BIO-1(a)</b> Temporarily disturbed areas shall be revegetated with native vegetation in the same proportions and species as the natural habitat removed. Preconstruction detailed surveys of vegetation on at least three (3) blocks of 50 x 50 meters on the site shall be used to determine the native coastal scrub vegetation of the site [also see mitigation measure BIO-1(c-d)]. These proportions may be modified by County Fire Department and County Public Works as needed for safety reasons. If the 80% coastal sage scrub vegetative coverage (plants typical of the removed coastal sage scrub community in proportion to natural coverages) is not met within three years, the monitoring effort shall be extended to five years. If not met at the end of five years, the monitoring effort shall be extended another five years and again tested at the end of five years for meeting success criteria. This extension process should continue until the success criteria are met. Annual monitoring reports shall be prepared and submitted to the County Director of Regional Planning that include qualitative, and quantitative data regarding the success of the revegetation effort, comparison to performance criteria, and recommendations for the successful completion of the restoration effort.</p> <p>A landscape plan that includes control of invasive non-native plants shall be submitted for review and</p>	Review landscape plan	Prior to issuance of building permit	Once	DRP			
	Ensure the instillation of a wheel washing station	Prior to construction	Once	EP			
	Ensure that all vehicles are pressurized washed	During construction	Periodically during construction	EP			

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<p>approval by the County of Los Angeles Department of Regional Planning prior to the issuance of a grading permit. The landscape plan shall limit irrigation to within Fuel Modification Zone A and shall utilize only locally indigenous plant species and varieties.</p> <p>During grading and construction, a wheel well and undercarriage washing station shall be installed at project site entrances to serve the purpose of removing dust and plant parts from entering and exiting vehicles in order to prevent transport of invasive weed species onto and off of the site. The wheel washing station shall consist of a lined aggregate pit (2-3" aggregate), designed such that the washed seeds and plant parts filter through timbers and gravel onto a geotech cloth. At the end of construction, the pit shall be disassembled and back-filled, and the geotech cloth shall be carefully removed with all contents and taken to a disposal site and buried deeply so that the invasive plant parts and propagules will not spread to other areas.</p> <p>Pressurized washing shall be done for all vehicles (1) before coming to the site and (2) upon entry, and 3) at the end of each day when grading an area with exotic plants, and 4) before moving the vehicle to another site. Vehicle operators shall fill out a log book kept in a waterproof container at each washing or entry to site, that can be checked by biologist in charge of biological mitigation.</p>							
<p><b>BIO-1(b)</b> Fuel Modification shall occur within 100 feet of structures (Please refer to Figure 4.3-1, Fuel Modification Plan). Per the Los Angeles Fuel Modification Guidelines (LAFMG) for projects located in Fire Zone Four for Very High Fire Hazard Severity</p>	<p>Ensure compliance with LAFMG and fire standards</p>	<p>Prior to issuance of building permit and during construction</p>	<p>Once prior to issuance of building permit and periodically during</p>	<p>LACFD</p>			

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<p>shall retain the right to supersede these coastal sage scrub mitigation requirements through modification or addition pursuant to nexus. Covenants, Conditions, &amp; Restrictions (CC&amp;R's) and/or deed restrictions or conservation easements shall be developed to protect the mitigation area, and adequate fencing shall separate all preserved lands from developed areas in order to prevent pets, vehicles, and people from impacting the area.</p> <p>If coastal sage scrub habitat is restored onsite on manufactured slope or non-native grassland habitat areas that are outside the fuel modification zones in accordance with mitigation measure BIO-1(a &amp; d), the plantings shall be monitored for at least three years to determine if the restoration plantings have been successful. Success criteria shall be developed as part of the planting plans and shall be no less than 80% vegetative coverage by native plants at the conclusion of the restoration effort. If the 80% coastal sage scrub vegetative coverage (plants typical of the coastal sage scrub community in proportion to natural coverages) is not met within three years, the monitoring effort shall be extended to five years. Annual monitoring reports shall be prepared and submitted to the County that include qualitative and quantitative data regarding the success of the revegetation effort, comparison to performance criteria, and recommendations for the successful completion of the restoration effort.</p> <p>If there is not sufficient suitable replacement habitat remaining onsite and outside of the fuel modification zones, the applicant shall either purchase and set-aside the residual amount of habitat needed with</p>							

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<p>suitable conservation easements or restrictive covenants as necessary to provide for long term preservation, or shall acquire mitigation credits from a suitable bank. If mitigation credits are acquired from a bank, the applicant shall provide evidence of same to the County Department of Regional Planning prior to site occupancy.</p> <p><b>BIO-1(d)</b> Revegetation and landscaping plans for the restoration and revegetation areas on the project site shall be reviewed and approved by the County before issuance of a grading permit. Plant species, seed mixes, weed suppression, planting methodology, and irrigation schedule shall be prepared by a qualified biologist or landscape architect and shall utilize locally indigenous species from onsite habitats. No species identified as invasive by the CNPS, California Invasive Plant Council, other databases and County of Los Angeles Department of Regional Planning (DRP) Biologist or staff shall be utilized in the landscape plans. The plan shall be reviewed and approved by Department of Regional Planning.</p>	Review revegetation and landscape plans for the restoration and revegetation areas	Prior to issuance of a grading permit	Once	DRP			
<p><b>BIO-2(a)</b> The project shall include and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP shall require that stormwater runoff be prevented from flowing over unprotected slopes and that silt fencing shall be trenched in 100 feet from the outer limits of riparian vegetation and left in place during construction. Disturbed areas shall be stabilized as quickly as possible, using biotechnical techniques.</p> <p><b>BIO-2(b)</b> Construction and operation of the proposed project shall avoid contamination of the ephemeral drainage by incorporating the following provisions:</p>	Ensure implementation of a SWPPP	Prior to construction and during construction	Once prior to construction and periodically during construction	DPW DRP			

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<p>1. California Stormwater Best Management Practices (BMPs) for Construction Activity, prepared by the California State Stormwater Quality Task Force, shall be incorporated into the construction plans. BMPs for Municipal Activities shall be incorporated into a long-term site management program. When implemented, BMPs would reduce operation-related impacts from sedimentation and contaminant loading to an insignificant level.</p>	<p>Plan check to ensure BMPs are specified for construction activity and review/approve BMPs incorporated into the long term site management program.</p>	<p>Prior to issuance of a grading permit for construction BMPs and prior to occupancy for long-term management program</p>	<p>Twice, once prior to issuance of a grading permit and once prior to occupancy</p>	<p>DPW DRP</p>			
<p>2. Locally indigenous species with minimal water and fertilizer requirements shall be selected for public landscaping. Use of nitrogen fertilizers in landscaped areas is not needed. Watering shall be kept to the minimum necessary to maintain new landscaping. Temporary drip irrigation shall be used only until native landscaping is established. Irrigation water from public maintenance areas shall be retained onsite by setting timers such that excess surface flow to the local watershed does not occur. Splash pads at the bottom of manufactures slope drainages shall include a sand and gravel sump at least four feet in depth to serve as a low flow percolation pit.</p>	<p>Plan check prior to issuance of a grading permit to confirm local indigenous species in public landscaped areas, temporary irrigation and splash pads.</p> <p>Site visit to confirm prior to occupancy</p>	<p>Once prior to issuance of a grading permit for plan check</p> <p>Once post construction, prior to occupancy</p>	<p>Once prior to issuance of a grading permit for plan check</p> <p>Once post construction, prior to occupancy</p>				
<p><b>BIO-3(a)</b> Prior to grading, a qualified biologist shall be retained by the applicant as the biological monitor subject to the approval of the County of Los Angeles. That person shall ensure that impacts to biological resources (inclusive of special-status plants) are</p>	<p>Ensure that a biological monitor is retained</p>	<p>Prior to grading</p>	<p>Once</p>	<p>Qualified Biologist DRP</p>			

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<p>avoided or minimized, and shall conduct pre-grading focused field surveys for special-status plant species that may be affected and / or eliminated as a result of grading and / or site preparation activities. The biological monitor shall be authorized to stop specific grading activities if violations of mitigation measures or any local, State, or Federal laws are suspected.</p> <p><b>BIO-3(b)</b> Pre-grading focused surveys shall be conducted in the appropriate season to determine presence or absence of any special-status plants. If no specimens are found within the development footprint or fire clearance zone, then no additional mitigation is required.</p> <p><b>BIO-3(c)</b> In the event special-status plants are identified within the development or fire clearance areas, no grading permit shall be issued until a mitigation plan has been reviewed and approved by the Los Angeles County Department of Regional Planning biologist or staff. The plan may include, but not be limited to, the following mitigation actions in order of preference:</p> <ul style="list-style-type: none"> <li>• <i>Grading plans shall be modified or fuel modification zones adjusted to avoid sensitive plant populations that are identified by the focused field survey, if feasible.</i></li> <li>• <i>If avoidance is not feasible, any identified special-status plants shall be re-established onsite in a suitable habitat using the following:</i> <ul style="list-style-type: none"> <li>○ 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.</li> </ul> </li> </ul>	<p>Conduct surveys to determine the presence of special-status plants</p> <p>Develop a mitigation plan in the event that special-status plants are present</p>	<p>Prior to grading</p> <p>Prior to issuance of a grading permit</p>	<p>Once</p> <p>Once</p>	<p>Qualified Biologist DRP</p> <p>Qualified Biologist DRP</p>			

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<ul style="list-style-type: none"> <li>o Documentation of past successful habitat creation and transplantation for the species shall be included.</li> <li>o A performance standard of equal replacement of plants and habitat shall be required. In addition, revegetation of special plants will be considered successful at three years if the percent cover and species diversity of the restored and / or created habitat areas are similar to percent cover and species diversity of adjacent existing habitats, as determined by quantitative testing of existing, restored and created habitat areas.</li> <li>o Harvesting and propagation techniques shall be specified.</li> <li>o Monitoring effort shall be identified as at least five years. The responsible agent and frequency shall be specified. The monitoring plan will include:               <ol style="list-style-type: none"> <li>1) Qualitative monitoring (i.e, photographs and general observations.)</li> <li>2) Quantitative monitoring (i.e., randomly placed transects),</li> <li>3) Performance criteria as approved by the County</li> <li>4) Monthly reports for the first year and bimonthly reports thereafter and</li> <li>5) Annual reports which will be submitted to the County for three to five years, depending upon the performance of mitigation site.</li> </ol> </li> <li>o Long-term preservation of the site will be outlined in the conceptual mitigation plan to ensure the mitigation site is not impacted by future development.</li> </ul>							

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<ul style="list-style-type: none"> <li>o Contingency planning (if the effort fails to reach the performance criteria, the needed remediation steps shall be identified).</li> <li>o Irrigation method / schedule (how much water is needed, where and for how long).</li> <li>o Weed control.</li> <li>• <i>If no suitable habitat remains onsite, the applicant shall identify a suitable offsite location for re-establishment of sensitive populations following the same methodology as for onsite re-establishment.</i></li> </ul> <p><b>BIO-3(d)</b> Earth-moving equipment will avoid maneuvering in areas outside the identified limits of grading in order to avoid disturbing open space areas that will remain undeveloped. Prior to grading, the construction boundary limits will be marked by the construction supervisor and the project biologist. These limits will be identified on the grading plan. The applicant will submit a letter to the County of Los Angeles verifying that construction limits have been flagged in the field. No earth-moving equipment will be allowed outside the construction boundary.</p>	Confirm that construction boundary limits are identified on the grading plan and that earth-moving equipment avoids limits	Prior to issuance of a grading permit and during construction	Once prior to issuance of a grading permit and periodically during construction	Qualified Biologist DRP			
<p><b>BIO-4(a)</b> A survey for the San Fernando Valley spineflower (SFVS) and Nevin's barberry shall be conducted by a qualified biologist in all chaparral, coastal sage scrub, annual grassland, and disturbed areas prior to and where ground disturbance is anticipated. If neither species are found, no further mitigation is required. In the event the SFVS or Nevin's barberry are discovered onsite, mitigation measures B-4 (b-c) shall be required.</p>	Confirm that a survey for the San Fernando Valley spineflower and Nevin's barberry is conducted.	Prior to ground disturbance	Once prior to ground disturbance	Qualified Biologist DRP			
<p><b>BIO-4(b)</b> In the event the SFVS is discovered onsite, the current and anticipated future onsite distribution of</p>	Confirm that the future onsite	After SFVS is discovered	Once after SFVS is discovered	Qualified Biologist			

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<p>the species shall be mapped by a qualified biologist. The California Department of Fish and Game (CDFG) and / or United States Fish and Wildlife Service (USFWS) shall be formally notified and consulted depending on the listing status of the species found. A preservation and management plan shall be prepared for the SFVS and Nevin's barberry by a qualified biologist and shall include, but not be limited to, the following:</p> <ul style="list-style-type: none"> <li><i>The project shall provide a buffer between development and any listed endangered plant 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.</i></li> <li><i>Stormwater runoff, irrigation runoff, and other drainage from developed areas shall not pass through areas populated by listed endangered plants</i></li> <li><i>Listed endangered plants shall not be artificially shaded by structures or landscaping within the adjacent development areas.</i></li> <li><i>Pesticide / herbicide use shall not be permitted within 100 feet of areas containing listed endangered plants.</i></li> <li><i>A qualified biologist shall be retained by the applicant as the biological monitor subject to the approval of the County of Los Angeles. That person shall ensure that listed endangered plants are avoided during construction. After project completion, a monitoring agency shall be identified and the frequency and extent of monitoring shall be determined.</i></li> </ul>	<p>distribution of species is mapped, that CDFG and USFWS are notified, and that a management plan is prepared</p>	<p>onsite</p>	<p>onsite</p>	<p>DRP</p>			

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<p>The plan shall be reviewed and approved by County of Los Angeles Department of Regional Planning prior to issuance of a grading permit.</p> <p><b>BIO-4(c)</b> If avoidance is not feasible and mitigation is required for impacts to listed plant species, a Memorandum of Understanding (MOU) shall be prepared in coordination with CDFG. The MOU should be developed by a qualified plant ecologist and would include an analysis of take, mitigation measures, and an Adaptive Management Plan (AMP) to identify strategies for responding to changed circumstances, and a monitoring plan. Specifically, the MOU should identify the number of plants to be replanted, the methods that will be used to preserve this species in this location, and methods to ensure successful mitigation for impacts to listed plant species. The required level of success for SFVS and potential Nevin's barberry shall be defined at a minimum as a demonstration of three consecutive years of growths and a population equal to or greater than that which would be lost due to the project. The mitigation plan should include but not be limited to:</p> <ul style="list-style-type: none"> <li>• <i>Preserving appropriate topsoil within the development envelope as a seed bank to promote revegetation at a relocation site;</i></li> <li>• <i>Salvage operations to relocate perennial species to a suitable mitigation site on the undeveloped areas of the property;</i></li> <li>• <i>Collecting seeds of special-status plant species in the immediate vicinity of the project site, to ensure that the genetic integrity of the local landscape remains intact;</i></li> <li>• <i>Sowing the collected seed into a designated</i></li> </ul>	Review the management Plan	After CFVS is discovered onsite and prior to issuance of a grading permit	Once prior to issuance of a grading permit	DRP			
	Confirm that a MOU is prepared	Once	Once after it is determined that avoidance is not feasible and mitigation is required	DRP			

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<p><i>suitable mitigation site.</i></p> <ul style="list-style-type: none"> <li>• <i>Determination of necessary irrigation requirements and irrigating the mitigation plantings if necessary until they become established; and</i></li> <li>• <i>Maintaining and monitoring restoration/planting sites for a minimum of five (5) years to determine mitigation success/failure, and implementing remedial measures to satisfy mitigation objectives.</i></li> </ul> <p>A Federal “incidental take” permit under Section 10(b) of the Federal Endangered Species Act (ESA) may also be required. If “take” permits or other agreements are required, the applicant shall provide DRP with a copy of such signed agreements prior to grading.</p>							
<p><b>BIO-5(a)</b> Pre-construction surveys shall be conducted. Prior to the commencement of grading operations or other activities involving disturbance of coastal sage scrub, a survey would be conducted to locate gnatcatchers within 100 feet of the outer extent of projected soil disturbance activities and the locations should be clearly marked and identified on the construction/grading plans. A biological monitor will also be present at the initiation of vegetation clearing to provide an education program to the construction operators regarding the efforts needed to protect the CAGN and other special-status species. Fencing or flagging would be installed around the limits of grading prior to the initiation of vegetation clearing.</p> <p>A qualified monitoring biologist as approved by the jurisdictional agencies shall be onsite during any clearing of coastal sage scrub. The developer will notify USFWS/CDFG at least fourteen (14) calendar days prior to the clearing of any habitat determined by the pre-construction survey to be occupied by</p>	<p>Confirm that pre-construction surveys are conducted</p> <p>Confirm that a qualified monitoring biologist is onsite</p>	<p>Once</p> <p>Periodically during the clearing of sage scrub</p>	<p>Once prior to commencement of grading operations or soil disturbing activities</p> <p>Periodically during the clearing of sage scrub</p>	<p>Qualified Biologist DRP</p> <p>Qualified Biologist DRP</p>			

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retained by the applicant as the biological monitor subject to the approval of the County of Los Angeles (see also BIO-3(b) above). During earthmoving activities, the biological monitor shall be present to relocate any vertebrate species that may come into harm's way to an appropriate offsite location of similar habitat.	Approve the biologist that is chosen by the applicant	Prior to grading	Once prior to grading	Qualified Biologist DRP			
<b>BIO-5(d)</b> Prior to any vegetation clearance or grading, trapping is required using live traps. If trap-and-release protocols determine the presence of San Diego desert woodrat, any captured animals would be relocated to safe, public land retained in open space land use designations with suitable habitats. If live-trapping at identified woodrat stick nests does not capture the occupant, a silt fence shall be constructed to isolate the stick nest from the development area, with the base of the silt fence either buried or sandbagged to prevent animals from entering the project area from underneath the fence. The stick nest would then be removed by hand by a biologist to remove the occupant(s) and allow their escape to adjacent undisturbed habitat. A similar silt fence shall be placed at the edge of the grading envelope and remain in place and maintained until completion of ground disturbance activities. The monitoring biologist(s) shall acquire appropriate approvals from the California Department of Fish and Game as necessary to perform the salvage activities.	Confirm that trapping occurs	Prior to any vegetation clearance or grading	Once prior to any vegetation clearing or grading	Qualified Biologist DRP			
<b>BIO-6(a)</b> The developer shall contract with a qualified biologist to conduct nesting bird surveys prior to construction activities between the months of March and September. A copy of the contracts and reports for these services shall be submitted to California Department of Fish and Game and the County	Confirm that a qualified biologist conducts nesting bird surveys	Prior to construction activity between March and September	Once prior to construction activity between March and September	Qualified Biologist DRP			

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<p>Biologist for review and approval prior to issuance of a grading permit.</p> <p><b>BIO-6(b)</b> Project-related activities likely to have the potential of disturbing suitable bird-nesting habitat shall be prohibited from February 1 through August 31, unless a biological monitor acceptable to the Director of Planning surveys the project area prior to disturbance to confirm that disturbance to habitat will not result in the failure of nests onsite or immediately adjacent to the area of disturbance. Disturbance shall be defined as any activity that physically removes and/or damages vegetation or habitat, any action that may cause disruption of nesting behavior such as noise exceeding 90 dBA from equipment, or direct artificial night lighting. Surveys shall be conducted on the subject property within 300 feet of disturbance areas (500 feet for raptors) no earlier than seven (7) days prior to the commencement of disturbance. If an active nest is discovered onsite or can be reasonably deduced to exist immediately adjacent offsite (in cases where access to adjacent properties is prevented), the project biologist shall demarcate an area to be avoided by construction activity until the active nest(s) is vacated for the season and there is no evidence of further nesting attempts. This demarcated area will incorporate a buffer area surrounding the active nest that is suitable in size and habitat type to provide a reasonable expectation of breeding success for nesting birds. Limits of avoidance shall be demarcated with flagging or fencing. The project proponent shall record the results of the surveys and recommended protective measures described above and submit the records to the Department of Regional Planning to document</p>	<p>Confirm that project-related activities likely to have the potential of disturbing bird-nesting habitat are prohibited from February 1 through August 31.</p>	<p>Prior to February 1 and between February 1 and August 31</p>	<p>Once prior to February 1 and periodically between February 1 and August 31</p>	<p>Qualified Biologist DRP</p>			

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compliance with applicable State and Federal laws pertaining to the protection of native birds.							
<p><b>BIO-7</b> For oak trees that are affected by project implementation, an oak tree mitigation program shall be developed pursuant to the County's oak tree preservation ordinance. This mitigation program shall include, but not be limited to:</p> <ul style="list-style-type: none"> <li>• A 2:1 replacement ratio for each oak removed. Per the Los Angeles County Oak Tree Ordinance (Los Angeles Code Part 16, 22.56.2180): "Required replacement trees shall consist exclusively of indigenous oak trees and shall be in the ratio of at least two to one. Each replacement tree shall be at least a 15-gallon size specimen and measure at least one inch in diameter one foot above the base. Replacement trees shall be properly cared for and maintained for a period of two years and replaced by the applicant or permittee if mortality occurs within that period, where feasible replacement trees should consist exclusively of indigenous oak trees and certified as being grown from a seed source collected in Los Angeles or Ventura Counties. Replacement trees shall be planted and maintained on the subject property and, if feasible, in the same general area where the trees were removed."</li> <li>• <i>Identifying specific protective measures for protecting and maintaining all oaks within potential encroachment areas;</i></li> <li>• <i>Mature oak trees and shrubs shall not be removed during preparation of fire clearance zones;</i></li> <li>• <i>Replacement tree planting, maintenance, and monitoring specifications, which shall at the minimum include the following:</i></li> </ul>	Confirm that an oak tree mitigation program is developed	Prior to issuance of a grading permit	Once prior to issuance of a grading permit	DRP			

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1) Performance and success criteria to ensure 100% survival for at least two years (Los Angeles Code Part 16,22.56.2180.A.6.b); 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). Irrigation shall be kept to a minimum, preferably outside the drip zone, and must never wet the trunk to prevent oak root rot and the development of favorable conditions for the Argentine ant. Soil mycorrhizal inoculations shall also be used for transplanted oak trees; 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 oak trees removed as a result of project implementation shall be replaced with in-kind native oak tree specimens obtained from regional (i.e., Castaic Valley) stock.							
<b>BIO-8</b> No earlier than 20 days prior to any grading activity that would occur during the breeding season of native bat species potentially utilizing the site (April 1 through August 31), a field survey shall be conducted by a qualified biologist (retained by the applicant and reviewed by the County) to determine if active roosts of special status bats such as hoary bat, Western red bat, Yuma myotis, long-legged myotis, pallid bat, Western mastiff bat, Townsend's big-eared bat, and pocketed free-tailed bat are present in areas	Review the field survey that determines if active roosts of special status bats are present on the project site	Within 20 days of grading activity	Once within 20 days of grading activity	Qualified Biologist DRP			

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of the projects site that contains suitable roosting habitat such as large tree hollows and large cliff faces. If active maternity roosts are found, construction within 200 feet shall be postponed or halted, at the discretion of the biological monitor, until the roosts are vacated and juveniles have fledged, as determined by the biologist. Implementation of this measure would ensure that no loss of active maternity roosts of special status bat species will occur and, therefore, will reduce impacts on bat species to a less than significant level.							
<b>Archaeological/Historical</b>							
<p><b>CR-1(a)</b> Ground disturbance shall be monitored for the presence of archaeological materials. 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. If the coroner determines the remains to be those of Native American ancestry, the Native American Heritage Commission shall be notified.</p>	<p>Confirm that ground disturbance is monitored for the presence of archaeological materials and that if found, applicable procedures are followed</p> <p>Confirm that if human remains are discovered, Section 7050.5 procedures are followed</p>	<p>During ground disturbing activities</p> <p>In the event that human remains are discovered</p>	<p>Periodically during ground disturbing activities</p> <p>As applicable in the event that human remains are discovered</p>	<p>Cultural Monitor DRP</p> <p>NAHC DRP</p>			

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<b>Visual Qualities</b>							
<b>VIS-2(a)</b> Exterior lighting shall incorporate mission bell shaped posts to prevent offsite illumination and glare upon adjacent parcels, public areas, environmentally sensitive areas, and the night sky. The posts shall be placed the maximum distance apart and include the minimum lumens allowed by the Los Angeles County Department of Public Works.	Confirm that mission bell shaped posts are incorporated into the design of the project via a plan check, confirmed by a site visit post construction	Prior to project approval, post construction	Once prior to project approval, once post construction	DRP			
<b>VIS-2(b)</b> Any security lighting shall be screened such that lighting globes are not visible from a distance of more than 20 feet. Security lighting shall be activated by motion detectors.	Plan check to confirm that security lighting is screened and motion activated with confirmation during a site visit after installation	Prior to project approval, post construction	Once prior to project approval, once post construction	DRP			
<b>VIS-2(c)</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.	Plan check to confirm that design and architectural treatments incorporate techniques that minimize light and glare	Prior to project approval	Once prior to project approval, once post construction	DRP			

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<b>Traffic and Access</b>							
<b>T-1 Road Widening.</b> Widening of the westbound approach to provide a left-turn lane and a shared through / right turn lane would reduce the project's impact at The Old Road / Parker Road intersection to a level of insignificance, thereby mitigating the project's impact.	At the intersection of Parker Road/The Old Road, confirm that the westbound approach is modified to provide a left-turn lane and a shared through/right-turn lane.	Plan check prior to issuance of a grading permit, site visit to confirm improvements are implemented prior to occupancy	Once prior to issuance of a grading permit, once prior to occupancy	DPW			
<b>T-2 Adequate Turn Storage.</b> The right turn lane on The Old Road at the project entrance shall be designed such that the radius of the curb return is sufficient to accommodate turning movements of a 65-foot semi-truck and with a storage length of 140 feet to provide adequate storage for project generated traffic. The project access configuration at The Old Road shall be designed to the satisfaction of the Los Angeles County Department of Public Works Traffic & Lighting Division.	At the entrance to the Project Site from The Old Road, confirm that the right turn lane accommodates the turning movements of a 65-foot semi truck and that there is 140 feet of storage length.	Plan check prior to issuance of a grading permit, site visit to confirm improvements are implemented prior to occupancy	Once prior to issuance of a grading permit, once prior to occupancy	DPW			
<b>T-3(a) Commercial Access.</b> The access driveway to Lot 77, located on the northwest corner of The Old Road / "A" Street intersection, shall be located in westernmost boundary of the lot to maximize the distance between the driveway and the intersection. The driveways that would provide access to office buildings proposed on Lots 75 and 76, which are located north and south of "A" Street, should be aligned. The access driveways shall be shown in these locations on the ultimate site plan.	Confirm driveways to commercial lots meet specifications of the mitigation measure	Plan check prior to issuance of a grading permit, site visit to confirm improvements are implemented prior to occupancy	Once prior to issuance of a grading permit, once prior to occupancy	DPW			

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<b>T-3(b) Parking.</b> The ultimate site plan shall show that for each of the office buildings, parking supply will equal one space per 400 S.F., and each residential unit shall show that two covered spaces are provided.	Confirm compliance for parking with a plan check	Plan check prior to issuance of a grading permit, site visit to confirm improvements are implemented prior to occupancy	Once prior to issuance of a grading permit, once prior to occupancy	DPW			
<b>T-4(a) The Old Road / Sloan Canyon Road:</b> In addition to the intersection improvements included in the Castaic Bridge & Thoroughfare (B&T) Fee District Program, the westbound approach would need to be modified to provide a free right turn lane and traffic signals would need to be installed to meet County thresholds. The payment of the Castaic B&T Fee District fees and payment of the proportionate share of 2% of the cost of the additional improvements would mitigate the project's cumulative impact.	Pay fees towards improvements	Prior to occupancy	Once prior to occupancy	DPW			
<b>T-4(b) The Old Road / Parker Road intersection:</b> The following improvements would be required at this intersection to mitigate cumulative impacts: construct Castaic B&T improvements and restripe the eastbound approach to provide a left-turn lane and a shared through / right turn lane. The payment of the Castaic B&T Fee District fees and payment of the proportionate share of 24.3% of the cost of the additional restriping improvement would mitigate the	Pay fees towards improvements	Prior to project occupancy	Once prior to project occupancy	DPW			

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<p>project's cumulative impact. It is noted that these improvements are in addition to the project-specific mitigation measures outlined in Mitigation T-1.</p> <p><b>T-4(c) I-5 Southbound On-Ramp / Parker Road intersection:</b> The Parker Road Interchange project contained in the Castaic B&amp;T Fee District would result in LOS "B" during the P.M. peak hour, which meets County thresholds. Payment of the Castaic B&amp;T Fee District fees would mitigate the project's cumulative impact.</p> <p><b>T-4(d) I-5 Northbound Off-Ramp / Ridge Route Road intersection:</b> In addition to the Parker Road overcrossing widening project contained in the Castaic B&amp;T Fee District, the intersection would need to be signalized to meet County thresholds. The payment of the Castaic B&amp;T Fee District fees and payment of the proportionate share (7.4% of the cost of the traffic signal) would mitigate the project's cumulative impact.</p>	<p>Pay fees towards improvements</p> <p>Pay fees towards improvements</p>	<p>Prior to occupancy</p> <p>Prior to occupancy</p>	<p>Once prior to occupancy</p> <p>Prior to occupancy</p>	<p>DPW</p> <p>DPW</p>			
<b>Waste Disposal</b>							
<p><b>WD-3(a)</b> New homeowners shall be provided with educational materials on the proper management and disposal of household hazardous waste within the community of Castaic.</p> <p><b>WD-3(b)</b> The development project is required, pursuant to the California Solid Waste Reuse and Recycling</p>	<p>Confirm that new homeowners are provided with educational material regarding hazardous waste</p> <p>Confirm that storage areas for</p>	<p>After occupancy of the Castaic community</p> <p>Prior to occupancy of</p>	<p>Once after occupancy of the Castaic community</p> <p>Once prior to occupancy of</p>	<p>DRP DPH</p> <p>DRP DPH</p>			

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<p>Access Act of 1991, to provide adequate storage area for collection and removal of recyclable materials. Storage areas for the collection and storage of recyclable and green waste materials shall be required for subdivision approval and shall be required as a part of the final designs for each residential and commercial lot.</p> <p><b>WD-3(c)</b> Construction projects with a total value of over \$100,000 in addition to demolition and grading projects in the County's unincorporated areas are required to recycle or reuse 50 percent of the construction and demolition debris generated per the County's Construction and Demolition Debris Recycling and Reuse Ordinance. A Recycling and Reuse Plan shall be submitted to and approved by the Public Works Environmental Programs Division before a construction, demolition, or grading permit may be issued.</p> <p><b>WD-3(d)</b> Public Works' Environmental Programs Division shall be contacted for required approvals and operating permits in the event that construction, installation, modification, or removal of underground storage tanks, industrial waste treatment or disposal facilities, and/or storm water treatment facilities is necessary.</p>	<p>recyclable and green waste materials are onsite</p> <p>Approve a Recycling and Reuse Plan</p> <p>Approve operating permits in the event that modification of facilities is required</p>	<p>onsite residences</p> <p>Prior to construction, demolition, or the issuance of a grading permit</p> <p>In the event that modification of facilities is required</p>	<p>onsite residences</p> <p>Once prior to construction, demolition, or the issuance of a grading permit</p> <p>As necessary in the event that modification of facilities is required</p>	<p>DRP DPH DPW</p> <p>DPW</p>			
<b>Education Services</b>							
<p><b>E-1 School Fees.</b> Payment of school fees based on square footage of residential and commercial development in the amount of \$521,700 to Castaic Union School District, and \$436,740 to William S. Hart Union School District (or adjusted based on current fees) would mitigate the potential adverse impacts to local schools to a level of insignificance.</p>	<p>Confirm payment of school fees</p>	<p>Prior to project occupancy</p>	<p>Once prior to project occupancy</p>	<p>Castaic Union School District</p> <p>William S. Hart Union School District</p>			

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<b>E-2 Library Fees.</b> Payment of \$55,300 (or adjusted based on current fees) in Library Fees based on development of 70 residential units would reduce the impacts on library services to a level of insignificance.	Confirm payment of library fees	Prior to project occupancy	Once prior to project occupancy	County of Los Angeles Public Library			
<b>Public Services</b>							
<b>PS-2 (a) Access.</b> If feasible, widen "A" Street right-of-way to 66 feet all the way to "D" Street. Widen cul-de-sacs "B", "C", and "E" to 60 feet instead of the proposed 58 feet.	Confirm that if feasible, "A" street and "B", "C", and "E" cul-de-sacs are widened	Prior to project approval	Once prior to project approval	DPW County Fire Department			
<b>PS-2(b) Crime Prevention.</b> The following measures are recommended for incorporation into the project design to facilitate crime prevention within the development:  <ul style="list-style-type: none"> <li>▪ Provide lighting in open areas and parking lots;</li> <li>▪ Ensure visibility of doors and windows from the street;</li> <li>▪ Ensure that the required building address numbers are lighted and readily apparent from the street for emergency response agencies.</li> </ul>	Confirm that lighting is provided in open areas, doors and windows are visible from the street, and address numbers are lighted and apparent	Prior to issuance of a grading permit	Once prior to issuance of a grading permit	County Sheriff's Department			
<b>Water Services</b>							
<b>W-1 Annexation.</b> Prior to development, the applicant shall coordinate with Newhall County Water District to annex the northeast portion of the project site into the service District.	Confirm that the applicant coordinates with Newhall County Water District	Prior to issuance of a grading permit	Once prior to issuance of a grading permit	DRP Newhall County Water District			
<b>W-2(a) Interior Conservation.</b> Interior water conservation measures, as required by the State of California, shall be incorporated into the project residential and commercial components. These	Confirm that interior water conservation measures are	Prior to issuance of a grading permit	Once prior to issuance of a grading permit	DRP			

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<p><b>W-3(a) Connection Fees.</b> The applicant shall pay the current Castaic Area Connection Fee that is necessary to connect water conveyance infrastructure within the project area to the eight-inch existing main located beneath The Old Road.</p>	Confirm that the applicant pays the Castaic Area Connection Fee	Prior to issuance of a grading permit	Once prior to issuance of a grading permit	DRP			
<p><b>W-3(b) Water Main Upgrades.</b> The applicant shall pay for any necessary upgrades to the eight-inch water main in The Old Road, if the upgrades are necessary to accommodate the scale of development or provide adequate fire flows to serve the project.</p>	Confirm that the applicant pays for any necessary upgrades to the water main in The Old Road	Prior to issuance of a grading permit	Once prior to issuance of a grading permit	DRP			
<p><b>W-3(c) Water Plan Approval.</b> The applicant shall submit water infrastructure plans to NCWD and the Los Angeles County Fire Department Land Development Unit for review and approval to assure that the project design meets individual requirements of both agencies prior to finalization of the Tract Map.</p>	Approve water infrastructure plans	Prior to approval of the Tract Map	Once prior to approval of the Tract Map	Los Angeles County Fire Department Land Development Unit and NCWD			
<b>Global Climate Change</b>							
<p><b>GCC-1 Energy Conservation.</b> At a minimum, the project shall provide or incorporate the following Greenhouse Gas (GHG) reduction measures.</p> <ul style="list-style-type: none"> <li>▪ Provide a complimentary electric lawnmower to every residential buyer as well as exterior electrical outlets in the front and rear yards (1% emissions reduction). See MM B-19 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).</li> <li>▪ The project shall utilize Energy Star Roof materials. (1% emissions reduction). See MM E-4 of the CAPCOA mitigation measure summary,</li> </ul>	Confirm that the project incorporates GHG reduction measures	During construction, prior to occupancy, and throughout occupancy	Once during construction, once prior to occupancy, and periodically throughout occupancy	DRP DPW			

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<p>January 2008 (Appendix D).</p> <ul style="list-style-type: none"> <li>▪ The project shall optimize each building's thermal distribution by separating ventilation and thermal conditioning systems. (5% emissions reduction). See MM E-9 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).</li> <li>▪ Project orients about 50% or more of homes and/or buildings to face either north or south (within 30° of N/S). Building design includes roof overhangs that are sufficient to block the high summer sun, but not the lower winter sun, from penetrating south facing windows. Trees, other landscaping features and other buildings are sited in such a way as to maximize shade in the summer and maximize solar access to walls and windows in the winter. (2% emissions reduction). See MM E-7 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).</li> <li>▪ Non-roof surfaces with shade, light-colored/high albedo materials (reflectance of at least 0.3) and/or open grid pavement for at least 30% of the site's non-roof impervious surfaces OR use an open-grid pavement system (less than 50% impervious) for a minimum of 50% of the parking lot area. Such mitigation measures would reduce urban heat island effect. (1% emissions reduction). See MM E-8 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).</li> <li>▪ Traffic calming measures including roadways designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips. (1% emissions reduction). See MM T-5 of the CAPCOA mitigation measure summary, January 2008 (Appendix D).</li> </ul>							

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<ul style="list-style-type: none"> <li>▪ Electric Vehicle charging facilities with preferential parking for each of the commercial buildings. See MM E-11 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 1%.</li> <li>▪ Using light colored paving to increase the project's albedo effect and create emissions reductions from energy savings stemming from less need for cooling. See MM E-12 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 1%.</li> <li>▪ Solar water heaters to provide a 20-70% reduction in water heating energy costs. See MM E-14 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 1%.</li> <li>▪ Certified energy efficient appliances, e.g. Energy Star, to be used throughout the project to provide emissions reductions. See MM E-16 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 2%.</li> <li>▪ Use locally made building materials for construction of the project and the associated infrastructure. This would reduce emissions by limiting the length of transport of building materials. See MM C-3 of the CAPCOA mitigation measure summary, January 2008 (Appendix D). Assumed reduction of 1%.</li> </ul>							

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